



Slovak lobe



STU



# Book of Abstracts

# Earth System Governance in turbulent times: prospects for political and behavioral responses

September 7-9<sup>th</sup> 2021

Version of 26 August 2021

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The 2021 Bratislava Conference on Earth System Governance is a collaboration between **CETIP, SlovakGlobe, Slovak Academy of Sciences and Slovak University of Technology, Bratislava**, and the **Earth System Governance Project**. The conference is organized around the five analytical lenses structuring the Earth System Governance research agenda, as captured in the [2018 Science and Implementation Plan](#);

and a sixth stream focusing on specific issues and challenges concerning the current moment of crisis, contestation, and calls for action across the globe.

Note that some abstracts have been allocated to another stream. This is to align the abstract with a relevant panel. The schedule of panel allocations will follow soon.

## Stream 1

### Architecture and Agency

#### Panel ID 9

#### Global climate conferences as coordination platforms

Parallel Panel Session 2,  
Tuesday 7<sup>th</sup> September 2021,  
10:30-12:00 CEST

Chair: Stefan Ayukut

Discussant: Carola Klöck

#### **ID118.**

#### **The evolving landscape of coalitions in the climate change negotiations**

Carola Klöck<sup>1</sup>, Paula Castro<sup>2</sup>, Florian Weiler<sup>3</sup>

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A core feature of the climate change negotiations, and in fact of any multilateral negotiation, is that states negotiate not individually, but through groups or coalitions. Such coalitions have been a defining feature of the UNFCCC process since its inception, but the landscape of coalitions has changed considerably since the 1990s. Today, a wide range of diverse and partially overlapping coalitions are active in the climate negotiations. Despite their central role, we know surprisingly little about these coalitions or groups; little attention has been paid to questions such as how they form and work; whether they help coalition members to attain their (individual) goals; and to what degree they help to find solutions to the global climate crisis.

We present work from an edited volume that contributes towards filling this research gap. In the first part, the book takes stock of the existing coalition groups, tracks their formation and existence over time, and proposes a classification of the groups. The second part of the book then zooms in at the “newcomers”, i.e. those coalitions that only formed after the COP 2009 in Copenhagen. A host of case studies on regional and global, formal and informal, small and large negotiation coalitions investigate their formation, maintenance, and effectiveness. Finally, the third part of the book gives voice to several senior negotiators. These “testimonies” of experienced negotiation insiders provide a different perspective on the evolution of the UNFCCC process and complement the more academic chapters of the volume.

At the panel, we focus on the first part of the edited volume and explore in detail which types of coalitions have emerged over the course of the climate negotiations, and how these coalitions have shaped the negotiation dynamics. In particular, we classify coalitions according to their scope (geographic and thematic), membership (type and size) and degree of formality, and use social network analysis to assess to what extent these features affect negotiation behaviour. By focusing on how state actors have responded to the broadening agenda of the climate negotiations over time, the presentation mainly seeks to contribute to discussions in the “Architecture and Agency” conference stream.

**ID220.****Networks for city GHG emissions reporting and the polycentric governance of climate change**Emilie D'Amico*University of Hamburg, Hamburg, Germany*

In the last years, non-state actors have gained recognition as decisive partners in the fight against climate change. The Paris Agreement explicitly invites them to scale up their efforts and establishes a framework with the potential to catalyze their actions. In particular, municipal governments, who have engaged in the global arena for the past decades through city networks, are key actors of the new climate regime.

As global climate policy shifts from negotiations to implementation, city networks are claiming their readiness to contribute to the 1.5°C target. In an attempt to strengthen the capacity of their constituents and trigger their collective mitigation potential, they have sought to consolidate and coordinate their actions. Consequently, a new model of transnational municipal climate governance has emerged, based on the adoption of standard methods and tools to report on GHG emissions, and on hybrid governance structures, as collaborations with private actors and international organizations is strengthened.

Scholars have raised the need to further understanding of the capacity of city networks to move from city commitments to action. In particular, the “orchestration” of networks and their integration in the interstate process are promising solutions to achieve their transformative potential and deserves more attention. The intervention will fill this research gap by questioning how and to which extent

the standardization of reporting methods are instrumental to empower cities and coordinate their actions with the UNFCCC process.

The research aims to contribute to literature on transnational climate governance by analyzing the process, mechanisms and power dynamics underlying the convergence of city networks and initiatives around specific norms and practices. Another research objective is to assess under which conditions these initiatives effectively bring cities on the pathways to decarbonization. More specifically, this contribution presents a review of literature on global urban climate governance and maps the actors involved in city-level GHG accounting initiatives, before dwelling on the case of the Global Covenant of Mayors for Climate and Energy. Building on data gathered through participant observation at COP 25, document analysis and stakeholders’ interviews, it will address the following questions: (i) Who are the actors involved and what are the rationales underpinning the adoption of standard methods for city-level GHG reporting? (ii) How are such instruments designed and following which objectives? (iii) What are their effects on the practices and coordination of actors involved? By addressing these questions, the conference paper will contribute to discussions on “Architecture and Agency”.

**ID230.**
**The accountant, the admonisher and the motivator. Conflicting roles of the UNFCCC in the post-Paris process**

*Stefan Cihan Aykut<sup>1</sup>, Emilie D'Amico<sup>1</sup>, Jan Klenke<sup>2</sup>, Felix Schenuit<sup>1</sup>*

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The 2015 Paris agreement represents a deep-rooted shift in global climate politics, which has been described as a transition from a 'regulatory' to a 'catalytic and facilitative model' of governance. Within the new architecture, the focus of the UNFCCC is no longer primarily on negotiations between states. Instead, it is encouraged to elicit, enable and 'orchestrate' climate actions by states, businesses and subnational entities. The transformation entails a series of institutional reforms and innovations, but also important discursive and symbolic work.

This paper starts from the assumption that the Paris shift should not be regarded as a completed event, but as an ongoing, conflictual and open-ended process. Based on the results of a collaborative event ethnography conducted at COP25 in December 2019 in Madrid, we analyze how the transition of the UNFCCC to a post-Paris architecture is unfolding in practice, and what obstacles it encounters.

We show that in this process, the UNFCCC -and its annual COPs- face the dilemma to fulfil three distinct and partly conflicting roles. The first one consists in creating an accounting infrastructure. It entails the definition of common metrics and reporting formats to ensure transparency, and the creation of

regular occasions and procedures for the public assessment of voluntary pledges. The second one is to admonish and exert continuous pressure on national delegations and businesses. To keep the climate issue on the political agenda, the UNFCCC elicits scientific assessments (such as the 1.5°C report of the IPCC) and creates moments of publicity around 'climate emergency'. Finally, the third role consist in motivating states and firms to submit more ambitious pledges, by forging and sustaining the performative narrative of a 'planetary transition'. As a result, climate conferences are more and more used as platforms to showcase new initiatives, display 'best practices' and celebrate success stories.

In the conclusion, we discuss the 'dissonances' that accompany the current transformations of global climate governance, and relate them to the tensions and contradictions between the three roles. We go on by sketching three plausible pathways for the evolution of climate governance.

**ID270.**
**Staging Expertise at international climate negotiations**

*Felix Schenuit*

*University Hamburg, Hamburg, Germany*

Climate expertise and international climate policy have been closely interwoven since the beginning of the multilateral negotiations. Since the adoption of the Paris Accord and its implementation processes, international climate policy has changed significantly. Recent Conference of the Parties (COPs) provide several examples of diversification of actors and increasing fragmentation of international climate policy – changes, that also influence the role of climate expertise in climate negotiations. The article argues that the

changes in climate governance have led to the role of climate expertise at COPs being best understood as ‘staged’.

Based on the participant observation at recent COPs, discourse analysis of COP documents as well as expert interviews, this article examines the changing practice of ‘staging expertise’ in international climate negotiations.

The article will be based on two interwoven empirical examples of staging practices. First, the claim by youth activists to “unite behind the science”: At COP25, activists used the COP to share the media attention they attracted with scientists and their latest findings. Although neither the appearance of youth activists, nor the staging of scientists is anything new in climate policy, the new level of media and political attention they share raise important questions about the future role of climate expertise in a post-Paris world.

Second, the article will focus on the Special Report on 1.5°C Global Warming (SR15) by the Intergovernmental Panel on Climate Change (IPCC). Invited by the UNFCCC, the IPCC published this report on a specific political target just in time with the UNFCCC schedule of the Talanoa Dialogue. This embeddedness in addition to proactive communication strategies by the IPCC have provoked substantial conflicts in the UNFCCC as well as in the scientific community. An empirical analysis of the role of the SR15 as a second example also gives insights into new dimensions of ‘staging expertise’ at international negotiations.

Based on these empirical examples, the article argues that practices of staging expertise have an inherent dialectic: On the one hand, the claim to ‘unite behind science’ follows the intention to depoliticise climate change. At the same time, however, this staging of climate expertise with high media and political

attention leads to a politicization of the climate issue. First results indicate that this dialectic creates tensions that not only have the potential to change the dynamics of climate negotiations - they also have a traceable influence on the practices of climate experts.

## Panel ID 11

### Environmental Security: Conceptual Foundations and Policy Practices

Parallel Panel Session 5,  
Wednesday 8<sup>th</sup> September 2021,  
13:00-14:30 CEST

Chair: Dhanasree Jayaram  
Discussant: Hyeyoon Park

## ID73.

### Environmental Security as a Source of Legitimacy for Non-State Actors: Exploring the Food-Energy-Water Nexus

Julianne G Liebenguth

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Environmental security concepts are proliferating among global debates about environmental change and sustainable development. It is increasingly crucial to understand how security logics function in environmental politics and how securitization influences the architecture of global environmental governance, especially in relation to sources of legitimacy and agency. This paper explores environmental security discourses across the food-water-energy (FEWs) nexus to examine the implications of securitizing complex and systemic environmental issues. The FEWs nexus is a particularly relevant political space for this

project because actors working within and across the nexus frequently evoke the concept of security to articulate the risks and vulnerabilities associated with food, energy, and water issues. The persistent inclusion of businesses in proposed solutions to FEWs issues also prompts important questions about the role of non-state actors in governing environmental security challenges, and how they can or should utilize such authority. In practice, discourses about agents of security have significant implications for the way complex, socio-ecological issues— like environmental conflict and peacebuilding— are governed by certain actors, for whom, and how. The purpose of this paper is to explore such discursive trends to uncover emerging agents of environmental security. More specifically, I use critical discourse analysis to analyze the authority claims of large businesses and corporations across food, energy, and water sectors to understand how they approach their position as providers of security, and to whom their authority claims are directed. Ultimately, this paper seeks to understand whether and how security is used as a source of legitimacy in environmental politics and to elucidate the broader relationship between private governance and environmental security.

**ID107.**

**How are environmental equity and justice impacting climate change adaptation in Nigeria? A securitization perspective.**

Chinwe Philomina Oramah<sup>1,2</sup>, Odd Einar Falnes Olsen<sup>1</sup>

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Climate-related hazards such as flood, drought, storm, are increasing as a result of climate change. These hazards and their intended disasters are having devastating security implications world over. Developing countries may have the resources to mitigate the security implications within their territory, while these security implications place most developing countries in a constant state of crises and recovery. Developing countries face a greater security implication as climate change inevitably worsens already existing developmental, socio-economic and political issues. As a result of this, policymakers are relying on securitization argument which focuses attention on the dilemma of environmental equity and justice especially with regards to the adaptive capacity of developing countries. There is an increasing realization that environmental equity and justice issues are key for global cooperation to ensure effective adaption to climate change impact, especially for the developing countries that have contributed least to the issue of climate change. Equity and justice are high on the global governance of climate change especially through the establishment of different adaptation funds from the UNFCCC process. Equity and justice has risen in recognition that environmental justice will guarantee the right of vulnerable countries to

live in a healthier environment. Based on equity and justice, policymakers call on developed countries to provide technical and financial support to developing countries through funding mechanisms and other adaptation governance instruments. Global adaptation governance instruments also provide states with top down guides and frameworks for adaptation, which operate from the international to local actors. Global adaptation governance through securitization argument of equity and justice has implications for local adaptation practices, particularly in developing countries. This is significant since climate change adaptation often takes place at the local level mostly by local actors. However, there is a signal showing that local actors from developing countries are often not being involved in the decision-making process during adaptation policies. Through a qualitative approach, this paper illustrates the role securitization at the international and national level play when it comes to local implementation of climate change adaptation in Nigeria.

**ID140.**

### **Security in the era of energy transition**

*Paula Kivimaa<sup>1</sup>, Marie Claire Brisbois<sup>2</sup>, Marco Siddi<sup>3</sup>, Emma Hakala<sup>3</sup>, Dhanasree Jayaram<sup>4</sup>*

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Transitions to net zero carbon energy systems are already unfolding around the world. Wind, solar and other green energies provide increasing shares of generation. At the same time, electrification and digitalization of energy

systems are ongoing. These dynamics are causing significant turbulence in energy systems and energy governance. Changes in energy systems are also interlinked with a range of socioeconomic variables including labour force disruption, access to energy, and the price of energy-related resources (power, fuels and minerals). While there is an extensive debate on many of these individual issues, we argue that the broader, integrated security implications of the energy transition, at scales from the local to the global, have not been sufficiently discussed.

This paper integrates disparate interpretations of security with implications for the unfolding energy transition in order to map this evolving focus area: national security in terms of foreign relations (geopolitics) as well as internal affairs; climate and environmental security; homeland security; cyber security; and, the risk of undue “securitization” in domains that have been historically governed through bureaucratic and/or civil society mechanisms. These different perspectives are addressed in the context of key features of energy transition, including the phase out of fossil fuels, growing reliance on intermittent renewable energy, electrification of energy infrastructure, issues of energy poverty and access, climate-related threats to energy infrastructure, as well as community and prosumer ownership. The paper argues that issues of security are intertwined with both technological developments and ongoing changes in social, economic and employment structures. These dynamics have significant impacts for how these interlinked systems are governed.

The paper contributes to addressing two emergent gaps in ESG scholarship: (1) the implications of security perspectives for climate and environmental governance; and (2) the evolution of energy systems from top-

down technocratically-governed entities, to much more dynamic, turbulent and contested systems. Energy security is inherently linked to cross cutting science plan themes of democracy, justice, reflexivity, architecture and agency.

### **ID308.**

#### **Environmental Risk in the Doctrines of the South American Armed Forces**

Matias A Franchini<sup>1</sup>, Eduardo J Viola<sup>2</sup>

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Extreme weather events and temperature variability are becoming more frequent and intense, and levels of environmental vulnerability are increasing worldwide, particularly in poor and emerging countries. In South America, these changes are leading to variations in the habitability of coastal cities, energy production (especially hydropower), food production, forest fires and water scarcity in large cities, among others.

Consequently, the main objective of this paper is to identify how the armed forces of South American countries are coping with environmental risk in a context of increased economic/political instability and decline in the global economy. Is regional and global environmental change expected to increase the risk of inter-state conflicts in a peaceful region? Is the incidence of crime and civil unrest expected to increase? Are the armed forces of the region more willing to cooperate with their counterparts in other countries in the face of increased environmental risk, and in what ways?

We have selected our cases based on the scale of their economy, the military budget and the

number of members of the armed forces, namely Argentina, Brazil, Chile, Colombia and Peru.

To achieve our objectives, we examine official documents and conduct interviews with members of the armed forces and defense ministries of the countries mentioned.

### **Panel ID 13**

#### **Understanding performance and change of Earth System Governance from the perspective of polycentric governance – Evidence from water and territorial governance**

Parallel Panel Session 5,  
Wednesday 8<sup>th</sup> September 2021,  
13:00-14:30 CEST

Chairs: Nora Schütze, Arvind Lakshmisha  
Discussants: Matteo Roggero, Katharina Gugerell

### **ID203**

#### **Polycentric natural resource governance in young democracies - Experiences with recent water governance reforms in Mongolia**

Ines Dombrowsky<sup>1</sup>, Mirja Schoderer<sup>1</sup>, Jean Carlo Rodriguez<sup>1</sup>, Ariunaa Lkhagvadorj<sup>2</sup>

<sup>1</sup>*German Development Institute, Bonn, Germany.* <sup>2</sup>*Mongolian Academy of Governance, Ulaanbaatar, Mongolia*

Literature suggests that complex socio-ecological technical systems such as water use systems usually are – and should be – governed through polycentric governance arrangements. However, our understanding under which conditions these polycentric arrangements

perform well in the provision of collective goods such as the protection of water resources is still limited. First, the role of different coordination modes such as coercion, cooperation and competition for performance is not yet well understood. Second, we lack understanding how these coordination modes are influenced by constitutional prerequisites, once we leave the realm of long-standing democracies. We therefore present the case of recent governance reforms for the protection of water resources in Mongolia, a young democracy with strong hierarchical traditions. First, we ask what patterns of coercion, cooperation and competition can be observed and how does this influence performance in terms of the protection of water resources? Second, we ask how constitutional prerequisites influence these patterns of coercion, cooperation and competition and eventually performance? We find that formal provisions mainly rely on coercion and cooperation, but hardly on competition. In practice, several deviations from formal provisions as well as combinations of all three coordination modes can be observed, affecting performance both positively and negatively. On the one hand, we observe helpful self-organization in view of legal uncertainties. On the other hand, we also find that cooperation and self-organization seem to be limited by strong hierarchical tendencies rooted in nomadic traditions and the socialist past.

**ID530.**

### **Institutional fit of polycentric governance systems under climate change**

Elke Kellner

*Swiss Federal Institute for Forest, Snow and Landscape Research WSL, Birmensdorf, Switzerland*

A common proposition suggests that polycentric organization of governance facilitates provision of good institutional fit for complex natural resource systems. Such governance systems would be able to produce institutions at levels that are most adequate to the ecological scale and the diverse mix of state and non-state actors would be capable to establish complementary knowledge about social and ecological systems to develop more contextually adapted institutions. However, accumulating evidence shows that the combined dynamics between polycentric climate governance and social-ecological systems create unexplored issues related to the problem of fit. Climate change effects drastically ecological systems and related socio-economic repercussions at different spatial and time scales and with various cascading effects that might go beyond the capacity of existing governance systems, polycentric or not. Thus, polycentricity may not be a sufficient condition for good institutional fit under changing contexts. In this paper, I suggest that a larger set of attributes and framework conditions need to be taken into account in order to understand institutional fit of polycentric governance systems.

This paper examines this argument using a case study research design for a case of polycentric climate change adaptation in Switzerland. I selected the governance processes of

multifunctional water uses in a region close to Zurich in Switzerland as a critical case in this regard. Data were collected through semi-structured interviews and document analysis; and analysed through qualitative content analysis guided by the Networks of Action Situations approach. The results show that ecological fit of institutions is theoretically possible, as decision-making centers have jurisdiction over the relevant spatial, temporal, and functional range of water resources. However, social fit of some institutions is poor. They do not reflect the changing interests of the water users under climate change, because they generally have inadequate voice in institutional design. As a consequence, some institutions do not regulate water uses in a sustainable way and consider the preferences of the water users. The results further show the conditions under which polycentric governance processes can provide good institutional fit or not.

**ID146.**

### **Unpacking Adaptive Capacity in a Polycentricly Governed World Heritage Cultural Landscape**

Katharina Gugerell<sup>1,2</sup>, Marianne Penker<sup>1</sup>

<sup>1</sup>*University of Natural Resources and Life Sciences, Institute for Sustainable Economic Development, Vienna, Austria.*

<sup>2</sup>*Montanuniversität Leoben, Department of Mining Engineering and Mineral Economics, Leoben, Austria*

‘Guiding change’ is one of the core guidelines for retaining a cultural landscape’s particular values and authenticity of UNESCO World Heritage Sites. The cultural landscape Wachau is a pristine example of a cultural landscape of outstanding universal value, which was enlisted as World Heritage Site (UNESCO) in

2000. The 36 km stretch of the Danube valley pictures a fluvial landscape, bordered by a unique tessellated landscape of terraced vineyards, apricot plantations and charming villages. Heritage studies have pointed out, that landscapes are repositories of socio-cultural history and present practises, including institutional and collective practises which are also linked to decision and governance processes. In our conference contribution we are using a polycentricity lens to improve our understanding of the governance system system on three layers: (i) level of decision centres; (ii) the coordination mechanisms and institutional form of one decision centre (Bylaw Association Wachauer Marille g.U.) over time, showing its adaption to changing conditions; and (iii) involved actors in the polycentric network. Our research shows, that the governance network is co-evolving with its context, causing either adaption or fundamental changes on the three above mentioned layers. While on the first layer we can identify the emergence and disappearance of decision centres, delving one layer deeper we can see the interplay of competitive, coercive and cooperative mechanism at the same time; the third level on the single actor level illustrates where we can observe boundary spanning and gatekeeping. Hence, for understanding the actual practise of the governance arrangement it is crucial to look beyond the surface appearance and include the three mentioned layers: (i) the level of involved decision centres, (ii) level of institutional forms and mechanism, (ii) individual actor layer.

**ID148.**

### **Polycentricities - different paths to ambition in climate cooperation among cities**

Matteo Roggero, Anastasiia Gotgelf, Klaus Eisenack

*Humboldt-universität zu Berlin, Berlin, Germany*

Subnational actors like cities and business networks are increasingly cooperating transnationally to address global challenges. The Global Covenant of Mayors for Climate and Energy (GCoM), for instance, encompasses more than 9000 member cities from all continents. Many of them have committed to targets or plans for climate action. Is this an example for successful polycentric climate governance, effectively achieving decarbonisation and climate resilience? Present research is still inconclusive in this respect. The question, in particular, is still open concerning the interplay between the actions of cities and those at the national level. We address this question through a qualitative comparative analysis (QCA) of about 200 cities, exploring the cities' varying degree of ambition through both city-level and country-level conditions. While showing multiple, different paths towards ambitious climate goals at city level, our present findings show an only moderate role of national governments' commitment to international cooperation on climate. By contrast, the networking among cities emerges as a driving force towards climate action. Most importantly, however, horizontal and vertical coordination play different roles in different contexts, predominantly in light of differences in the available capabilities and the vested interests at play. This supports the view of an increasingly heterogeneous polycentric

structure, with implications for (multi-level) climate policy.

**ID154.**

### **Sustainable Polycentric Cross-border Governance in the European Union**

Martin Špaček<sup>1</sup>, Tatiana Kluvánková<sup>2</sup>

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<sup>2</sup>*Institute of Forest Ecology, Slovak Academy of Sciences, Zvolen, Slovakia*

Many global, as well as regional and local, environmental, social and economic problems and challenges emerge and develop across diversified administrative and political jurisdictions. It seems that cooperation across national borders is essential to effectively address complex and dynamic issues around the world. However, cross-sectoral and cross-level cooperation of actors from different institutional arrangements brings new obstacles into account. Multilevel mismatch, when similar political and administrative competences are allocated at different governmental levels, and different levels of decentralization in decision taking represents key challenges in relation to the cross-border governance. An efficient cross-border cooperation inherently demands for sustainable but flexible and adaptive arrangements of governance, such as polycentric governance.

Governance arrangements in polycentric systems are seen self-organized by multiple governing authorities, nested in several levels of general-purpose governments or specific purpose governance, each unit exercises considerable independence in making and enforcing rules within a circumscribed scope of authority for a specified geographical area.

The contributions use the polycentric lenses to analyze cross-border cooperation in Central Europe between new and old member states of the European Union. Stakeholders and institutional analysis was conducted based on the interviews with 57 informants and document analysis. Results provide evidence about adaptation of cross-border governance towards multiple innovative governance arrangements which go beyond current hierarchical governance systems and enable flexible interactions among relevant actors from different sectors and levels of governance. The support from the European Union's territorial cooperation schemes contribute to the development of more effective coordination of cross-border activities based on polycentric cross-border governance solutions to overcome key institutional challenges in cross-border governance. Common characters of polycentric and hybrid governance in cross-border cooperation are self-organization of regional or local actors, well-defined common problem, co-evolution from existing institutional arrangements as well as at least partly autonomous decision-taking. On the other hand, there is no systematic promotion of these new institutional innovations, which potentially hampers their long-term sustainability, even though they seem to play a crucial role in addressing key global social and environmental challenges.

## Panel ID 16

### Share or Spare? Explaining the Nature and Determinants of Climate Finance Coordination

Parallel Panel Session 8,  
Thursday 9<sup>th</sup> September 2021,  
15:30-17:00 CEST

Chair: Jakob Skovgaard  
Discussant: Carola Klöck

## ID182.

### Coordination as Political Practice: Climate Finance as a Microcosm of Fault Lines in the Global Climate Governance Complex

Kevin M Adams<sup>1,2</sup>, Adam Moe Fejerskov<sup>3</sup>, Jakob Skovgaard<sup>4</sup>

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The Green Climate Fund (GCF) and the Climate Investment Funds (CIFs) are two of the largest and most influential players in the climate finance landscape. Whereas the GCF is part of the United Nations Framework Convention on Climate Change (UNFCCC) system, the CIFs are anchored in the World Bank. Charged with channelling critical resources to developing countries to mitigate the emissions of greenhouse gases and adapt to the adverse effects of a warming world, both the GCF and CIFs play essential roles in the modern climate policy architecture. Yet, the GCF and CIFs struggle to coordinate their activities, despite similar mandates and ambitions, as well as sustained urging from the UNFCCC.

How is coordination conceptualised, practiced, and produced in the climate finance landscape? This paper explores this question by studying coordination between multilateral climate funds as a political practice whereby actors navigate and exploit a complex regime to their advantage. Based on semi-structured interviews conducted on-site at the GCF and CIFs in 2018 and 2019, this paper argues that coordination challenges in climate finance extend beyond technical issues and are fundamentally rooted in longstanding political cleavages. As such, the evolving relationship between the GCF and CIFs is principally reflective of shifting power relations between Parties and indicative of broader trends in global environmental governance, including the growing power of developing countries. Both the GCF and CIFs play active roles in coordination other multilateral climate finance actors, the GCF coordinating other UN institutions and the CIFs Multilateral Development Banks such as the World Bank and the Asian Development Bank. There is little coordination between these two clusters. In this way, the patterns of coordination reflect wider fault lines within the global climate governance complex. Specifically, the UN institutions in which developing countries have greater influence mirror the interests and perceptions of "good" climate finance of these countries whereas the World Bank institutions in which industrialised countries have more influence mirror these countries' interests and perceptions of "good" climate finance. Coordination across this political fault line is difficult due to fundamentally different views on the nature and purpose of climate finance.

**ID188.**

### **Enablers and barriers to climate finance coordination: A comparative assessment of Kenya and Zambia**

*Zoha Shawoo<sup>1</sup>, Adis Dzebo<sup>1</sup>, Kendra Dupuy<sup>2</sup>, Mikkel Funder<sup>3</sup>*

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Climate finance has been an integral component of the international response to climate change since the establishment of the United Nations Framework Convention on Climate Change (UNFCCC) in 1992. Evidence suggests that whilst climate finance does involve the mobilisation of new funding sources, overlaps exist with official development assistance (ODA) and other funding sources targeting development needs of low-income countries. Different kinds of concerns have been raised in critiques of the climate finance regime. Some of these relate to various forms of "fragmentation" and thus relate to the structure of the international finance architecture and the way climate finance is delivered to developing countries, including the relationship between climate and development finance. Fragmentation can take different forms. In international finance, funds are delivered through a wide array of channels. The allocation of funds follows many different sets of norms, and donors and financial institutions have different strategic goals and investment priorities. For developing countries, the sheer number of funding channels and poor coordination among government agencies, development partners and implementing entities, can create high transaction costs and make it difficult to access

and use the available climate finance to catalyse long-term, structural change.

An emerging literature therefore calls for improved coordination of climate finance. While there is a growing literature on climate finance coordination at the global level, few studies have examined how it is unfolding at the national level in developing countries. This paper therefore presents findings from a comparative assessment of climate finance coordination practices in Kenya and Zambia, drawing on semi-structured interviews, policy documents and the relevant literature. The paper asks the question ‘How is climate finance in Kenya and Zambia coordinated, and what are the enablers and barriers to its effectiveness?’, aiming to examine the scope of coordination challenges in the respective climate finance arenas and analyse barriers to coordination by investigating the political and institutional factors that shape coordination of climate finance in the two countries.

The paper argues that although technical barriers to climate finance coordination (e.g. capacity gaps, limited awareness and lack of functioning coordination mechanisms) can be addressed through apolitical measures, coordination cannot be enhanced without also addressing political barriers. These barriers include diverging ag

endas between government and development actors, lack of political will from higher political levels, and a lack of enforcement of the legislative frameworks in place.

## ID194.

### Studying climate finance coordination across levels: Keep it politics

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Climate finance is a key feature in the implementation of the Paris Agreement on climate change. In order to be effective and successful, the use and allocation of such finance has to be coordinated among a variety of actors. So far, much literature on climate finance coordination has focused on identifying the challenges and gaps in coordination. Less attention has been paid to the ways in which underlying political and institutional dynamics shape climate finance coordination. In particular, we know little about how climate finance coordination emerges and develops across different levels of scale and in different organisational environments. Understanding this is however important in the current context of climate finance, with its emphasis on disseminating public climate funding through global climate funds, multilateral agencies and bilateral donors to a variety of national and subnational actors in recipient developing countries.

Building on studies of climate finance coordination on the international and recipient country levels, this paper identifies patterns of

coordination and factors shaping these patterns. On the international level, the paper focuses on the role of the UN-based Green Climate Fund (GCF) and the World Bank-based Climate Investment Funds (CIFs), which each have been key players regarding coordination of climate finance among multilateral actors. On the domestic level, the paper focuses on coordination among donors in Zambia and Kenya, two important recipients of climate finance. The key finding of the paper is that the patterns of coordination and the factors shaping them are similar across levels. Not only does coordination mainly take place among actors with shared interests and perceptions regarding what constitutes good climate finance, it is also an inherently political process. Unlike the predominant understanding of coordination a technical process, we find that coordination is enabled and hindered by more fundamental political dynamics among actors. These dynamics include diverging agendas between actors and lack of political commitment from higher political levels (member states in the case of the GCF and the CIFs, governments in the case of Kenya and Zambia). A key aspect of these similar dynamics on international and domestic levels is that they are not independent. Rather, as key actors – notably the GCF and the CIFs – operate across levels, and important political fault lines also reappear across levels, factors influencing coordination on one level spill over to the other level.

## Panel ID 100

### Sub-national climate governance

Parallel Panel Session 3,  
Tuesday 7<sup>th</sup> September 2021,  
16:30-18:00 CEST

Chair: Jennifer Allan

### ID638.

### Subnational Climate Commitment Index – a study of subnational units climate commitment in Brazil

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Since the 1990s, non-state actors are present in global climate governance. Research about governance architecture has pointed to their expanded role, especially from 2009 on, accompanied by an increase in governance fragmentation. This role is not only related to their potential to reduce GHG emissions, but also with their engagement in an increased number of governance processes either in the climate international regime or at alternative arrangements and the experimentation and innovation that this engagement brings. In this context, and considering that seven out of the ten major GHG emitters are countries with federated regimes, understanding national to local dynamics and the role of subnational units of government appears to be a relevant research subject.

Nevertheless, how to measure and evaluate subnational units actions in a comparable manner have been an issue of debate, and most proposals focus on outputs – e.g. GHG emissions – and outcomes – e.g. reduction targets. The Paris Agreement has called for a greater engagement of non-party stakeholders and a tool for reporting (the Nazca Platform)

but has not offered a unified approach to measure such an engagement.

Therefore, the purpose of this work is to present the Subnational Climate Commitment Index (SCCI), a measure to evaluate the climate commitment of subnational units based on an emission profile – a measure of impact composed of absolute GHG emissions, emissions *per capita*, and emissions by US\$ 1,000 of GDP – and a policy profile – a measure of engagement with governance processes (the building of institutions and policies) both internally (domestic policies and institutions) and externally (foreign policy).

This proposition is based on grand theories of global governance and the assumption that global climate governance is fragmented. It also uses middle-range theories of climate commitment, paradiplomacy, and orchestration. It builds a numerical index of climate commitment based on public data about GHG emissions, GHG emissions *per capita*, and intensity in GDP, and information about subnational governance processes regarding domestic and foreign policy and applies it to the 27 Brazilian states (or federated units).

The result of this work is an index that at the same time allows the understanding of subnational units' climate commitment and offers insight for national public policies to respond to climate change. Subnational units may be classified as conservative - “business as usual” behavior - to reformist - a position of engagement and compromise with climate change mitigation and transition to a lower carbon intensity development.

**ID510.**

### **From the outside in: The role of international donors in India’s sub-national climate policy**

Shruti Neelakantan

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India has a unique governance structure. While most decision-making powers remain with the centre, increasingly, development-related issues are piloted by international donor agencies. In 2009, when the Government of India asked all Indian states and Union Territories to prepare State Action Plans on Climate Change (SAPCC), Tamilnadu has been involved in initiating state level plans and has engaged with a single donor agency, Deutsche Gesellschaft für Internationale Zusammenarbeit GIZ to advance their climate efforts. This paper applies Kingdon’s Multiple Streams Framework to understand the influence of donor presence in steering sub-national climate efforts, analysing how their role has evolved (2009-2019) within the Indian institutional structure through the case study of Tamilnadu. While the donors successfully initiated missions addressing climate action in partnership with state departments, the performance results varied mainly across states. Regardless of the changing political leadership and varied geographical conditions; donor engagement impacted subnational climate routine.

In some cases, policies would not have taken shape to the extent it has and in some others, their presence cause disruptions. Building on in-depth interviews, the paper explains how international institutions integrate into local governance policy interactions within a federal nation such as India. The paper contributes to the dialogue on inclusion and engagement of

international donors in subscriber countries, implications on sub-national response and their role as policy entrepreneurs in climate development.

Keywords: International donors, sub-national, climate policy

## **ID620.**

### **Global Environmental Change, Local Governance Challenges: Grappling with Subnational Climate Politics**

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The immediate impacts of climate change include sea-level rise and changing rainfall patterns. These ecological risks cause unpredictable floods that are increasing in frequency and magnitude everywhere. Academics studying climate governance posit (i) that developing countries are disproportionately affected by these problems and (ii) that mitigation and adaptation policies at the global, national, and local levels are urgently necessary. This literature has also documented how international and national laws influence institutional frameworks devised to handle climate impacts at the scale of the city. Yet, the role of subnational climate politics in building and operationalizing governance systems targeted at climate-mitigation and -adaptation remains understudied. Employing archival and ethnographic research methods, this inquiry contributes to this scholarship by analyzing the strikingly distinct responses to floods in two urban centers of Brazil's Amazon. Despite a multilevel governance structure established to invest in flood-mitigation and lawsuits filed to improve the public administration of such climate hazards, half a million people continue

to endure flooding in the city of Belém. By contrast, in the city of Paragominas, local lawyers and policymakers were moved to enlarge the riverbanks to mitigate floods in 2019, only one year after an extreme rainfall devastated this municipality. A key difference between these cases is that while legal and political actors perceive floods as a matter of natural disasters in Belém, their counterparts in Paragominas approach these problems as issues of law and public policy. These two Amazonian cities, therefore, illustrate the challenges to the local governance of global environmental change.

## **ID74.**

### **Exploring city agency in global climate governance: a Latin America perspective**

*Ana Mauad*

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The architecture of contemporary global climate governance entails multilevel dynamics, engaging diverse actors across levels. Cities have emerged as key actors in this scenario and have played a central role in setting the agenda and establishing new interactions, negotiating within Transnational Municipal Networks (TMNs) as well as in solo enterprises. In that direction, many international relations studies and related fields explored the meanings and the level of agency of cities under global climate governance. Departing from this literature, the paper aims to add another layer to the debate by focusing on Latin American cities engaged in global climate governance. The paper questions whether the global agency attributed to cities is extended to cities from developing contexts, specifically Latin America.

Furthermore, the paper questions if the city agency is credited to cities as individual and independent actors or if it is collectively constructed, facilitated by TMNs. The objective is that the results of these inquiries will help to build the theory regarding new actors in IR and in climate studies, as well as provide policy implications for the processes underway. Therefore, we hope to contribute to the studies on architecture and agency lead by ESG from a Latin America perspective. The work is developed using qualitative methodology, combining literature review and empirical analyzes from the main cities in the region: Mexico City, São Paulo, and Buenos Aires. By working with the data provided by our cases, we intend to bring questions to the agency debate that were little explored from a global south reality regarding levels of development, financing, and quality of governance.

## Panel ID 101

### Global climate governance: dynamics and capacity for climate action

Parallel Panel Session 2,  
Tuesday 7<sup>th</sup> September 2021,  
10:30-12:00 CEST

Chair: Jennifer Bansard

## ID13.

### Orchestrating Global Climate Governance Through Data: The UNFCCC Secretariat and the Global Climate Action Platform

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Since the lead-up to the Paris Agreement, sub-national and non-state actors have positioned themselves as central participants and stakeholders in global climate governance. Scholars have argued that the growing recognition and importance of these actors induced a shift in the UN climate change regime towards more hybrid forms of governance, including both top-down and bottom-up implementation efforts. In this context, the mobilization of actors across national, transnational and sub-national scales and in the private sector has become a key element in the modus operandi of the post-Paris climate change regime. Recent studies have shed light on the crucial role of the UN climate secretariat in facilitating and guiding sub-national and non-state climate action to encourage more ambitious target-setting at the national level. Specifically, the secretariat is acting as an orchestrator by seeking

intermediary support from sub-national and non-state actors in its endeavor to manage or bypass state-led climate politics. In this paper, we explore how data and new technologies have become important tools for the UN climate secretariat's ambitions to orchestrate global climate governance. Specifically, we trace the evolution of the Global Climate Action Portal (formerly known as NAZCA) and analyze how the initiative intends to influence policy-making at the (inter-)national level. In so doing, we discuss the potential and challenges of using data as a means of orchestration and reflect on implications for orchestration theory.

**ID611.**

### **Two Logics of Global Climate Action**

Kennedy L Mbeva

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Multilateral efforts to address climate change have lost momentum. The ratchet-up ambition mechanism of the landmark Paris Agreement on Climate Change is proving inadequate due to the reluctance of states to strengthen their national climate action plans. Free-riding has been diagnosed as the major challenge to multilateral cooperation on climate change. In seeking to overcome the problem of free-riding, scholars have proposed the formation of climate clubs. Such clubs would exclude non-members from benefits accrued from undertaking more aggressive action on climate change. Building on the club theory of polycentric governance literature, this paper challenges the free-rider diagnosis, and its concomitant institutional remedies, as necessary but insufficient in addressing global climate change. The point of conceptual

departure is the identification of two logics of state-led climate action: those able but unwilling (free-riders); and those willing but with limited capability to tackle climate change (stranded riders). In fashioning remedies to these challenges, sanctions are always used for free-riders, while incentives are deployed for stranded riders. Drawing on developments in the international climate regime over the past three decades, this paper articulates a two-club approach to addressing the problems of free and stranded riders in global climate action. Exclusionary Clubs would deal with the free-rider problem, while Affinitive Clubs would deal with the limited capability problem.

**ID271.**

### **Slow, yet turbulent: Strengthening the international Loss & Damage governance architecture to address slow onset climate impacts**

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The recent UN climate change conference COP25 in Madrid exemplified once more how the notion of “turbulent times” applies to multilateral climate governance. Negotiations around the governance of the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts (WIM) are a case in point. All the while climate vulnerable developing countries face even more turbulent times, especially in view of considerable loss and damage that is bound to result from slow onset climate impacts. This paper explores the conceptual basis for loss

and damage (L&D) governance to address slow onset climate impacts through strengthening interlinkages with climate change adaptation and Sustainable Development Goals (SDGs). L&D refers to adverse impacts associated with a wide range of climatic processes, from climate extremes to slow onset changes that evolve over a long period of time. From its inception under the UN Framework Convention on Climate Change (UNFCCC), the WIM has recognized the need for comprehensive, coherent and integrated L&D governance mechanisms to address both sudden and slow onset events. To date, however, L&D policy directions remain centred around climate-related extremes and disasters, resulting in weak interlinkage with climate change adaptation. Moreover, the comprehensive risk management approaches proposed by WIM (including risk assessment, reduction, transfer and retention) overlook the critical need of linking L&D with the broader climate change and development policy context. To remedy this gap, this conceptual paper draws attention to slow onset events and highlights the importance of envisioning a framework for L&D governance that is strongly connected to adaptation and sustainable development (at the interface of global, national and subnational levels). The discussion is premised on the understanding that adaptation is integral to preventing and reducing L&D from slow onset events. Through exploration of three governance domains - social capacity (vulnerability, resilience, resources); structure (policies, institutions) and agency (multiple actors) - the paper explores pathways to advance a broader L&D governance architecture. The paper concludes by proposing four key elements of a broadened L&D policy framework that could address the risks associated with slow onset events more effectively.

**ID509.**

## **Pledges on Pledges: The Institutional Layering of Global Climate Rules since 1992**

Jen I Allan

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There is a widespread discourse that the Paris Agreement represents a fundamental shift in how climate change is governed globally. It is a form of punctuated equilibrium – one set of rules were created, languished, and re-negotiated, spurring a fundamentally different approach. The story goes that the Kyoto Protocol was a “top down” model that derived from negotiations that set targets for developed countries. Such infringement on sovereignty doomed the Kyoto Protocol to failure, it is argued. The Paris Agreement, building on the non-legally binding Copenhagen Accord, overturned this failed model by allowing countries to unilaterally make pledges that would later be multilaterally reviewed. But the targets inscribed in the Kyoto Protocol were pledged. There were no successful negotiations to set those numbers. They were unilaterally decided after some backroom diplomatic coordination – much the same as the nationally determined contributions for the Paris Agreement. Drawing on interviews with key delegates that negotiated the Protocol and archival research, this paper argues that the history of global climate governance is best seen as a decades-long process of institutional layering, a form of incremental change that adds new rules upon older rules and practices. While layering has a strong pedigree in comparative public policy, it is less often used to explain institutional change in international relations.

Beyond a revised history of global climate governance, this paper is of value to those

interested in institutional change in global environmental governance. It draws attention to two underlying dynamics of institutional layering. First, the stability of powerful countries' preferences coupled with the meta-norms of sovereignty can create stability in outcomes by layering minor rule additions and changes on the same, core set of rules. Second, layering can obfuscate stagnation, by making minor rule changes or additions seem like breakthroughs in governance. Given this history, which indicates more stability than change, the paper concludes by considering the implications for the Paris Agreement's suitability to address the climate emergency.

## Panel ID 103

### Global oceans governance

Parallel Panel Session 2,  
Tuesday 7<sup>th</sup> September 2021,  
10:30-12:00 CEST

Chair: Elizabeth Mendenhall

## ID169.

### Architectures of Earth System Governance in Context: Revisiting Marine Spatial Planning in the EU's Regional Seas in light of the Anthropocene

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The Anthropocene poses unprecedented challenges for humankind calling for a profound revision of Holocene governance paradigms. Earth System Governance (ESG) hence seeks to devise innovative patterns of

politics to promote socio-ecological reflexivity and attune institutions and legal systems to timescales and rationales of the Earth System. In this perspective, deliberative democracy theory underpins calls for democratising complex, multilevel and polycentric governance in the Anthropocene. From a normative angle, moreover, ecosystem-based approaches (EBA) are considered as promising regulatory strategies for putting eco-sciences in dialogue with the material needs and cultural aspirations of human societies in specific socio-ecological spaces. Hence, EBA provide a suggestive framework that demonstrates potential for hosting deliberative decision-making and shaping concrete solutions for enabling the reproduction of human societies within the planetary boundaries and rationales of the Earth System.

In this paper, we seek to discuss the strengths and weaknesses of EBA for ESG with reference to a relatively novel policy area: Marine Spatial Planning (MSP). To this end, we will appraise the governance processes that the European Union (EU) – one of the most active propagators of MSP discourses and practices at the global level – is putting in place to facilitate the sustainable co-existence of different ocean-uses in its regional seas. These processes reflect the Union's long-standing experience with decentralised, transnational, and integrated approaches to strategic planning, aimed at promoting the ability of regions – defined in terms of their ecosystemic specificity – to formulate a shared 'vision' for their spatial development. However, although their polycentric architecture is aligned with the rationale of ESG, these processes remain dominated by closed epistemic communities, in which the knowledges of techno-scientific and economic actors dominate. We will argue that this flaw stems from structural path-

dependencies which hinder the articulation of strong forms of citizen participation and contestation. The latter are key preconditions for the operationalisation of ESG, insofar as they promote the twin objectives of democratising expertise and expertising democracy. We will proceed to problematise the wider implications of this ‘tunnel vision’ by critically discussing the official position held by the EU and its Member States within international law-making processes relating to the (sustainable) use of marine natural resources. In view of the current debate on a new ‘European Green Deal’, we will conclude with reflections on the institutional and regulatory innovations needed to enhance the capacity of MSP processes taking place in Europe’s regional seas to respond to Anthropocenic concerns.

**ID337.**

### **Power and authority relations in the emerging marine biodiversity regime complex**

Arne Langlet, Alice Vadrot

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The current negotiations on a new legally binding instrument for the protection and sustainable use of marine biodiversity beyond national jurisdiction (BBNJ) under the United Nations Convention on the Law of the Sea (UNCLOS) take place in relation to an already existing complex international environmental governance system. This paper identifies an emerging marine biodiversity regime complex and describes it as a network of institutions that exist in relation to each other. In this network structure different forms of power and authority are observed.

Our study responds to the gap in existing literature on regime complexes. We see regime

complexes as a governance structure of international environmental politics and power and authority relations conditioned by it. We use the case of the currently ongoing marine biodiversity negotiations to study how authority and power relations are constructed and contested based on the assumption that authority and power can be understood as social and relational. In order to study these processes, we analyze data gathered at BBNJ negotiations and describe a number of social networks that constitute the regime complex.

Methodologically, we combine ethnography and social network analysis. Social network analysis provides a useful tool to study the social origins of power and authority in the context of international governance structures. We construct a sample of international institutions based on the ethnographic observations at the negotiations and show how these institutions are connected via thematic or legal overlaps, common membership bases and cooperative activity. Expressions of authority or power claims are observed through different measurements such as an institutional activity and references made in the ongoing negotiations. The study relates the authority and power expressions in the negotiations to socially powerful positions in the underlying network with the aim to trace the social origins of power and authority.

The contributions of this research are threefold: firstly, it provides a methodology to describe regime complexes by advancing the use of social network analysis in international relations and combining different data sources for a multi-method approach. Secondly, it explores the social origins of authority and power of intergovernmental organizations contributing to the theoretical foundations of authority and power in regime complexes and thirdly, it contributes to understanding the emergence of a new architecture which will

potentially shape ocean governance in the future.

**ID525.**

## **The Marine Plastic Pollution Regime Complex**

Babet de Groot

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The world ocean is becoming a plastic soup. Approximately 8 million metric tons of land-based plastic waste enter the oceans each year, adding to a growing sink of mismanaged plastic waste estimated at 6.3 billion metric tons in 2016. The transboundary and cross-jurisdictional nature of marine plastic pollution has made its governance insurmountably complex. Recent attention to its adverse human and environmental health impacts have moved international organisations, global business and industry and environmental non-governmental organisations to address the marine plastic pollution crisis. However, this has not amounted to a Global Plastics Treaty. Does the global environmental governance of marine plastic pollution then constitute a regime?

The marine plastic pollution problem has yet to receive academic attention from the perspective of global environmental governance. As a tragedy of the commons, this approach is essential. While there is no single binding legal instrument to globally govern marine plastic pollution, it is affected by existing international legal regimes (such as UNCLOS), regional agreements, global institutional frameworks and universal rules, norms and standards. It is being governed. Therefore, it does not constitute a regime but a regime complex, or a set of overlapping regimes.

I review the international institutions that pertain to marine plastic pollution to show that its global governance constitutes a regime complex. I build on the constructivist conceptualisation of regime theory to contribute to the evolving literature on regime complexes and non-regimes. This analysis lays the groundwork for future research on how the marine plastic pollution crisis is governed at the global level. It also provides valuable insights for policy and decision-makers in public, private and non-governmental institutions to cultivate greater institutional integration to address this tragedy of the commons.

**ID 278**

## **Negotiating Ocean Science? Avenues for and Struggle over the Uptake of Science in Marine Biodiversity Negotiations**

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*The ongoing negotiations for a legally binding instrument for the conservation and sustainable use of marine biodiversity beyond national jurisdiction (BBNJ) are expected to be based on “best available science”. With this definition however, it remains unclear which actors convey such science, over which ways this information gets into the policy-making arena and how and by whom it is legitimized within the negotiations.*

This paper studies the role of science in international negotiations, using empirical data, collected through Collaborative Event Ethnography (CEE) at the BBNJ negotiation site. In the first section, we identify the actors and avenues over which science is brought into the BBNJ negotiations. The

second section regards the contestation over, as well as the use and non-use of science by state and non-state actors within the BBNJ negotiation plenary discussions.

Results show that science plays multiple roles at the negotiation site and throughout the treaty-making process. Avenues for science to “enter” the treaty-making process entail consultations with scientists in preparation of the negotiations, inclusion of scientists on national delegations and statements by scientists in the plenary. Moreover, scientific information reaches policy-makers via academic publications, as well as through exchanges at workshops and side events and informal talks between scientists and state and non-state actors. Thus, science informs the development of positions and statements of diverse actors before, during and after negotiation sessions and contributes to a shared understanding of the issue at hand among BBNJ negotiators. Yet, in the formal negotiations themselves, it remains to be seen to what extent final decisions on the future of marine biodiversity will be based on science. While some actors use references to scientific knowledge to justify their positions, others refrain from considering science as a legitimate basis for the development of treaty provisions.

We conclude that to guarantee an effective and close science-policy interplay during the negotiations and for the implementation of the final agreement, that takes into consideration global expertise from multiple scientific fields and various forms of knowledge, formalized

processes and an independent Scientific and Technical Body for BBNJ is required. Furthermore, the article critically reflects on the contestation over science in the negotiations and discusses why ocean science emerged as an object of struggle in the BBNJ treaty-making process.

## Panel ID 104

### Finance and investment

Parallel Panel Session 4,  
Wednesday 8<sup>th</sup> September 2021,  
9:00-10:30 CEST

Chair: Carola Klöck

### ID51.

### Reality check: Interrogating Climate Finance for Energy Transitions in Asia and the Pacific

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Climate change has brought adverse and disproportionate environmental, social and economic impacts across the globe. A key response to the climate change is the immediate need to transition to a low carbon economy. Such an expeditious transition to a low carbon global economy requires massive financial investment, which is argued beyond the resources and capability of public finance alone. However, if climate finance is not effectively steered and governed, the transition it supports will be a fundamentally unequal one: unconstrained, climate finance has the potential to cleave out existing inequalities. One such inequality, is the allocation of climate financial between mitigation and adaptation, the former attracts

a larger share of investment due to its capacity to generate financial return. Within the mitigation project, revolutionizing energy sectors is a key priority as it is currently responsible for the greatest global emissions contribution. In the energy sector, there is significant opportunity for financialisation, which has led to its presentation as a panacea to drive a rapid transition to low carbon energy. However, assuming the neutral impacts of this financialisation in transitions to low carbon energy is problematic. Indeed, in its current manifestation climate financial has the potential to perpetuate existing inequality.

This paper is based on the fieldwork carried out by both authors in Indonesia and Fiji in 2018-2019. In this paper, we critically examine the global discourses on the role of climate finance in supporting energy transitions in developing countries. Further, we compare these discourses to the on the ground realities of two countries in the Asia Pacific region, Indonesia and Fiji. We find that climate finance may perpetuate some of the spatial inequalities between rural and urban locations, and between on-grid and distributive generation. We also find that climate finance operating under a principle of project Darwinism, in which primarily the most bankable, lowest risk, highest return, and often the largest scale projects are able to tap in into the opportunity presented by climate finance. This is problematic given the ultimate problem climate finance was promised to remedy. As currently constituted, the most vulnerable are falling outside climate finance benefits. A key way forward is internalizing these learning by reengaging with the role of public finance, particularly by strategizing how public finance can meet the needs of the most vulnerable and exploring avenues for the government to effectively steer both public and private

climate finance towards more equitable outcomes.

**ID70.**

## **The Global Network of Carbon-Pricing Capacity-Building**

Katja Biedenkopf

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Capacity-building can be an important vehicle to diffuse and promote climate policies by equipping jurisdictions with the necessary knowledge and expertise they need to adopt effective measures. Despite this potential, capacity-building is an under-researched aspect of global policy diffusion. This paper analyses the proliferation of and interaction among carbon-pricing capacity-building projects and actors with the aim to identify patterns and effectiveness conditions for diffusion. It takes an ambitious network approach by conceptualising and analysing the global carbon-pricing capacity-building network, which comprises a considerable number and diversity of actors and activities.

Capacity-building projects are not exclusively driven by external experts, governments and organisations; the receiving jurisdiction's leverage to steer project design and content can be a crucial factor, shaping the process of infusing external expertise into domestic policy-making. They are crucial parts of the carbon-pricing capacity-building network. The types of interactions between the demand and supply of policy expertise can influence the degree of capacity-building effectiveness. For this reason, the paper differentiates various types of network interactions. Beyond that, there are multiple suppliers of capacity-building projects in the field of carbon pricing policy, including NGOs, international organisations and governments. The type of

interaction among those actors can increase/decrease the effectiveness of capacity-building in a given jurisdiction. The paper maps capacity-building projects in countries including China, Mexico, South Korea and Kazakhstan. It identifies effectiveness conditions by analysing the role that central actors and brokers play and by evaluating the interaction among multiple capacity-building projects and actors across multiples scales.

### **ID 359.**

#### **Assessing the impacts of international environmental institutions: The case of fossil fuel subsidy reform**

*Jakob Skovgaard<sup>1</sup>, Harro van Asselt<sup>2</sup>, Åsa Knaggård<sup>1</sup>, Roger Hildingsson<sup>1</sup>*

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International environmental institutions such as the Sustainable Development Goals (SDGs) and the Paris Agreement (PA) target policies that were subject to frequent changes already before the establishment of the institutions. Such policy changes can be driven by domestic factors (e.g. civil society acting as norm entrepreneurs) as well as by international factors (e.g. learning from other countries). This raises the vexed question of how to isolate the effects of the international environmental institutions from other factors driving policy change. We develop a framework for studying the influence of international environmental institutions on domestic fossil fuel subsidy reform. In virtually all countries, fossil fuels are subsidised, e.g., through price controls, tax breaks and the provision of infrastructure. Existing research has shown that fossil fuel subsidy reform has hitherto mainly been driven by domestic (economic) factors, with pressure from international economic institutions often

playing an important subsidiary role. International environmental institutions have traditionally not paid much attention to these subsidies. Yet with SDG 12.c committing all countries to undertaking efforts to rationalise inefficient fossil fuel subsidies, and some countries committing to fossil fuel subsidy reform within their Nationally Determined Contributions to the PA, this dynamic may change.

To study the influence of SDG 12.c and the PA, our framework first identifies major changes to fossil fuel subsidies drawing on data from the OECD as well as civil society sources. Second, we outline the pathways through which SDG 12.c and the PA may induce major policy change to fossil fuel subsidies, specifically norm diffusion, learning from other countries or reputational costs. An illustrative case study of Indian fossil fuel subsidy reform underscores the contribution of our framework and its usefulness for other scholars studying the impact of international environmental institutions on domestic policy.

### **ID423.**

#### **Mapping transnational climate finance initiatives**

*Toyo Kawabata*

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The paper presents an analysis on the governance architecture for climate finance. Transnational climate finance initiatives increasingly engage in diverse governance activities including knowledge brokering, business matching, target setting and rule making, which implies governance beyond the state. These initiatives include transnational non-state actors, non-profit organizations, investor networks, Public Private Partnerships,

business associations and think tanks. Most of those initiatives have arisen after the COP15 when the bottom-up approach on climate actions was getting mainstreamed.

While a growing number of papers studied transnational environmental governance such as trade, energy and climate change, there has been little attention paid to the climate finance governance. Some existing papers on climate finance governance dealt with small-n case studies. However, the overarching research such as mapping work on the governance architecture that refers to the larger number of cases is missing in global environmental governance studies.

Transnational climate finance initiatives take on various functions in governance. As scholars have studied the role and function of transnational non-state actors in agenda setting, political lobbying, implementing international agreements, rule making, technical assistance, knowledge sharing, and finance provision, this paper also identifies several functions that are typically undertaken by transnational climate finance initiatives: for instance those include information sharing, capacity building, target setting and rule making.

Reflecting the fact that transnational governance has become complex because of the proliferation of institutions, actors and norms, this paper deal with the initiatives across regime types such as public, private and hybrid. Interplay often occurs between those initiatives across regime types in a complementary manner to bridge the limitations of public policies through reformulating problems, incubating ideas and experimenting with solutions. With this background, the paper maps the governance roles and functions of the initiatives with analytical lens on institutional interplay.

By so doing, this paper provides knowledge on the emergent governance architecture of transnational climate finance. As the current pace of growth regarding climate finance flow is not enough to achieve the global climate change goal, the output of this paper could shed light on the potential significance of transnational climate finance initiatives that could contribute to accelerate further growth of climate finance flow, which is an important reflection to cope with 'climate emergency'.

## Panel ID 105

### Agency beyond the state (ii): non-state actors in global governance

Parallel Panel Session 5,  
Wednesday 8<sup>th</sup> September 2021,  
13:00-14:30 CEST

Chair: Nagmeh Nasiritousi

## ID93.

### Influence of international non-governmental organizations in global fisheries governance

*Matilda Tove Petersson<sup>1</sup>, Lisa Dellmuth<sup>2</sup>*

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Increasing participation by international non-governmental organizations (INGOs) is often viewed as important for the effectiveness of international organizations to solve transboundary environmental problems. Over past decades, researchers and policy-makers alike have promoted INGO participation as a way to address both democratic deficits and governance gaps. However, the conditions

under which INGOs are able to influence effectiveness are still relatively uncharted.

This paper addresses this disparity and focuses specifically on the influence of INGOs on policy outputs achieved by Regional Fisheries Management Organizations (RFMOs) over the past two decades. RFMOs are the sole international organizations with a mandate to adopt binding measures for managing highly migratory and straddling fish stocks, including many commercially important species such as tunas. The objective is to achieve optimum utilization and, at the same time, long term conservation of these fish stocks.

In recent years, there are indications that RFMOs have broadened their mandate. For example, previous studies have found that RFMOs have taken some initial steps to implement an ecosystems approach to fisheries. This is generally advocated, by the international community and researchers alike, as a means to achieving sustainable fisheries management. Indeed, in the past three decades, many RFMOs have adopted binding conservation and management measures on non-target and associated species, such as e.g. sharks, sea turtles, seabirds, and marine mammals, in addition to measures concerning target fish stocks.

The question is why. We explore whether this has to do with the increasing participation by INGOs in RFMOs over the past two decades, as they generally pursue goals and engage in advocacy to push for additional measures for non-target species. To study the influence of INGOs on policy outputs related to non-target species across RFMOs, we combine data from policy statements submitted by INGOs to RFMO meetings, and RFMO meeting reports, with participatory observations and semi-structured interviews with representatives of

INGOs, and from other non-state actors representing the fishing industry, research-based organizations, RFMO member states and secretariats of RFMOs.

The findings of the paper are discussed in relation to ongoing debates on the linkages between INGOs, influence, and effectiveness in the global environmental governance literature. The paper concludes with a discussion of these linkages in relation to the prospects for RFMOs to implementing an ecosystem approach to fisheries.

## ID131.

### **Between cooperation and confrontation: Non-state action in post-Paris climate governance**

Jens Marquardt<sup>1</sup>, Cornelia Saga Fast<sup>2</sup>, Julia Grimm<sup>3,2</sup>

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The Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) marks a significant milestone in international climate politics. Not only have states agreed to outline their emissions reduction targets through Nationally Determined Contributions (NDCs). The agreement also brings non-state climate action to the forefront by actively inviting non- and sub-state actors to contribute to climate mitigation efforts. The global climate action agenda fosters a dialogue across state- and non-state actors. While global governance and International Relations scholars have widely acknowledged and even anticipated the increasing relevance of non- and sub-state

actors, their embracement evokes questions of how to deal with and analyses the role of non-state actors. Based on a critical literature review, we highlight themes of contestation, conflicts, and ambiguities to propose a more nuanced reading of the role of non- and sub-state actors in post-Paris climate governance. We identify research gaps, challenges, and tensions in how the literature treats non-state actor involvement in climate change governance and outline a research agenda for social scientists. Insights from other social science fields and disciplines such as science and technology studies, social movement studies, anthropological studies, ethnography, and organization and management theory provide insights into how scholars conceptualize and construct the diverse nature of non-state action. They help us to illuminate at least three themes of contestation: the relation of non-state actors to the state, their ambitions in society, and the authority of knowledge on which their claims rest. These foundational categories allow us to develop a typology of competing role models of non-state actors in climate governance: Non-state actors can be conceptualized not only as (1) cooperative facilitators of and contributors to a state-led climate action agenda, but also as (2) co-opted instruments which are strategically used for state interests, and (3) disruptive and confrontational forces in the post-Paris climate change regime. We conclude that climate governance research should not limit itself to the mechanisms of effective non-state action in (global) climate governance, but also ask how an inclusive climate regime can respond to competing perspectives on the state, societal change and knowledge-making processes.

**ID213.**

### **Philanthropic Foundations and Field-building in Marine Conservation Governance**

*Michele M. Betsill, Rebecca Gruby, Elodie Le Cornu, Ash Enrici*

*Colorado State University, Fort Collins, USA*

Philanthropic foundations contribute to earth system governance as funders of projects, networks, organizations, policy initiatives, and research activities across a range of environmental issue areas. In 2015, half of the \$800 million in grant funds for ocean conservation came from foundations, roughly equal to the amount of official development assistance from governments. This paper fills a gap in earth system governance research and the social sciences more broadly by focusing on philanthropies as agents of earth system governance with the authority and capacity to influence and steer policy processes, behaviors, and outcomes. Specifically, we explore how philanthropic foundations exercise agency through the concept of "field-building". Organizational fields consist of social networks and shared meaning systems that shape how participants in a policy domain interact with one another and engage with particular issues. Our research contributes to the ESG research theme of "Agency and Architecture" by exploring the role of foundations in building the organizational field for marine conservation. Drawing on document analysis and semi-structured interviews with program officers and staff at 40 foundations working in the oceans arena, we address a number of key questions, including: To what extent do philanthropies explicitly acknowledge their field-building role? In what

ways do investments in specific organizations, activities, and programs as well as interactions with key stakeholders shape the ways in which marine conservation issues are understood and managed across geographies and scales? Do donors implicitly or explicitly advance a shared understanding of their vision for how marine conservation goals should be achieved? Does marine conservation field-building by foundations reinforce or challenge the neoliberalization of conservation? We conclude by reflecting on the implications of recognizing philanthropies of agents of environmental governance.

**ID367.**

### **Struggling to Implement the 2030 Agenda: The Centrality of Social Movements to the SDGs**

Vasna Ramasar<sup>1</sup>, Thiago G Galvao<sup>2</sup>

<sup>1</sup>Lund University, Lund, Sweden. <sup>2</sup>University of Brasilia, Brasilia, Brazil

This paper presents an analysis based on Brazil and South Africa's experiences on architecture designs and agency in dealing with the implementation of the Sustainable Development Goals (SDG) and the 2030 Agenda. SDG has become one of the main frames for political and behavioural change, connecting multiple scales of values, ideas, interests and actions from global to local. In fact, the success of the SDGs is largely linked with the articulations between global, national and sub-national levels on a myriad of translations, adaptations and monitoring experiences around the world. Looking through the SDG 17 "Strengthen the means of implementation and revitalize the global partnership for sustainable development", this research examines the role of different social groups in each country - civil society;

universities; private sector; local authorities and federal governments - on developing strategies of action and institutional designs to engage locally into the implementation process of the 2030 Agenda. Brazil and South Africa are interesting cases to be analyzed on the prospects for what extent a global policy response is effective in local territories. Brazil and South Africa have both taken leading positions in hosting sustainability conferences (1992, 2002 and 2012), establishing themselves as important Global South players, and having recently facing political crises that endangered the visions of a sustainable future. The main argument of this study is that social movements, although lacking in economic resources and global projection capacity, appear to have a most significant role to play as the backbone to SDG implementation. Methodologically, the paper combines theoretical approaches on social change, social movements, social constructivism and norm localization with empirical document analysis and case studies. The relevance of this paper is to shed some light on the centrality of social movements on: (1) designing projects that fit and address inequality and sustainability locally; (2) making the other agents accountable for their actions related to the Agenda 2030; and (3) resisting global imposition by reframing the SDGs agenda priorities in local contexts. Community regimes and collective action are thus important for steering Agenda 2030 towards just global sustainability.

Keywords: SDGs, Brazil, South Africa, localization, agency

## Panel ID 106. Environmental governance in China

Parallel Panel Session 7,  
Thursday 9<sup>th</sup> September 2021,  
8:30-10:00 CEST

Chair: Ke Tang

### ID334.

## Environmental Governance of China's Belt and Road Initiative: A case study from Montenegro

Johanna Coenen, Jens Newig

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China's Belt and Road Initiative (BRI) is an ambitious effort to increase trans-continental connectivity and cooperation mainly through infrastructure investments and trade. On the one hand, the globally unparalleled initiative is expected to foster economic growth, but on the other hand, it can have substantial environmental implications. The BRI creates new challenges and opportunities for environmental governance as new actor constellations emerge in BRI host countries to plan and construct large-scale infrastructure projects. Although China has outlined its vision of building a "green Belt and Road", it remains unknown how this ambition affects projects on the ground.

As an example of a BRI project with potentially immense environmental effects, we present a case study of the Bar-Boljare highway in Montenegro. We elucidate the complex web of actors and contractual arrangements involved, and demonstrate how domestic decision-making in the field of environmental governance is affected by internal and external pressures to safeguard the environment. Based on interviews with key stakeholders, we

illustrate the role of actor networks, institutional set-ups, and international standards in environmental governance of the highway project in the aspiring EU member state in the Western Balkans. This article contributes towards a better understanding of China's growing importance as global actor and increasingly active role in environmental governance, and what this means for Europe. The case may be seen as exemplary for a larger set of BRI projects where geographically, socially and institutionally distant actors influence environmental governance in BRI host countries.

### ID336.

## Greening China's Belt and Road Initiative: From Normalization to Institution Building and Beyond

Yixian Sun<sup>1</sup>, Bowen Yu<sup>2</sup>

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<sup>2</sup>*Fudan University, Shanghai, China*

Since its launch in 2013, the China-led Belt and Road Initiative (BRI) has been widely considered as the largest development cooperation initiative in generations, which may significantly contribute to human development in the developing world in the 21<sup>st</sup> century. But the BRI could cause huge environmental and social impacts in its recipient countries if its projects are not probably governed. To date, academic research on the BRI mainly focuses on the Initiative's origin from a strategic point of view with little attention to its sustainability governance. While some observers have been worried about the BRI's consequences to Earth systems, over the last five years many governance initiatives for greening the BRI have emerged in China, aiming to establish environmental safeguards for relevant

projects. China's practices to green the BRI has evolved from top leaders' speeches to institution building. Furthermore, the Ministry of Environment and Ecology launched in 2019 the BRI International Green Development Coalition – an open, inclusive and voluntary network to ensure that the BRI brings sustainable development to concerned countries. How to make sense of the evolution of China's strategy to green the BRI? Answering this question requires us to address several interconnected questions. Is there a theory of change guiding Chinese policy circle's thinking of greening the BRI? If yes, what it does (or will) look like? Who are advocates of this policy change and what are their motivations to green the BRI? Drawing on government documents, interviews with practitioners, and media reports, we map the recent initiatives seeking to green the BRI and assess external and internal dynamics that could lead China to this new direction. We pay special attention to the historical and future evolution of policies and mechanisms behind this change. We find that Xi Jinping has shown strong intention to bring ecological civilization into the BRI, but his position has also opened opportunities for different ministries, state-owned enterprises, and other stakeholders to pursue their own interests in institutionalizing this green movement. However, these efforts seem to suffer from the lack of inter-agency coordination such that the Chinese government has yet to adopt a comprehensive strategy to green the BRI. By unpacking the interests of different Chinese stakeholders in the greening of the BRI and complex interaction among them, the paper makes a new contribution to the timely debate on the governance of the BRI and its sustainability impact.

**ID350.**

### **China and norm-making in extractives governance: a case study of the Responsible Cobalt Initiative (RCI)**

Hyeyoon Park

*Colorado State University, Fort Collins, USA*

The norms literature in international relations (IR) does not sufficiently explain the impact of changing power relations among states and the role of non-Western actors on norm development. Reflecting this theoretical gap, previous studies in global environmental politics (GEP) have paid little attention to the normative influence of China as an emerging power in global environmental governance (GEG). Meanwhile, China's increasing involvement in GEG raises a question of whether China is not only a norm-taker but also a norm-shaper. Chinese actors recently have started engaging in many transnational extractive governance initiatives that serve as a platform for transparency norm development. China's role in transnational extractives governance is closely related to its increasing demands on mineral resources and Green Belt and Road Initiative (Green BRI), a new national strategy to mitigate negative environmental impacts of global BRI projects, including massive mining operations of Chinese extractive companies overseas. Moreover, China published a Chinese version of extractive governance guidelines on transparency that led to the establishment of the Responsible Cobalt Initiative (RCI) in 2017.

Drawing on two-way socialization theory that considers the interactions between norm-taking and norm-shaping, this research aims to understand China's new leadership role in transnational extractives governance through

the case of the RCI. I use a process-tracing approach that includes a historical analysis of China's engagement in transnational extractives governance; a document analysis that compares a Chinese version of transparency guidelines to existing 'non-Chinese (Western)' global guidelines; and semi-structured interviews with people who have been involved in drafting the Chinese transparency guidelines and RCI members. The initial analysis suggests that transnational interaction among Chinese and non-Chinese norm entrepreneurs and international demands shaping China's new identity as an emerging power have led to China's two-way socialization in transparency norm development. The two-way socialization process reflects both the localization of a global transparency norm and globalization of a Chinese version of transparency, illustrating the multi-level dynamics of transparency norm development in GEG. Regarding the ESG conference stream of architecture and agency, this research contributes to understanding how China, as an emerging agent in GEG, transforms and re-shape the global governance architecture to solve diverse transnational issues of global extractive resources.

**ID599.**

### **Taming a dragon? China's climate governance over the past decade**

*Xiaoran Li, Oscar Widerberg, Philipp Pattberg*

*Institute for Environmental Studies, Vrije Universiteit Amsterdam, Amsterdam, Netherlands*

China has emerged as the world's largest emitter of greenhouse gases (GHG) over the past decade. As a consequence, China has also started to take a more visible role in global climate governance. Despite this development,

we still lack holistic knowledge of China's climate governance. To advance the understanding of China's role in climate governance, both domestically and at the international level, we undertake a systematic review of 102 academic publications in the field of climate governance between 2009 to 2019. First, we provide a descriptive analysis to provide a general picture of the state-of-the-art, including its development over time, target journals, and authorship. Second, we identify four main themes that dominate the scholarly literature on China's climate change governance: 1) what are the incentives behind China's climate governance at different levels; 2) what are the policy instruments adopted (what is there in the policy toolbox); 3) who are the players involved in governing climate change; 4) what is the difference in climate governance between China and other countries. We found that current literature mainly focuses on how to govern climate change at specific levels through a range of case studies. What is missing is an assessment of the coherence/incoherence among different policy levels and a more detailed analysis of the role and relevance of non-state actors in China's climate change governance. We encourage scholars to factor in these gaps when developing future research.

**Panel ID 107****Biodiversity: governance landscapes**

Parallel Panel Session 2,  
Tuesday 7<sup>th</sup> September 2021,  
10:30-12:00 CEST

Chair: Yves Zinngrebe

**ID76.****Competing or Complementing? Using theories-of-change to evaluate transnational biodiversity initiatives**

Oscar Widerberg, Katarzyna Negacz, Philipp Pattberg

*VU-IVM, Amsterdam, Netherlands*

The Convention on Biological Diversity (CBD) has largely failed to halt global biodiversity loss. Beyond the CBD, however, hundreds of transnational initiatives between states, cities, regions, companies, indigenous peoples, civil society organizations, and other non-state and subnational actors, are starting to take action on biodiversity. Little is known about the impact of these initiatives on global biodiversity governance. This paper presents an evaluative framework that accommodates the heterogeneity of transnational biodiversity initiatives. It is based on the “theories-of-change” of four ideal-type initiatives engaging in information sharing and networking, operations on the ground, standards and commitments and financing. The paper applies the framework to a set of illustrative case-studies. The framework provides a flexible tool to structure and assess the performance of initiatives with a set of tailor-made indicators for different types of initiatives involved in biodiversity conservation; analyzing governance functions that complement public

policies, such as new standards and commitments, funding, creating and disseminating information, and executing projects on the ground, and presenting a diversified landscape of transnational biodiversity initiatives and highlight differences and similarities. As a useful tool for the policymakers, it enables comparison and assessment of transnational biodiversity initiatives across scales.

**ID467.****Transforming Biodiversity Governance in agricultural landscapes: taking stock and looking forward**

*Yves Marcel Zinngrebe<sup>1,2</sup>, Fiona Kinniburgh<sup>3</sup>, Marjanneke J. Vijge<sup>4</sup>, Hens Runhaar<sup>4,5</sup>, Sabina Khan<sup>2</sup>*

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Agricultural landscapes cover over 38% of the world’s terrestrial surface and support a wide range of ecosystem services and habitats. Nevertheless, the agricultural sector has been identified as the single largest contributor to biodiversity loss worldwide, principally as a result of habitat conversion and agro-chemical pollution. While different protected areas with varying legal status have been installed in many countries to set aside valuable ecological areas (land-sparing), there is an increased recognition worldwide that reversing biodiversity loss in agricultural areas will require radically different forms of agricultural governance to reduce pressures, preserve

ecosystem functions and assure habitat connectivity (land-sharing).

Biodiversity loss is related to different threats related to agricultural threats. We discuss common and diverging threats and trajectories of biodiversity aspects in agricultural landscapes in both developed countries and developing countries.

Based on work around the concept of Biodiversity Policy Integration (BPI), we produce an analytical framework along the criteria Inclusion, Operationalisation, Coherence, Capacity, and Weighing.

We find that the overall inclusion of biodiversity objectives in agricultural policies and practices is generally low. Biodiversity instruments and policies are predominantly ‘add on’ policies that do not directly address biodiversity threatening practices in both developing and developed countries. Though there is increasing evidence on how biodiversity can contribute to agricultural yields, a ‘productivist’ paradigm that lacks consideration of biodiversity still dominates most agricultural policies and practices in both developed and developing countries. A much stronger transformation of the agricultural sector and the policies that govern it will be necessary to reduce the threat of extinction of 1 million species worldwide and meet the Sustainable Development Goals (SDGs), especially those aiming at preserving life on land (SDG 14) and life in water (SDG 15), as well as that relating to sustainable production and consumption (SDG 8). Based on our BPI assessment, we identify and discuss four transformation factors with the potential of supporting a transition towards agricultural sustainability. These include a clear vision for sustainable agriculture, social capital, knowledge integration and learning as well as the integration of private initiatives and markets.

**ID568.**

### **Architectures of responsibility: Understanding obligations for biodiversity in the polycentric governance of the UK Overseas Territories**

Jasper Montana

*University of Oxford, Oxford, United Kingdom*

The rapid acceleration of human impacts on the Earth System – characterised as the Anthropocene – presents particular challenges for identifying and implementing responsibility. Negative environmental impacts are driven by a wide array of actors across sites and scales, from the telecoupling effects of international trade to the legacies of historic introductions of invasive species. Not only do these complex Anthropocenic relations challenge existing modes of governing, but they also signal the need for a possible rethink of the distribution and reach of ethics and obligations. These challenges call for increased attention to the ways in which environmental responsibility can be appropriately and justly distributed across scales and between state and non-state actors. Considering the Anthropocene as a contextual condition and applying Architecture and Agency as a research lens, this paper examines the distribution and nature of responsibility for biodiversity in the polycentric governance context of the UK Overseas Territories. This set of 14 islands, archipelagos and peninsulas harbour 94% of the UK’s unique biodiversity and boast a huge diversity of governance arrangements, from locally-elected government to management by a Chief Executive Officer. This paper considers responsibility through an interpretive lens: examining the meaning and enactment of responsibility as an integral part of what others

have called ‘knowing governance’. The paper brings together document analysis with interviews from a range of UK and the Overseas Territory governments, scientific and civil society professionals currently involved in environmental management. It finds that different environmental actors settle on different definitions of responsibility and thereby demand different resources in order to enact their obligations. Reflecting on these findings in light of the anticipated post-2020 global biodiversity framework, the paper suggests that creating architectures of responsibility that are mutually supporting – cutting across obligations for nature that are legal, moral, professional, and beyond – is likely to be important for sustaining robust biodiversity throughout the Anthropocene.

**ID629.**

### **The emergence of a complex governance landscape for biodiversity**

*Matilda Petersson, Katarzyna Negacz, Oscar Widerberg, Philipp Pattberg*

*Vrije University Amsterdam, Amsterdam, Netherlands*

Recent decades have witnessed alarming rates of biodiversity loss worldwide. Despite global efforts to reverse this negative trend, countries have largely failed to achieve the goals set out by the Convention on Biological Diversity (CBD). At the same time, an increasingly complex bottom-up institutional landscape has emerged across multiple issue areas of global environmental governance. This is manifested through a myriad of public, private and hybrid institutions at various levels, often referred to as international collaborative initiatives for biodiversity. An often-cited challenge in biodiversity governance is the lack of

coordination between different efforts and institutions and the resulting functional overlap. The aim of this paper is to analyze the emergence of a complex governance landscape for biodiversity and to discuss how the CBD can harness the potential of this emerging landscape and better orchestrate the efforts of international collaborative initiatives. We compiled a unique dataset of more than 300 biodiversity initiatives by applying semi-automated content analysis and expert interview validation. In order to describe the evolving institutional landscape and make policy recommendations, we coded characteristics of each initiative, including inter alia, their members, governance functions, focus areas, goals and commitments made in relation to global policy goals set out by the CBD.

The preliminary results show that there is an increase in the number of hybrid initiatives (involving both state and non-state actors) over time. Additionally, international collaborative initiatives are getting increasingly involved in the voluntary commitment process managed by the CBD. We discuss these findings in relation to ongoing scholarly debates in global environmental governance on orchestration and polycentric governance. Finally, we propose that these trends provide a window of opportunity for synergy effects between actions coordinated by the CBD and undertaken by international cooperative initiatives.

ID429.

## How to maintain a biodiversity of natural habitats under global change and increasing landscape exploitation?

*Pavel Cudlín<sup>1</sup>, Vilém Pechanec<sup>2</sup>, Marcela Prokopová<sup>1</sup>, Renata Včeláková<sup>1</sup>, Jan Purkyt<sup>1,3</sup>, Ondřej Cudlín<sup>1</sup>*

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Nowadays the scientific community is increasingly focused on biodiversity and its development under global change conditions. Climate, land-use and biodiversity are all negatively impacted by the human population growth and activities. In a period of global change, we consider biodiversity as a feature that is crucial for nature resistance and resilience, which are prerequisites of an ecosystem's ability to mitigate the negative impacts of global change on human populations. However, biodiversity is also highly jeopardized by the climate and land use changes. Its decline is alarming and further deterioration is expected.

The goal of this contribution is to detect these changes in the Czech Republic and outline strategies to reduce biodiversity loss in climate change conditions. An analysis of Corine land cover data time sequences was performed to quantify the changes at the landscape level, while data of the Habitat layer of the Czech Republic from two time periods based on Natura 2000 mapping were compared to define changes in natural habitats. The Habitat Valuation Method was used to quantify the

loss of biodiversity value on both levels. Based on the assessment of habitat quality in the database of Habitat Mapping, made by the Agency for Nature and Landscape Protection of the Czech Republic, natural habitats, with above-average quality and exceeding the minimum area necessary for maintaining the given habitat on the site, were selected. From these habitats, the Marxan model was used to select optimal habitats for conservation or adaptation measures located in insufficiently protected areas.

The results of land cover development showed increased biodiversity value for the whole Czech Republic, mainly due to significantly increased areas of meadows and pastures at the expense of arable land and a smaller increase of forest area on abandoned soil. On the other hand, the biodiversity values of natural and near natural habitats decreased in favour of ruderalized habitats, mostly due to increasing pressure from landscape exploitation and climate change.

Based on the selection of the most valuable habitats using the Marxan model, measures will be proposed, leading both to slowing down the loss of species, community and habitat diversity in the Czech Republic and to increasing biodiversity in places more affected by human activity.

## Panel ID 108

### Sustainable Development Goals: implications for global governance

Parallel Panel Session 4,  
Wednesday 8<sup>th</sup> September 2021,  
9:00-10:30 CEST

Chair: Clara Brandi

#### ID18.

### The Role of Voluntary Sustainability Standards (VSS) for the Sustainable Development Goals (SDGs)

*Katharina Bissinger<sup>1</sup>, Clara Brandi<sup>2</sup>, Matteo Fiorini<sup>3</sup>, Philip Schleifer<sup>4</sup>*

<sup>1</sup>University of Gießen, Gießen, Germany. <sup>2</sup>DIE, Bonn, Germany. <sup>3</sup>EUI, Florence, Italy.

<sup>4</sup>University of Amsterdam, Amsterdam, Netherlands

The Sustainable Development Goals (SDGs) are to align the efforts of public and private actors and to further the integration of governance instruments around their ambitious agenda. While there is a burgeoning literature on transnational governance interactions, we have little systematic knowledge about the degree of public-private complementarity in this policy domain. To address this gap, this paper uses an original dataset to explore the intersections of voluntary sustainability standards (VSS) and the 2030 Agenda for Sustainable Development. In a first step, we investigate the overlaps between VSS requirements and SDG targets by identifying which SDG targets are covered by VSS and which are not. Building on a mapping of 800 VSS requirements against the 17 SDGs and their 169 targets, we generate indicators for VSS-SDG overlaps both at the global and country-sector level. Taking a closer look at the overlaps between VSS requirements and SDG targets, we create a complementarity

indicator and describe its variation across countries and industry sectors. The result is a much more comprehensive and refined analysis of these public-private intersections than seen in previous studies. In a second step, we explore the potential of VSS to serve as an implementation mechanism for the SDGs. In a “most-likely” case setting, we zoom into a subset of well-established VSS. Drawing on regime theory, we analyse data linked to their institutional design, institutional context, and policy uptake to gain a better understanding of the potential effectiveness and role of these programs for the SDGs.

#### ID161.

### Effects of the Sustainable Development Goals on global governance architectures: Insights from a dynamic network analysis of 313 intergovernmental organisations

*Maya Bogers, Frank Biermann, Agni Kalfagianni, Rakhyun E Kim*

*Copernicus Institute of Sustainable Development, Utrecht University, Utrecht, Netherlands*

The system of global governance is fragmented. International institutions and organisations operate in silos, and the need for more integration has been emphasised for long. Now, with the adoption of the Sustainable Development Goals (SDGs) in 2015, an unprecedented trust has been placed in the capacity of global goals to bring together and better align these separate institutions. Yet little is known about the effects of global goal-setting on existing governance architectures. Can global goals facilitate integration among international institutions? Some have argued yes: that goals facilitate the creation of

overarching and cross-cutting norms, thus enhancing integration across international institutions. Others have argued that while integration may occur, this is mainly within the own policy domain, thus leading to a continuation of the current siloed approach. Again others have even argued that non-binding goals contribute to institutional fragmentation, potentially complicating international cooperation. To shed light on this theoretical debate in the global governance literature, where little empirical work has been done, this paper assesses and explains how the global network of intergovernmental organisations has evolved in its structure before and after the advent of the SDGs. More specifically, a dynamic network model of 313 intergovernmental organisations is constructed using their websites and hyperlinks, over the years 2012 to 2018. Data is collected from the Internet Archive, a digital archive storing websites. From the archived websites, yearly hyperlink networks are created: networks reflecting how the intergovernmental organizations' websites have connected to each other on the web, over time. From this model, the paper makes three main analyses: (1) whether the global network of intergovernmental organisations is integrating or fragmenting; (2) how governance architectures compare across different policy sectors and SDG domains, over time; and (3) whether the increasing global attention for cross-sectoral interdependencies – across the social, economic and environmental dimensions – is reflected in the network of intergovernmental organisations. With the results of these analyses, this paper make a significant contribution to advancing our knowledge on the effects of global goals in global governance, particularly on the currently fragmented system of intergovernmental organizations. In addition, this paper makes use of a highly novel method that can be widely

applied for systematic comparison of governance architectures. The method has not been used in global governance before, and, as this paper demonstrates, has the potential to significantly advance the field.

**ID548.**

### **Can the SDGs foster integrated sustainability? An expert survey**

*Francesco Saverio Montesano, Frank Biermann, Agni Kalfagianni, Marjanneke J Vijge  
Utrecht University, Utrecht, Netherlands*

The integration of socio-economic and ecological systems has become a central challenge in earth system governance. In 2015, the United Nations agreed on 17 Sustainable Development Goals (SDGs) to advance such policy integration across the economic, social and environmental dimensions of sustainability. Such integration can only succeed when it is aligned with changes in awareness, values and practices at both the individual and at the organisational level. Yet are those changes observable since 2015? This paper interrogates two research questions: First, how and to what extent do experts and professionals across the globe understand and operationalise notions of “integrated sustainability”? Second, have the SDGs, hailed as the most advanced attempt at promoting global integrated sustainability, played a role in informing their perceptions, priorities, and ways of working? To address these questions, we designed an (online) survey, which we broadly circulated to a large sample of experts and professionals working for international organisations, relying on snowballing techniques through access points in both national and international networks and personal contacts at various organisations. Our survey first clustered respondents around their

responses to statements focusing on independent variables such as professional affiliation, seniority, and familiarity with sustainability governance. It then investigated respondents' perceptions about the different dimensions of sustainability and their interdependence. The central dependent variable of the study is the possible change in understanding and operationalisation of integrated sustainability, and the related influence of the SDGs. To better classify and analyse responses, we applied Pal's (1995) discursive categories, with statements aiming at studying respondents' perceptions in terms of scope (what does integrated sustainability entail?), objectives (how should it be pursued?), process (what is my role/the role of my organisation?), and evidence (what do I/does my organisation concretely do?). A subsequent rigorous statistical analysis of the results, centred on clustering techniques, led to a number of important findings that illuminated significant variations across actors and organisations in terms of sustainability priorities, as well as several factors that might influence such variations, such as organisational structure, external cooperation, and type of mandate. The analysis provided valuable new insights into the actual steering power of the SDGs.

**ID580.**

**Are international organizations influenced by global goalsetting? The case of the World Bank, the SDGs and the reduction of inequality**

*Melanie van Driel, Frank Biermann, Marjanneke J. Vijge, Rakhyun E. Kim*

*Copernicus Institute of Sustainable Development, Utrecht, Netherlands*

In 2015, 17 Sustainable Development Goals (SDGs) were universally agreed upon, to be reached by 2030. International Organizations provided input during the SDG negotiation process, and many received the role of 'indicator custodian' for the SDG indicator framework. Although International Organizations therefore play an important role within the overall governance architecture of the SDGs and are crucial for the 'success' of this set of goals, not much is known about the extent to which these global actors themselves are influenced by global goalsetting. The current study contributes to filling this gap by studying one of the most prominent international organizations' uptake and prioritization of the SDGs, namely the World Bank. The main questions we try to answer in this paper are the following: Have the SDGs become an integral part of World Bank discourse? Or are they solely used for outside reporting? Is the Bank also taking on goals that it might not have agreed with during the negotiation process? And if so, how does the Bank use these goals in its discourse? The aim of this study is two-fold. Firstly, we study the uptake of different SDGs within World Bank discourse. Thereafter, we provide a detailed case study of one goal, namely SDG 10 that aims to reduce inequalities, a novel goal captured in the SDG framework. This goal has been one of the most controversial goals that came out of the SDG negotiation process, and it has been remarked by scholars that the World Bank disputed the need for an individual goal on inequality. Since this goal was nevertheless taken up in the final list, it provides a good case study to explore the extent to which setting goals that might not fully resonate with a particular organization can nevertheless influence its priorities and communication. For this study, we compiled a corpus consistent of 282 key World Bank documents, separated into a pre-SDG (2000-

2015) and SDG period (2016-2020). These documents include i) speeches of World Bank presidents, ii) Annual Reports and iii) Flagship Reports. We used (automated) text analysis to map the overall coverage and prioritization of the SDGs by the World Bank. Thereafter, we used a mixed-method approach to analyze the case of SDG 10 on inequality, combining (automated) text analysis and discourse analysis. This resulted in an overall picture of the (change in) occurrence and contextualization of this disputed topic over time.

## Panel ID 110

### Global goals: steering effects and transformative capacity

Parallel Panel Session 6,  
Wednesday 8<sup>th</sup> September 2021,  
17:00-18:30 CEST

Chairs: Lukas Hermwille

## ID222.

### Custodians of sustainable development? An assessment of "indicator custodianship" by UN agencies for the SDGs

*Melanie van Driel, Frank Biermann, Rakhyun E. Kim, Marjanneke J. Vijge*

*Copernicus Institute of Sustainable Development, Utrecht University, Utrecht, Netherlands*

Global governance has long been characterized by persistent fragmentation within and between issue areas. The Sustainable Development Goals, agreed upon in 2015, now provide a set of 17 goals that cover a multitude of these issue areas. Within the Earth System Governance literature, this raises questions

about the potential of global goal-setting to lead to a more coordinated effort to address these major challenges. A novelty of the goal-setting process related to the indicators of the Sustainable Development Goals is the introduction of 'indicator custodianship'. At the global level, 44 agencies within and outside of the UN System have been deemed custodian of one or more of the 244 current indicators. While most custodians have just a small number of indicators, some, such as the United Nations Environment Programme, are responsible for numerous indicators that span multiple goals. These custodians are mandated to lead methodology development; compile, calculate and disperse data series and aggregates for their indicator; and provide the annual narrative for the global progress report. In addition, they are supposed to coordinate national statistical systems by inspiring capacity-building, data collection and ensuring data comparability and quality. If successful, the custodians could play a crucial role in reducing the fragmentation of global governance by helping implementation monitoring, evaluation and further agenda-setting within the goal-setting process. However, it remains unclear to what extent assigning exclusive responsibility for individual indicators will lead to the coordination efforts necessary for effective governance of the Sustainable Development Goals. Some issue areas, like Goal 3 on Good Health and Well-Being, have only a few custodians, and their governance might hence be characterized as rather centralized. Others, like Goal 5 on Gender Equality, have many custodians and appear thus more fragmented. Using systematic qualitative document analysis, a comprehensive survey and 25 semi-structured expert interviews, this paper explains to what extent and under which conditions indicator custodianship can increase global-level coordination and its effectiveness. The

established coordination per goal was tested by applying a uniform coordination framework, applied to both centralized and fragmented governance structures. In concluding, the results of this in-depth study are used to assess the potential of indicator custodianship for a more integrated global governance approach. By doing so, the paper advances ongoing debates within the Earth System Governance literature about the desirability of a more or less fragmented system, and the extent to which fragmentation impacts the potential to establish effective coordination.

#### **ID406.**

### **Governing the implementation of the 2030 Agenda without Government: social responsiveness and the territorialisation of the SDG in Brazil**

Thiago Galvão<sup>1</sup>, Henrique Menezes<sup>2</sup>

<sup>1</sup>University of Brasilia, Brasilia, Brazil. <sup>2</sup>Federal University of Paraiba, João Pessoa, Brazil

Brazil is certainly pivotal on the global debate about environment, climate change and sustainable development – both because its natural capacities and political position in the Global South multilateralism. The continental scale of Brazil and the variability of biomes, urbanization and developing levels of each part of the country is a real challenge to the implementation of the 2030 Agenda and the Sustainable Development Goals (SDGs). Moreover, the recent political changes in Brazil have rekindled major concerns about how the country will manage and protect its natural resources, as well as support the demands of the most vulnerable people vis-a-vis the international commitments made by the government, specifically since 2015. The main argument of this study is that the

responsiveness of some Brazilian agents is gradually building a governance architecture based on multilevel connections of social movements, local authorities, universities and international organizations (IO) aspiring to territorialise the SDG in Brazil. Regardless the erratic behaviour of the national government in implementing the 2030 Agenda, social responsiveness from science, technology and innovation infrastructure (established mostly by public universities) is developing applied research and socially designed projects aiming the economic, social and environmental dimensions of development. Methodologically, this study is based on Qualitative Content Analysis (QCA) to assist in deciphering qualitative material and organizing it into categories; framing theory and social constructivism helps to understand how agents and agency interact with the 2030 Agenda implementation in terms of adaptiveness and imagination; foreign policy and public policy analysis of primary and secondary sources producing descriptive and analytical inferences about ideas and interests that guide Brazilian behaviour. This communication focuses on three Brazilian perspectives aiming to inspire reflections to other cases around the world. The first perspective (historical context) outlines advances and setbacks in Brazil regarding the implementation of the SDG between 2015-2020. The second perspective (political change) discuss the impact of the rise of a right-wing populist government on the Brazilian agents and institutions sustainable development architecture. The third perspective (responsiveness) highlight the strengthening of Brazilian social agents, particularly the education and science institutions capacity to generate local adaptive responses through science production, innovation and outreach activities, as well as reflexivity on challenges and silences on the Agenda 2030. Finally, this study tries to unveil

that a network of universities in Brazil is rising as a locus of anticipation, imagination and connections of different actors and groups in a logic of governance without government.

## **ID102.**

### **Challenges and opportunities for Brazil within Agenda 2030 - transformations towards sustainability?**

Leandra R Goncalves<sup>1</sup>, Cristina Yumie A Inoue<sup>2</sup>, Ana Flavia Barros-Platiau<sup>2</sup>, Ana Mauad<sup>3</sup>, Flavia M Collaço<sup>4</sup>, Leandro Giatti<sup>5</sup>, Mateus Henrique Amaral<sup>5</sup>, Matias Franchini<sup>6</sup>, Pedro Henrique C Torres<sup>7</sup>, Pedro R Jacobi<sup>7</sup>

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This paper discusses Brazil's role in implementing the 2030 Agenda by applying the Six transformations framework proposed by The World in 2050 initiative. Brazil has unquestionable importance in the global environmental arena, justified by its high index of biodiversity, the forest area coverage, one of the largest coastal and marine zones in the world, and also by the immense challenge of ensuring environmental sustainability, in a context of deep social inequality. Environmental changes in Brazil may cause effects on a global scale, and in sum, economic development strategies in this country have posed disagreements with socio-environmental agendas. The Six

Transformations are introduced as a strategy to achieve sustainable development goals (1) education, gender and inequality; (2) health, well-being and demography; (3) energy decarbonization and sustainable industry; (4) sustainable food, land, water and oceans; (5) sustainable cities and communities; and (6) digital revolution for sustainable development. Those modular blocks will then be discussed considering Brazil's contextual conditions where a high social inequality and rich diversity are present across the country. The analysis will be empirically detailed through a systematic review of the Brazilian Institute of Geography and Statistics indicators and data from public and official sources. Therefore, we draw on two hypotheses (1) that Brazil's situation in recent years is not favorable for the implementation of the 2030 Agenda due, mainly, to the national government's lack of confidence in multilateral options, high level of corruption and the prevalence of short-term economic interests which in the end impact the institutional architecture, (2) the lack of leadership in the national level opens space to subnational actors agency in the international agenda. We argue here that ambitious public policies require an environment of relative socio-political consensus, stability and significant and sustained economic growth as increases in public resources would be required to implement and promote sustainable development governance. Additionally, from an institutionalist perspective, the Agenda 2030 needs to be operationalized within the structures of government, however, the biggest challenge is to coordinate this across levels and scales, respecting the strong interdependencies across the 17 Sustainable Development Goals (SDGs) and the broad interaction of multiple public and private actors.

ID578.

### **An integrated approach to global issues? Effects of the Sustainable Development Goals on issue integration in international organizations**

*Maya J. Bogers, Frank H.B. Biermann, Agni Kalfagianni, Rakhyun E. Kim*

*Utrecht University, Utrecht, Netherlands*

Over the past decades, international organizations have become more and more specialized in numerous sectoral issues. While this development has its advantages, increased specialization has also led actors to operate in silos. This “silozation” is often considered problematic because of the many novel challenges of global governance that are increasingly complex and interconnected. The Sustainable Development Goals (SDGs), adopted by the United Nations in 2015, have been heralded as a new global programme of action to break up these silos and to better integrate environmental, social and economic goals into one coherent agenda. The success of these global goals, however, depends also on whether international organizations adopt these goals as a new framework of reference and pursue the goals in an integrated manner. Yet, do international organizations really change their behaviour towards implementation of the SDGs? Not much empirical work is available today. Only a handful of case studies have been put forward; they do indicate that at least some international organizations have adopted the SDGs as a framework. However, a larger, comprehensive assessment of SDG adoption and issue integration by international organizations is missing. This is where our study will contribute. We carry out a

quantitative content analysis on the website texts of 200 international organizations over the time period 2012-2019 to answer two important questions: First, are international organizations adopting the SDGs as a framework? Second, to what extent has attention for cross-sectoral interdependencies – across the social, economic, and environmental dimensions of development and across the SDGs – increased after the SDGs were implemented? Our analyses draw on computational text analysis. Specifically, we use dictionary methods, i.e. automated keyword searches, to analyse how often terms related to the SDGs as a framework are used by international organizations over time. Machine learning algorithms are then used to assess to what extent the topics embedded in the SDGs are addressed, and whether this changes over time. Our preliminary results show that the SDGs are increasingly mentioned over time, which points to an increased adoption of the SDGs as a policy framework. Our paper makes a significant contribution to advance knowledge about the effects of global goals on global governance, specifically whether non-binding global goals are adopted by the larger community of international organizations and whether this is leading to the integration of issues that the 2030 Agenda calls for.

## Panel ID 112

### Learning processes in environmental governance

Parallel Panel Session 1,  
Tuesday 7<sup>th</sup> September 2021,  
8:30-10:00 CEST

Chair: Bregje van Veelen

#### **ID200.**

### **Carving a space in global environmental governance: what can we learn from studying side events?**

Jennifer Bansard

*University of Potsdam, Potsdam, Germany*

International environmental meetings such as the Conferences of the Parties of the United Nations Framework Convention on Climate Change (UNFCCC) or the Convention on Biological Diversity are key governance sites within their respective policy field. Broadly speaking, two spaces can be distinguished within these meetings: the formal negotiations on the one hand, and the side events on the other. Contrary to the negotiations and their outcomes which are subject to intense scholarly scrutiny, especially in the context of climate policy, side events have received only scant dedicated attention in the literature. Albeit often praised in passing for providing a space for non-state actor engagement, only a handful of scholars have specifically examined side events. Seeing how this scholarship hints at their variegated role, including in raising new ideas that can permeate to the negotiations, I argue that this constitutes a clear research gap – a gap that is ever more relevant considering that a typical UN conference will nowadays host more than a hundred side events.

Against this background, this paper starts by delineating how the practice of holding events alongside environmental negotiations emerged in the early 1970s and what form it takes today. It then makes the case that there are two ways to apprehend side events from a scholarly perspective –either as objects of study or as research sites– and reviews existing scholarship for its contribution to these lines of research. While the first type of research specifically addresses the nature of side events and requires data “on” them, the second type would for example center on a given issue or actor and require to collect data “at” side events. Building on a case study of side events at the UNFCCC, the paper then challenges the conception that side events are the apurage of non-state actors, notably by pointing to the role of governments as hosts and of international bureaucracies as organizers of such events. In doing so it finally shows the relevance of side events for studying power dynamics and struggles over meaning-making.

#### **ID522.**

### **The Circular Economy as a case of successful policy-oriented learning process at the EU**

Josep Pinyol Alberich

*University of Exeter, Exeter, United Kingdom*

This article investigates the conditions that allow the success of policy entrepreneurs to promote policy-related concepts using the circular economy (CE) as a critical case. The first definition of the CE in academic terms was done by Pearce and Turner (1990). However, the CE remained in the shadow for nearly twenty years. The circular economy (CE) was adopted by the European Commission (EC) in 2014, with the Circular Economy Package of 2014. The following EC wanted to withdraw the

CE, but after a backlash from for member states, businesses, and the European Parliament, the EC recuperated the CE with the CE Action Plan in 2015, and in 2020, the EC adopted a second CE action plan to mainstream the circular practices in the European Union (EU). The promotion of the CE is a case of policy-oriented learning, but what made this case such a, indisputable success? This research has been elaborated by analysing a set of 28 semi-structured elite interviews, related policy-related documents, press releases and press articles, and the current existing literature. The preliminary results show that the concept of the CE gained popularity thanks to two actions of policy entrepreneurship: the Ellen MacArthur Foundation (EMF) promoted this concept in the business and academic spheres. The second key entrepreneurship was the role of Dr. Potočník, the Commissioner for Environment at that moment, who established the European Resource Efficiency Platform to open up a discussion among key stakeholders to promote the CE at the EU level. Although the next EC college headed by Jean-Claude Juncker initially attempted to withdraw the Circular Economy Package of 2014, the consensus around the CE created by the EMF and the Commissioner Potočník made the withdrawal too controversial, so the Juncker Commission recuperated this concept with the CE Action Plan in 2015. In 2020 the following Commission headed by Ursula von der Leyen consolidated this policy idea with a second CE Action Plan in 2020, consolidating the CE as the underpinning of the EU environmental policies. The process of adoption of the CE by the EU is an emblematic case of policy-oriented learning, where the combined action of an advocacy organization and influential actors promoted a policy idea and created enough acceptance to create a policy change and to shape the EU

economic policies based on the principles of circularity.

## **ID600.**

### **The lead and the lid: Understanding the possibilities and limitations of MDBs' goal-guided learning**

*Jecel Censoro, Katharine Rietig, Graham Long*

*Newcastle University, Newcastle upon Tyne, United Kingdom*

With one-third of the SDGs' life cycle over, the effectiveness of the SDGs' design, and of their underlying 'goals-based governance' approach remains questionable. Delivery of the SDGs is off track, according to the UN's 2020 Global Goals report. Inadequate actions at the country level, superficial approaches within the private sector, limited funding and absence of complete data to properly track the goals, present powerful challenges. However, influential organizations offer a potential path to expedite actions on SDGs. Multilateral Development Banks (MDBs) can influence global and country agenda using their knowledge and financial services.

Using learning as a framework and MDBs as case studies, this research discusses how it is possible to steer policies and practices towards the achievement of the SDGs in 2030. This paper addresses the question, how does MDBs' goal-guided learning accelerate the changes necessary to achieve the goals? The central hypothesis is that MDB's can be conduits for "goal guided learning" among a broad set of stakeholders, and powerful contributors to SDGs' 'goals-based governance'. Following (named authors) definition of learning as influencing the routines, problem-solving capabilities, and goal orientation of organizations, the research is based on Rietig's

Learning in Governance framework and Multilevel Reinforcing Dynamics. This paper uses elite interviews and process-tracing to examine how MDBs goal-guided learning leads to changes in policies, processes and projects in organisations. Such organisations include governments, private sector and non-governmental organisations. The specific cases studied are the World Bank Group and Asian Development Bank.

Findings show that learning from banks steers action on the SDGs, but the kind of learning within the banks sets limitations in enabling necessary changes to fully achieve sustainable development. Although MDBs manage to influence organisations, they remain selective on which goals to pursue given the availability of resources, demands of donors and match to its existing portfolio. No changes in the underlying beliefs of individuals nor at organisational level signal transformative shift. The dominant strategy applied at MDBs is a top-down approach focusing on achieving results than opening for more learning within. SDGs' transformative action is possible through the support of policy entrepreneurs serving as mentors on the goals, and the organisational openness for experiences and failures to happen. This research allows us to understand the important role played by organisations, along with their learning, in achieving the SDGs. The focus on learning also offers a fresh approach to the study of goals-based governance.

**ID621.**

## **Accountability as Transformative Learning? The Role of NGOs in the Convention on Biological Diversity**

Ana Maria Ulloa

*University of Sydney, Sydney, Australia*

Considering that biodiversity is key for Earth's life support systems, ongoing rates of species and ecosystem loss are alarming. However, it is common for states not to comply with the Convention on Biological Diversity (CBD) in particular, and with Multilateral Environmental Agreements (MEAs) more generally. Because enforcement mechanisms are rare in Global Environmental Governance (GEG), accountability mechanisms have the potential to enhance compliance with MEAs. Yet, states' peer-to-peer account holding, such as in the CBD, tends to be weak. This article argues that NGOs can strengthen accountability in GEG broadly, and in the CBD specifically. They can do so by enabling learning through the provision of constructive criticism of states' actions. This can facilitate the implementation of the CBD and foster broader compliance with MEAs, which may ultimately lead to better environmental outcomes. Using empirical data, this paper aims to: 1) characterize accountability arrangements in the CBD; 2) explore the roles of NGOs as watchdogs of states for the implementation of the CBD, and 3) discuss the value of having a functional global sphere, enabled by NGOs, where constructive criticism can contribute to learning. The paper conceptualizes: constructive criticism as the provision of questions, commentary, and/or demands for change, including condemnation but also praise; and accountability as a relationship based on an active practice of giving and demanding of reasons of conduct. It emphasizes the transformative potential of

such dynamics to influence (state) behavior and catalyze (implementation) actions. Results from interviews to environmental NGOs conducted in this study suggests that NGOs can challenge states inertia and facilitate implementation of the CBD through knowledge, expertise and critical partnerships. This learning dynamic catalyzed by NGOs warrants further research as it may contribute to realizing the ultimate goal of accountability in GEG: fostering a culture of compliance to improve environmental outcomes.

### Panel ID 113

#### Trade and earth system governance: interactions and policy levers

Parallel Panel Session 6,  
Wednesday 8<sup>th</sup> September 2021,  
17:00-18:30 CEST

Chair: Christian Elliott

### ID16.

#### Climate Change, Trade, and Global Food Security: Transboundary Climate Risks and Implications for Global Environmental Governance

Kevin M. Adams

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In a globalising world communities and economies are more interconnected than ever before. While temperatures continue to rise due to climate change, complex global supply chains can act as conduits for climate risk, distributing the adverse effects of climate change hundreds of miles from their sources

and exposing new communities in unforeseen ways. Yet, to date, little attention has been paid to these transboundary climate risks, including where they may manifest, who they could affect, or what political implications might result. This research study presents the first global assessment of transboundary climate risks in agricultural supply chains for six key commodities and unpacks the implications for global environmental governance. Using a quantitative risk modelling approach that considers climate impact models, trade data, and import dependency characteristics across six key commodities, the study identifies a number of countries who are particularly exposed to transboundary climate risks, as well as several critical actors who are disproportionately introducing climate risk into global food trade, and identifies structural differences between commodity markets of consequence for global food security. Building on this quantitative approach, the paper then considers the political ramifications of addressing transboundary risks for global environmental governance, including for the climate change and trade policy architecture, as well as implications for the agency of states as agricultural incumbents shift or the roles of public and private actors are realigned.

**ID105.****Speeding up IEAs Ratification via the Trade Detour**

Noémie Laurens<sup>1</sup>, Jean-Frédéric Morin<sup>1</sup>, James Hollway<sup>2</sup>

<sup>1</sup>*Université Laval, Québec, Canada.* <sup>2</sup>*Graduate Institute, Geneva, Switzerland*

Some states ratify international environmental agreements (IEAs) several years after their conclusion. Such delay is a serious concern for anyone who cares about IEAs' effectiveness. This paper investigates this problem and asks why certain IEAs are ratified more swiftly than others.

Most of the literature explains delays in ratification based on country-specific variables, such as the nature of the country's political system, the degree of democracy, or the number of veto players. These findings are important to understand ratification decisions, but they are difficult to translate into realistic and practical recommendations for IEA negotiators.

Treaty-specific variables, by contrast, can more easily lead to policy recommendations. However, few empirical studies look at the relation between treaty design and ratification rate. This paper takes up this challenge. We differentiate and test two causal processes linking IEAs' trade measures to ratification decisions. In some cases, trade measures can have significant consequences for importers and exporters. In this context, we expect that the targeted businesses would lobby in favor or in opposition to the IEA ratification. In other cases, trade measures are more symbolic and signal broad support or opposition to the trade regime's principles. In a context in which trade liberalization and environmental protection

are often perceived as incompatible objectives, citing WTO law can reassure the audience the most likely to oppose the IEAs and can speed up the ratification process.

Therefore, we hypothesize that:

1. The more an IEA includes trade-enabling measures, the shorter the delay between its conclusion and ratification.
2. The more an IEA includes trade-restrictive measures, the longer the delay between its conclusion and ratification.
3. The more an IEA signals its support to the trade regime, the shorter the delay between its conclusion and ratification.
4. The more an IEA signals its opposition to the trade regime, the longer the delay between its conclusion and ratification.

We test our hypotheses with a parametric survival model and rely on an original dataset of 76 trade-related measures included in 2136 IEAs concluded since 1945. This paper brings together literatures on linkage politics, treaty design and the two-level game of treaty ratification.

**ID257.****Interactions between Environmental Agreements and Trade Agreements – Exploring the Trade and Climate Nexus**

Clara A Brandi<sup>1</sup>, Jean-Frédéric Morin<sup>2</sup>

<sup>1</sup>*German Development Institute (DIE), Bonn, Germany.* <sup>2</sup>*Laval University, Quebec City, Canada*

This paper investigates the interaction between the Paris Agreement and preferential trade agreements (PTAs). The Paris Agreement is based on a “bottom-up” process, meaning that countries identify and subsequently take action and report on their own priorities, needs and ambitions included in their nationally determined contributions (NDCs). This paper analyses countries’ NDCs from a trade perspective and finds that many of them contain trade-related elements. We assess which types of trade elements countries have included in their NDCs and to what extent and how these trade elements affect the growing number of PTAs and their ever growing environmental content. In 2016, each new PTA contained on average of 100 different environmental provisions, which are increasingly diverse and extensive. Environmental provisions in PTAs can, for example, promote the harmonization, strengthening and implementation of environmental policies, back-up multilateral environmental agreements and cover a manifold of environmental issues including climate change. The paper assesses whether the Paris Agreement, and the NDCs it entails, have an impact on environmental provisions in the PTAs that have been concluded since the NDCs were drafted by tracking specific trade-related elements in the context of the Paris Agreement, investigating how they affect climate-related provisions in trade agreements and studying the underlying causal mechanisms. The paper combines a qualitative process tracing approach with data from the NDC Explorer project, which includes a detailed coding of trade content in NDCs, as well as the TRade and ENvironment Database (TREND), which contains very fine-grained data on more than 280 environmental provisions in more than 680 trade agreements. While existing research on regime complexes is typically limited to environmental governance, this

paper investigates the interaction of the climate and the trade regime complex by exploring the implications of trade elements in the Paris Climate Agreement for the trade regime complex.

**ID395.**

### **Border Adjustment Mechanism: The unpopular policy tool that can fight climate change**

Laurie Durel

*Université Laval, Québec, Canada*

Why states that have a carbon pricing system are so reluctant to implement border adjustment mechanisms? These measures can have a significant impact on climate change policies and potentially increase public revenue, increase industry competitiveness, limit industry relocation and level the playing field between taxed domestic industries and untaxed foreign competition. The World Trade Organization (WTO) recognized that border adjustment mechanisms (BAM) that are designed to impose similar costs on foreign producers may help address “carbon leakage” and competitiveness issue. Yet, import tariffs for environmental purpose account for less than 0.1% of all environmental measures that have an impact on trade that are applied by WTO members.

While political scientists are rather silent on the matter, international trade law and economic literature emphasize that one of the main reasons to explain the unpopularity of carbon BAM is the complexity and the burden for states to implement such a measure. That argument is not fully convincing since many states have applied or are applying complex trade measures such as Tariff-rate quota. However, states that have a carbon pricing system appear to also be states that are

actively involved in trade liberalization. In line with the path dependency problem, we suggest that states that have implemented a carbon pricing system are reluctant to implement carbon BAM because they are also particularly active in trade liberalization and are not used to create complex measures that might be challenged, compared to other states. Therefore, we suggest that complex trade restrictive measures have declined in the last 20 years and that the ones still in place have been there for a long period of time.

To test our hypothesis, this paper provides a quantitative analysis of the evolution of all tariffs and non-tariff measures that were in place since the last 20 years using WTO database. This analysis will assess if states that have a carbon pricing system are more reluctant to implement general trade restrictive measures than states that do not impose a price on carbon emission.

This paper will help inform the debates around the legal and political conditions needed for an effective carbon BAM and is especially relevant since the EU just announced that it will propose a carbon border adjustment mechanism for selected sectors by 2021 as a part of its European Green Deal.

## Panel ID 114

### Assessing the effectiveness of governance initiatives

Parallel Panel Session 3,  
Tuesday 7<sup>th</sup> September 2021,  
16:30-18:00 CEST

Chair: Lena Partzsch

## ID561.

### International City Climate Diplomacy: Assessing the Effects of Urban Diplomatic Relations across South Africa, Brazil and India

Anne B Nielsen<sup>1</sup>, Fee Stehle<sup>2</sup>

<sup>1</sup>University of Copenhagen, Copenhagen, Denmark. <sup>2</sup>University of Potsdam, Potsdam, Germany

In cities of the Global South, the necessary transformations to mitigate climate change and adapt urban areas to the effects of climatic changes often fall short due to severe underfunding, lack of capacity, mismanagement of resources, or political-economic path dependencies. To resolve these obstacles, quite a few cities have connected with actors outside the sphere of their nation states; activities labelled as city climate diplomacy or paradiplomacy. In recent theoretical literature, these activities and linkages between cities and actors outside their national context are expected to make urban climate governance more effective.

City climate diplomacy is increasingly orchestrated through transnational city networks, which have played an important role in showcasing the potential of cities' climate governance, building capacity for policy solutions, raising awareness on climate change in an urban context, and facilitating knowledge

transfers between cities. While the climate governance literature has covered these dimensions of diplomatic relations between cities extensively, there is much less consideration of linkages between cities and other external actors, such as international organizations, development banks, and private corporations. In a similar vein, cases of city diplomacy that have a positive connotation, for instance, peer-learning and policy diffusion, are much more prominently considered than power struggles and rivalries between national and subnational governments over responsibility, resources and influence.

This paper addresses this gap by mapping relevant counterparts of city climate diplomacy and examining the phenomenon of power struggles in the international and domestic sphere. The article compares the cases of Brazil, India, and South Africa to analyse which features in international, national and local governance systems are likely to negatively affect cities climate diplomacy. It builds on extensive desktop research of the government systems characterising each of the three cases as well as on interviews with city actors from each of the case countries.

The paper shows that the diplomatic activities of local governments are constrained by international and domestic governance frameworks and power dynamics. Cities' diplomatic trajectories vary substantially across space depending on the political-economic context and institutional landscape. In order for cities to tap their full potential, their role in international climate politics needs to be more formalised, both in domestic and international governance frameworks to enable cities' diplomatic activities.

**ID236.**

### **Explaining the effectiveness of transnational climate initiatives**

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Transnational climate governance initiatives have expanded rapidly in scale and scope over the past decade, and now form a central part of the global climate regime. Recent estimates show such initiatives have significant potential to reduce greenhouse gases and bolster adaptation above and beyond national efforts.

Despite a growing body of literature on transnational climate governance, however, we lack systematic evidence regarding the effectiveness of initiatives, nor have the determinants of effectiveness been tested empirically across the larger population of initiatives.

This article presents findings from a database analysis of the hitherto largest original dataset of transnational climate governance initiatives. Using a novel methodology to logically frame outputs by individual initiatives, we assess their performance of between 2014-2019.

While we find relatively strong performance, with two-thirds performing well by 2019, we also observe significant variation in effectiveness across different kinds of initiatives. Adaptation initiatives perform

worse than mitigation initiatives, and energy and transportation initiatives outperform initiatives in other sectors.

We statistically probe the plausibility of different explanations for initiatives' effectiveness, finding inter alia that initiatives orchestrated by international organizations and initiatives associated with major UN summits tend to perform better than average.

## **ID402.**

### **The Value of Mediation for increasing the Effectiveness of International Climate Negotiations**

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How can mediation approaches help the facilitators of complex international negotiations to improve the effectiveness of negotiation outcomes? Progress towards the implementation of the Paris Agreement and limiting global temperature increases to 1.5-2°C via Nationally Determined Contributions (NDCs) by countries emerges as inadequate. Despite the initial negotiation success of the Paris Agreement, the slow progress of COP-25 in Madrid 2019 made it clear that the United Nations Framework Convention on Climate Change (UNFCCC) negotiations have now entered an ever more challenging phase that requires all countries to agree to, commit to and implement increasingly ambitious climate policies. The emission reduction targets required from countries are moving beyond GHG emission reductions of 80-90% by 2050 compared to 1990 towards carbon neutrality by 2050. Yet, the UNFCCC still operates without formally agreed rules of procedure under the

consensus principle, which is interpreted as unanimity – thus giving each of the 190+ countries a de-facto veto right. While this equips the UNFCCC with a very high level of legitimacy, the unanimity principle makes it very difficult to move beyond the lowest common denominator all countries can agree on. This challenge is exacerbated by governments who actively obstruct domestic climate action, giving them de-facto a veto right on ambitious international climate action via the UNFCCC. This paper addresses two research questions: 1. How can this procedural challenge of the UNFCCC be overcome? 2. How can the UNFCCC secretariat and session chairs moderate the negotiations more effectively? This contribution examines the role of mediation and facilitation approaches in softening and ultimately overcoming negotiation deadlocks in negotiations that require consensus decision-making. It contributes to the Earth System Governance literature by examining the changes necessary in the global governance architecture to effectively address the climate crisis. Based on interviews with negotiators and non-national actors as well as participant observation, it develops propositions on how the UNFCCC negotiations could be facilitated more effectively using mediation techniques that preserve the high level of legitimacy while allowing for more effective negotiation outcomes in line with the Paris Agreement.

**ID442.**

### **Local effectiveness of forestry programs implemented in three REDD+ priority areas in Mexico**

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Mexico started getting ready for REDD+ in 2008, and the readiness phase was completed by publishing the national strategy REDD+ in 2017. In this period forest policy design in the country was led by the REDD+ objectives. In addition, to test the feasibility of REDD+ design on the ground, from 2010-2015 the National Forest Commission (CONAFOR) implemented the REDD+ special forestry programs in the early action areas experiencing high deforestation rates. The objective of this investigation is to analyze the effectiveness of forestry programs implemented during the REDD+ readiness phase in Mexico to preserve or recover forests at the local community levels in three early action regions: the Monarch Butterfly Biosphere Reserve in central Mexico (state of Michoacán), the Coahuayana river basin in Western Mexico (Jalisco), and the area of influence of the Calakmul Biosphere Reserve in South-eastern Mexico (Campeche). To identify and measure forest loss (deforestation and degradation) and forest recovery, detailed land cover and land-use change cover maps for 2008 and 2018 will be produced from high-resolution satellite images. A Difference-in-differences (DID) regression modeling will be used to compare the differences in forest cover outcomes before (2008) and after (2018) REDD+ readiness phase between groups of local communities with and without forestry programs. The model will combine data on forest cover change with socio-economic

covariates (population density per forest areas, poverty level, and marginalization level) and biophysical variables (elevation, slope, distance to the nearest road, and settlement) that will be assumed to remain fixed over time. Data on the forestry program implemented at the local level will be obtained from official government databases, while the socio-economic and biophysical variables will be extracted from additional geographical data. Understanding the success of REDD+ policies implemented at the local level in Mexico should help guide the further national planning and policy design of this mechanism.

**ID331.**

### **Tracing the lineage - An overview of frameworks developed on the basis of the Institutional Analysis and Development Framework (IAD)**

*Mirja Schoderer<sup>1,2</sup>, Jampel Dell'Angelo<sup>2</sup>*

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Elinor Ostrom's Institutional Analysis and Development Framework (IAD) provides a common ground for investigations into how rules come to be and how they can generate sustainable social-ecological outcomes. It has facilitated communication and collaboration across disciplinary and professional boundaries and sparked numerous empirical investigations from multiple disciplines since its inception. It has also garnered significant theoretical interest as scholars from various disciplines have adopted - and adapted - the IAD to fit their research interests. While some of these frameworks link closely to the original research interest and ontological underpinnings of the IAD – such as the Social-Ecological Systems (SES) framework, the Combined IAD and SES

framework (CIS), or the notion of Networks of Adjacent Action Situations (NAAS) – others diverge rather strongly from the IAD's game theoretic foundations and its assumption of bounded rationality.

For researchers that are new to the topic of the commons, of natural resources governance, or of community-based management, the number of frameworks that are available and that claim a lineage that goes back to the IAD can be confusing. Even for more experienced researchers, it is hard to keep track of the theoretical developments and to identify which framework would be most applicable for which purpose. In this paper, we thus aim to provide an overview of the frameworks that have been developed up to now in explicit reference to the IAD, based on a systematic literature review. We identify their main contributions, situate the frameworks in terms of their ontological implications and provide examples of empirical applications to which they lend themselves.

## Panel ID 115

### Norm conflicts, norm emergence, and norm glocalization

Parallel Panel Session 7,  
Thursday 9<sup>th</sup> September 2021,  
8:30-10:00 CEST

Chair: Fariborz Zelli

## ID538.

### **Norm glocalization: How and why India has glocalized the United Nations' climate change norm around the Paris climate change conference**

Chris Höhne

*Freie Universität Berlin, Berlin, Germany*

The international bottom-up architecture on climate change with top-down elements requires conceptual ways to better understand global-domestic governance dynamics. I develop the 'norm glocalization framework' based on insights from norm scholarship, comparative politics, public policy and sociology in order to investigate the global-domestic dynamics around the UNFCCC's international climate change norm, defined as the prevention of dangerous climate change. For answering the research question of how and why do nation-states engage on internationally negotiated norms and what happen to those norms when they travel to the nation-state, I apply the norm glocalization framework to the case of India's engagement with the international climate change norm under Prime Minister Narendra Modi in the run-up to and after the Paris climate change conference (2014 to 2019). India is a particularly important case, as it is the third largest GHG emitter of the world, whose

climate mitigation actions will be needed to prevent dangerous climate change.

Based on the premise of an active agency of both external and domestic actors, the norm globalization concept elucidates the mechanisms and conditions of norm engagement and illuminates the different ways of meaning attributions to internationally negotiated norms. I, thereby, address three research gaps. First, the norm literature rarely offers integrated approaches of active norm promotion and engagement by both external and domestic actors. Second, in terms of the results of norm diffusion, the literature has mostly focused either on full norm adoption or on local reconstruction, but would rather benefit from approaches that consider varying forms of meaning attributions by actors. Third, the dynamics between international norms and domestic governance have not yet been sufficiently scrutinized in the policy field of climate change. I provide an answer to the research question based on interviews conducted in India and the analysis of primary and secondary documents. I find that domestic actors have proactively promoted the international climate change norm based on their own particular interpretation, leading to several policy and organizational changes as well as to the starting implementation of international promises, while external actors only played a minor role.

This research contributes to the conference stream of architecture and agency by addressing the question of how climate change issues are influenced by global interactions across scales and decision-making arenas. It also speaks to the conference stream of governance intervention by highlighting under which mechanisms and conditions governance interventions and actions are realized.

**ID273.**

### **Norm conflicts as governance challenges for Seed Commons: Comparing cases from Germany and the Philippines**

Julia Tschersich

*University of Oldenburg, Oldenburg, Germany*

The enclosure and commodification of goods and services has been described as one of the dominant forces transforming societies since the mid-19<sup>th</sup> century. This development is particularly visible in the food and seed sector, where the traits of cultivated varieties and seeds that are promoted are those that make them suitable as a commodity on the market. A Seed Commons approach can help to highlight the common struggle of diverse seed initiatives in the Global North and South in light of this dominant pathway that threatens food sovereignty and cultivated plant-genetic diversity. In this paper, the Seed Commons framework is applied in a systematic document analysis of global regimes surrounding the governance of seeds and (supra)national seed legislation in the EU/Germany and the Philippines. The paper assesses how the conflicting norms and rules of this international regime complex are reflected in national seed marketing laws in Germany and the Philippines and how they shape the scope of action for Seed Commons in Germany and the Philippines. This paper shows that the scope of action of Seed Commons initiatives is strongly shaped by a complex set of norms and rules of regimes with conflicting objectives. A pathway of commodification and enclosure is deeply embedded in the international system and poses a shared struggle to diverse types of Seed Commons initiatives. The IPR regimes promote an enclosure of seeds far beyond its regulatory scope and have strongly influences

the design of national seed marketing. While the rules of Nagoya have not (yet) had practical impacts on Seed Commons initiatives, the norms advanced by the CBD and the Seed Treaty have contributed to exceptions in EU seed marketing law that provide essential scope for action for Seed Commons initiatives. In the Philippines, where more legal space still remains, an opposing trend towards stricter requirements for seed marketing threatens to outlaw current Seed Commons practices.

### **ID588.**

#### **Contingent interventions in norm emergence on environmental norms**

Elin Jakobsson

*Swedish Institute of International Affairs, Stockholm, Sweden*

The way new norms emerge has received attention from constructivist IR literature for decades. Some parts of this literature identify key factors to explain norm success in international politics. In doing so, literature on norm dynamics tends to attribute some explanatory leverage to external conditions and so-called windows of opportunity. Nevertheless, these aspects are rarely properly theorized or thoroughly assessed — a deficit which this paper seeks to remedy. Drawing from empirical examples related to environmental security such as climate-induced migration and disaster risk reduction, this paper sets out to concretize contingencies in the norm emergence process. The paper identifies the characteristics of contingent interventions and tries to determine when and how these contingencies influence the outcome. The paper builds further on existing literature on norm evolution and complements this with insights from the policy literature to

improve knowledge on how new norms emerge. It is specifically argued here that contingent interventions in norm emergence cannot be neglected. However, agency seems to strongly matter as these contingencies need to be actively connected to the new norm for it to have substantial impact. The paper thus contributes to the existing norm dynamics literature, providing a theoretical tool for systematic analysis.

### **ID601.**

#### **Translating international norms into domestic action? A quantitative text analysis of national policy responses to climate change**

Chris Höhne<sup>1</sup>, Christian Kahmann<sup>2</sup>, Mathis Lohaus<sup>1</sup>, Thomas Risse<sup>1</sup>

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Scholars of international norms examine how the meaning(s) of norms evolve as actors engage with them. Due to its broad mandate and diverse membership, the UN Framework Convention on Climate Change (UNFCCC) is a particularly relevant case for analyzing different norm translations. We use quantitative text analysis to trace shifts in meaning and distinguish different types of interpretation of the international climate change norm, which is defined according to the UNFCCC as the prevention of dangerous climate change in a time frame that allows for natural adaptation, food security and sustainable economic development. Since the 2000s, parties to the Convention have adopted a wide range of documents outlining how they pursue the goal of preventing and adapting to dangerous climate change. To assess their content, we have collected more than 1,000 national documents from all countries that are

party to the UNFCCC. These national climate laws, strategies and action plans, regulatory frameworks, and other documents provide the basis for our analysis. We employ unsupervised topic modeling – a quantitative text analysis method – to identify patterns in how states discuss climate change and set domestic policy priorities. This approach reveals that states vary in the emphasis they put on aspects such as economic development, renewable energy, or adaptation to climate change. Furthermore, we examine to what extent governments' positions on climate change correspond to their participation in UNFCCC negotiating groups and various economic, ecologic, and political factors at the national level, such as the GHG emission levels, economic growth, vulnerability to climate change, and level of democracy, among others. Illuminating the varieties of national climate change understandings helps to better understand how central government are planning to cope and limit climate change domestically, which is particularly interesting in the current international bottom-up climate architecture of domestic actions. This research, therefore, contributes to the conference theme of architecture and agency by “address[ing] institutional frameworks and actors implicated in earth system governance” with particularly focusing on central government’s responses to the challenge of climate change. It also speaks to the conference theme of governance interventions by highlighting in which diverse ways policy actions are undertaken by central governments by all parties to the Convention.

## Panel ID 116

### Science and expert knowledge

Parallel Panel Session 7,  
Thursday 9<sup>th</sup> September 2021,  
8:30-10:00 CEST

Chair: Carina Wyborn

#### ID577.

### Expert Knowledge and Global Environmental Governance: Exploring the Social Networks of the IPCC, IPBES, WCRP and Future Earth

Katri Mäkinen-Rostedt<sup>1</sup>, Aleksis Oreschnikoff<sup>2</sup>,  
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In the search of a transformative change towards sustainable future, scientific knowledge has been given a central role within the multiple nested and complementary regimes of the earth system governance architecture. To that end, numerous insights from both sustainability science and science and technology studies have explored the best institutional balance that could warrant credibility, legitimacy and saliency of the knowledge needed. Understanding how to balance not just individual institutional settings, but the overall global architecture so that it channels knowledge into transformative change is crucial. In this paper, we contribute to such discussions by looking at the experts taking part in the knowledge assessments fora of the International Platform on Ecosystem Services IPBES and the International Panel for Climate Change IPCC, and to the expert network fora of the World Climate Research Programme WCRP and Future Earth.

In our analysis we compare the social networks of two major environmental assessment processes and their environmental expert networks. In order to map out the architecture of global environmental knowledge creation processes, we concentrate on the embedded (power) relations between actors and structures that enable architectures to emerge. In doing so, we explore the degree to which polycentric, fragmented or complex attributes can be identified.

Our network analysis is based on data collected during 2020-2021. The data consists of individuals (N = 1530) appointed as experts carrying out the assessments for the IPCC and IPBES, as well as the experts appointed to the steering or advisory committees of various programmes of WCRP and Future Earth between 2015-2021. The total coverage accounts for 175 different fora. In addition to the co-membership attribute, other background variables like assumed gender, organizational affiliation, and citizenship were coded for each expert. The analysis has been performed with the UCINET network analysis program. Preliminary analysis shows that multiple architectures (polycentricity, fragmentation, complexity) might be present at once, and further research into aggregated contexts of institutional cross-interaction can provide valuable insight for organizational (re-)design or policy approaches.

Our analysis highlights the role and position individual experts acquire within, and as parts of, networks. Conducting qualitative evaluations will allow more detailed analyses on the agency of relevant individuals nested within broader, globally significant governance architectures. We argue that by looking and comparing at both the profiles of the social networks (fragmented, complex, polycentric) and the cross-institutional relationships, we

can better anticipate the emergence of regime complexes in global governance.

**ID593.**

### **The science of climate change: A source of national-level variation rather than commonality**

Conrad George

*Pompeu Fabra University, Barcelona, Spain*

International assessments of science have played a critical role in defining the international governance of climate change. The role of states within that governance architecture shifted significantly under the Paris Agreement (2015) from a global to nationally determined responses. This raises new questions about the role of science within earth system governance. Specifically, whether the science that informs international governance is also the science at the national level that informs national policy making? If not, what does that science look like and how does it differ from the global science? Such inquiry builds off literature demonstrating that science is co-produced, rather than objective facts as commonly viewed. From this perspective, where the social context shifts from the global to national level, the science that is produced is necessarily affected. I study this issue by focusing on how the science is understood. To this end, I developed a conceptual framework based around three possible characteristics of how science is understood: status; mode of determination; and function. I apply this framework to study the cases of India, the United Kingdom, and the United States, as well as the Intergovernmental Panel on Climate Change (IPCC). The research comprises a content analysis of engagement with the science of the IPCC in national legislative committees/processes and the

IPCC's methods and institutional procedures. From the findings, I describe in detail the distinct understanding of the science of climate change in each case. Such variation has not previously been identified. Diversity instead of commonality in how science is understood across states, rather than undermining earth system governance may instead suggest new lines of academic inquiry on the scope for, and location of, sources of reflexivity within states.

**ID678.**

### **IPCC-envy? Shaping global soil and land governance through science-policy activism**

Matteo De Donà

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The analysis of the processes of science-policy bridging, including the role of the actors participating in and fostering this activity, is crucial in the study of global environmental governance. The fields of science and technology studies (STS) and international relations (IR) have both addressed such topic, reaching different conclusions and occasionally engaging in informative interdisciplinary debates. However, none of these fields has thoroughly addressed the agency of institutional non-state actors such United Nations (UN) bureaucracies and secretariats as far as science-policy dynamics are concerned. Furthermore, limited attempts to do so in the IR field have not been accompanied by sufficient theorization. Introducing the concept of *science-policy activism*, this paper aims to fill this gap in the global environmental governance literature by fostering a theoretical dialogue between IR and STS. The paper is based on the study of two UN institutions, the United Nations Convention to Combat

Desertification (UNCCD) and the Global Soil Partnership (GSP) of the Food and Agriculture Organization (FAO), which operate in the under researched issue-area of global soil and land degradation. Unearthing the key role of the UNCCD and GSP secretariats in steering the interplay between scientific advice and policy-making, the study shows that *science-policy activism* does not only benefit the interests of institutional non-state actors, but also exacerbates the *fragmentation* of global environmental governance.

**ID6.**

### **Science Diplomacy as an Emerging Shaper of Institutions**

Zane Šime

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This paper is outlined as an invitation addressed to the core thinkers of the Earth System Governance to explore whether and how the conceptual modalities of science diplomacy might serve as complementary building blocks or a broader contextual background for the core theoretical avenues defined by the global network.

Science diplomacy is a way of defining relations between science and diplomacy in three distinct interrelationships. Thinkers focusing on the first research lens "Architecture & Governance" are encouraged to glance at the growing body of literature on science diplomacy. Since architecture is understood as a web which entails principles and practices, the evolving conceptual thinking on the theoretical and applied modalities of science diplomacy is of relevance. Moreover, the dynamics taking place in the EU scholarly circles are a good example of what a considerable scope and breath the thinking on science diplomacy is benefiting from. It

demonstrates a substantial potential to impact the institutions and the way certain institutions in Europe might structure their interactions with the scientific community in the future.

Moreover, the resonance of science diplomacy in the EU should be seen in the context of the on-going tidal wave of the ‘practice turn’. It gives a new breath and appeal of the re-interpreted Bourdieusian perspective on agents and the ways their perceptions and actions shape how the institutions are functioning. Therefore, ‘practice turn’ coupled with the science diplomacy becomes an ever more interesting scholarly niche for those Earth System Governance researchers who are examining the diversity of agency, especially the shift from an examination how institutions shape behaviour to how institutions themselves are changing.

The brief introduction of science diplomacy to the Earth System Governance circles is aimed at supporting the remarkably comprehensive view adopted by this global network. Besides the highlighted topicality in the context of the EU and EU Studies, science diplomacy has been discussed concerning a multitude of research domains world-wide. The articles published by the magazine “Science & Diplomacy” is the most resourceful repository in this respect. Thus, the overall scholarly interest in science diplomacy matches the international scope of the reflection process captured by the Earth System Governance project.

## Panel ID 117 Interdependency, interconnectedness, and interactions

Parallel Panel Session 8,  
Thursday 9<sup>th</sup> September 2021,  
15:30-17:00 CEST

Chair: Stefan Renckens

### ID58.

## Policy issue interdependency and the formation of cross-boundary collaborative networks

*Johanna Hedlund<sup>1</sup>, Örjan Bodin<sup>1</sup>, Daniel Nohrstedt<sup>2</sup>*

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Collaborative governance has been celebrated as an effective response to rising interdependency between, and within, complex societal and environmental problems. Such problems are commonly addressed by policy actors when they focus their work on different challenges, here referred to as policy issues that actors typically need to respond to collectively. These policy issues also exhibit specific interdependencies with each other by being intertwined with other policy issues through common and overlapping policy processes, and/or through biophysical linkages across space and time. However, this far policy issues have been treated as undefined stimuli for action. Despite the great impact that policy issue interdependencies may have on collaboration, there is still a knowledge gap about the manner in which policy issue interdependencies, as a significant aspect of complex problems, drive collaboration. Here we investigate whether and how actors’ engagement in policy issues and policy issue

interdependencies influence their selection of collaborative partners. We use network modeling (Exponential Random Graph Models) to test two alternative explanations of social tie formation. The first model assumes that partner selection is driven by actors' engagement in policy issues, while the second model emphasizes social positions and attributes of others. Understanding these alternative, or complementary, models behind social tie formation can enhance our understanding of actors' interests, perceived challenges, and abilities to succeed when engaging in collaboration. We test these models by a study of two platforms for multi-actor collaborative water governance in the Norrström basin, Sweden. Our results demonstrate that while actors consider shared policy issues in their selection of partners, they do not deliberately select partners on the basis of policy issue interdependency. This paper advances research on whether and how collaboration is effective for addressing the policy issues and policy issues interdependencies it is there to solve.

**ID355.**

### **Mapping environmental governance in complex global interconnections – a systematic literature review**

Benedetta Cotta<sup>1</sup>, Johanna Coenen<sup>1</sup>, Jens Newig<sup>1</sup>, Edward Challies<sup>1,2</sup>

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Globally interconnected environmental problems pose substantive challenges to existing governance architectures. In particular, global commodity trade, tourism

and migration flows create cross-scale and cross-sector interdependencies with important environmental and social impacts. For example, palm oil produced in Southeast Asia for the European market leads to widespread deforestation and transboundary haze. In some instances, complex interactions between distal governance actors and arrangements have emerged to address these globally interconnected sustainability problems. Recently, such work on global interconnectivity has been framed in terms of “telecoupling” between distant geographical regions. While work on telecoupling has been growing, the sustainability governance implications of global interconnections have remained relatively unexplored.

In this paper, we conduct a systematic literature review on telecoupling research (without necessarily using the term) that also covers governance aspects. Applying the PRISMA scheme for systematic reviews, we identified some 3900 journal publications of the years 2011 – 2018, from which we retained 120 for further analysis, excluding false positive hits of our initial search string. We study what the literature tells us about how the environmental implications of telecoupling phenomena are currently governed. Judging from the 120 papers in our sample, the scholarly community on governance of global telecoupling appears to be a relatively dispersed and fragmented network. Overall, the most-often mentioned flows were the trade of commodities and agricultural products such as forestry products and palm oil, followed by non-material flows such as of investments, tourism and labour migration. We find that governance of telecoupled flows occurs at international/transnational level as well as at national levels in “sending” regions and in “receiving” regions, evidencing the complexity of institutions and mechanisms to

govern such telecoupled phenomena. The most prevalent governance instruments include public initiatives through legislation and regulation, followed by multi-stakeholder initiatives such as voluntary certifications and standards schemes. We present results as to how, by which actors and with what governance instruments particular telecoupled flows and associated environmental issues are addressed. This allows for a nuanced assessment of the emerging governance architectures in telecoupled systems. Finally, our research points to a number of governance challenges arising from distal flows in terms of legitimacy of governance initiatives as well as policy incoherence across states and fragmentation in the international normative settings. With this research we also aim to contribute to a better understanding of how to effectively and legitimately govern environmental challenges in the face of increasing interconnectedness between specific distal places.

**ID632.**

### **Public-Private Governance Interactions in the Regulation of Sustainable Finance**

Stefan Renckens, Christian Elliott

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Among the panoply of global environmental governance initiatives active today, transnational efforts focusing on the sustainability of the financial sector have proliferated in number and prominence in recent years. The increasing density and energy of initiatives addressing “sustainable finance” has even pressed the question for governments around the world, eliciting exploratory responses like the UK’s Green Finance Taskforce and Canada’s Expert Panel

on Sustainable Finance, and standard-setting responses such as the European Union’s taxonomy for sustainable activities and green bond standard. Yet scholarship on what we term sustainable finance governance initiatives (SFGIs) often arrives at inconsistent conclusions: segmented case studies often result in incompatible inferences about the overarching governance architecture and its implications. Using an original dataset of 90 SFGIs, we systematically test five hypotheses drawn from the literature, adjudicating claims on who governance targets are, the functional logic of SFGIs, the importance of NGOs as a source of legitimacy in initiative coalitions, whether private or public authority predominates, and whether the proliferation of initiatives is a response to a governance gap or is led by public political decisions (several reference 1). Contrary to common depictions, our preliminary findings suggest that sustainable finance is far broader than just entrepreneurial private governance by bankers or institutional investors, and instead involves diverse coalitions of public and private authorities engaged in both competitive and cooperative dynamics. As such, our effort to map the population of initiatives in sustainable finance empirically grounds discussions of public-private interactions in the regime complex and polycentricity literatures (Keohane and Victor, 2011; Abbott et al., 2016; Zelli et al. 2017; Green and Auld, 2017; Jordan et al., 2018; Cashore et al., 2020; Renckens, 2020), and helps evaluate the potential of SFGIs to contribute to governing sustainable finance.

**ID626.**

## **Networks in global socio-technical regimes: Addressing petrochemicals**

*Joachim Peter Tilsted, Fredric Bauer*

*Lund University, Lund, Sweden*

Connecting actors across sectors, scales and decision-making arenas, complex global networks make up central elements of the social structure of earth system governance. Taking a relational perspective, the notion of global socio-technical regimes places networks within the centre of discussions on stability and change. Described as dominant institutional rationalities diffusing through internationalized networks, regimes work to stabilize global socio-technical systems. The configuration of the networks through which regimes are diffused and maintained help decide both how actors resist and respond to change. Aiming to substantiate debates on architecture and agency in global governance, this article explores the role of internationalised networks in maintaining carbon lock-in, focusing on the petrochemical industry. As the industry is both highly globalised and networked with strong inter-sectoral ties to the fossil fuel and plastics sectors, the petrochemical sector constitutes a unique avenue for understanding how global networks influence environmental issues across sectors. The fact that petrochemicals are not well addressed by the existing institutional architecture across decision-making arenas point to the importance of understanding what structures governs the industry at the global scale.

Constituting a critical gap in research and policy, the petrochemical sector has often been overlooked in energy debates, despite being the most energy intensive industry of all. Used

across industrial processes, petrochemicals play a critical role in maintaining fossil fuel lock-in by ensuring the ubiquity of oil, gas, and coal in provisioning systems. We analyse global MNC-networks through joint ownership interlocks in the global chemical industry. Using a dataset containing the subsidiaries of the top 50 largest chemical firms, we demonstrate that not only is the sector highly connected on a global scale with all major companies being formally integrated through joint ownership, interlocks across value chains also works to maintain the value of fossil capital. Moreover, realising that the capacity for agency differs, we assess the network structure including homophily and polycentricity as well as the specific configurations to understand which actors are in the most structurally advantageous positions. Through this analysis, we contribute to the understanding of global networks as a specific governance challenge.

The findings underline the need for parallel transitions in different socio-technical systems including energy, chemicals, and plastics to break from fossil fuel dependency and achieve decarbonisation. This requires addressing the global governance architecture around plastics and fossil fuels respectively to recognise and tackle the role of petrochemicals in maintaining fossil fuel lock-in.

**Panel ID 118****Urban climate governance experiments: innovation through connectedness**

Parallel Panel Session 8,  
Thursday 9<sup>th</sup> September 2021,  
15:30-17:00 CEST

Chair: Marta Berbes-Blazquez

**ID325.****Successfully integrating cities in the climate regime through city networks: how city network's program with high participation look like**

V. Sayel Cortes Berrueta

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Netherlands*

City networks provide capacities to cities (knowledge, implementation support, recognition) through their programs which empower cities to implement urban climate action. On this expectation, city networks have grown as a promising structure to integrate local governments into the multilevel climate regime. Until recently, however, these expectations have not materialized, and some claim only big and affluent cities have the resources to turn their participation into city networks into urban climate action. Recent literature has started to recognize that not all city networks are equal and that within this diversity, smaller cities can find networks helpful for them. In this emerging trend of understanding the diversity of climate-related city networks, we make a comparative analysis to identify what kind of programs (in terms of the capacities they provide) promote high participation from the city members. For this,

we look at 65 programs from 22 climate-related city networks and use Qualitative Comparative Analysis (QCA) to link conditions related to the programs with high participation of networks members in these programs. Among the most relevant conditions, are the capacity the program offers to its participants. Our results provide useful insight to improve city networks programs by identifying what kind of programs get high participation. Surprisingly, programs that provide more capacities are not the ones with higher participation. Instead, programs that provide either knowledge or implementation support (but not both of them) have high participation. High participation programs that provide recognition are sometimes (but not always) associated with providing knowledge, but are always associated with no implementation. The results suggest that different cities search for different capacities when engaging with climate-related city networks, implying that diverse cities do benefit from participating in some city networks program. However, it also suggests that targeted programs attract more participants; thus, city networks should be strategic when designing their programs and cannot expect 'one-size fits all' programs to be successful.

**ID218.****Where (or whom) does novelty come from? Governance entrepreneurs in climate transnational municipal networks**

Marielle Diane Papin

*McGill, Montreal, Canada*

Global climate governance is populated with more and more transnational municipal networks (TMNs). Although they have in common a mission to help cities exchange on

climate-related issues, they also bear many differences. Some belong to a period of municipal voluntarism, while others were launched during a time of strategic urbanism. Some also appear to be more visible than others. Finally, some seem to be more be creating more tools and techniques to orient the behaviour of their city members towards climate action. In that sense, this paper posits that some TMNs, such as ICLEI or C40, are more innovative than others. What are the reasons explaining these differences of innovativeness among TMNs engaged in global climate governance?

This paper focuses on one possible explanation, i.e. the presence of one or several governance entrepreneurs inside the innovative network. It offers an empirical analysis made of a cross-case analysis of 15 TMNs and a comparative case study on C40 and 100RC based on documentary observation, informal talks and interviews with TMN, TMN member, and TMN partner staff members. Although the two TMNs are both rather recent and have similar amounts of organisational resources, C40 appears to be much more innovative than 100RC. The two cases are thus worth examining into depth.

The empirical analysis identifies a significant difference between the two TMNs, i.e. the presence of a governance entrepreneur in the name of Michael Bloomberg, former New York City mayor, founder of a major private foundation, and involved in several transnational high-level climate fora. Using his personal skills and contacts, Bloomberg has managed to push for change in C40. All in all, his activities have considerably increased the level of innovativeness of the network. The paper concludes arguing that, at the individual or at the network level, it seems that interactions facilitate the rise of novelty. Theoretically, it thus shows that networks

involve agency almost as much as they involve structure. Empirically, this paper stresses the fact that the involvement of governance entrepreneurs and private foundations in TMNs must lead us to questions of accountability and legitimacy. With more and more cities joining these networks worldwide, discussing these issues and reflecting on the democratic dimension of urban and transnational climate governance appears to be a crucial task in the quest for global climate mitigation and adaptation. All in all, this paper contributes to two crucial streams of Earth System Governance.

### **ID283.**

#### **The role of networking in urban climate change mitigation: cases of Helsinki, Madrid and Stockholm**

Milja E Heikkinen

*University of Helsinki, Helsinki, Finland*

Cities play important role in climate change mitigation. Networking is often mentioned as a significant tool to promote climate change mitigation work in the city level. Various international, regional, and local networks seek to increase cooperation between cities and also between cities and other stakeholders. However, the impact of these networks remains poorly understood. In this study, I analyse the role of different institutionalised networks in the climate change mitigation work in the context of three cities: Helsinki, Madrid and Stockholm.

The analyses are based on semi-structured interviews with stakeholders working with different climate related networks in the case cities. The respondents are working in the cities or in organisations that cooperate with the cities. In the interviews, I ask questions related to motivation to participate in different

institutional networks, the most important cooperation relationships, and outcomes of network participation.

The data is analysed based on a framework from earlier literature. The framework is mainly based on transnational municipal networks participation in German case cities. Here, I test how well it works in the context of cities situated in other European countries, and when also local and national networks are considered. When needed, I develop the framework further based on the empirical evidence.

The results include the notion that different actors inside the same organisation highlight partly different motivations to network participation. However, also similar motivations and outcomes can be found between different case cities. Participation in different networks has different goals and outcomes from more practical assistance to symbolic contributions. The respondents have variable views on the importance of institutional networks, and this may also depend on network in question. There also seems to be interesting differences between case cities.

The information produced in the study contributes to the research field by testing and developing previous framework for analysis of the importance of network participation. It takes a step towards analysing network participation in multiple levels, which is interesting considering the urgent need for better understanding of complex systems that are not limited to global or local level. In practice, the information produced can be used to develop the networks further. Also, it can help cities to evaluate and develop their network participation. Therefore, the article relates to the conference theme "Architecture and Agency".

**ID669.**

### **Transnational climate governance and domestic policy change: Assessing pathways of climate policy implementation in Indian cities**

Supraja Sudharsan

*Georgia Institute of Technology, Atlanta, USA*

When is transnational climate governance effective in promoting domestic policy change? Despite the growing momentum in intergovernmental policymaking to combat climate change in recent years, transnational governance mechanisms continue to be widespread. In this, the rise of subnational governments is distinctive. For example, hundreds of local governments across nation-states have adopted the Paris Climate agreement goals. This engagement in transnational governance by subnational governments is seen as a promising path forward, owing to the proximity of local governments to both the causes and consequences of climate change, as well as the resources available to local government organizations through transnational network organizations.

However, little attention has been paid to effectiveness of subnational networks in promoting implementation in the domestic polity. Careful assessment of the extant literature on network impacts reveals two problems. First, is the problem of endogeneity, where networks seem to be effective in those cities that have a prior climate agenda. Second, is the problem of selection bias owing to networks constituting a larger share of local government members from advanced countries.

Based on case studies of climate policy implementation among local governments in India, this paper assesses the effectiveness of subnational climate networks on local policy change. The paper presents a unique theoretical framework that brings together IR literature on international institutions, urban studies literature on climate policy implementation, and more recent works on transnational climate governance, and argues that a network's effectiveness is contingent upon the local institutional capacity. The paper provides a framework of local institutional capacity and assesses the mechanisms through which networks promote implementation when faced with different local institutional capacities.

The paper contributes to the conference theme titled, "Architecture and Agency." Specifically, the focus on subnational climate networks and their effectiveness contributes to answering the question of how differences in architecture and agency across scales promote or impede climate governance.

## Panel ID 119

### Policy coherence for sustainable development

Parallel Panel Session 1,  
Tuesday 7<sup>th</sup> September 2021,  
8:30-10:00 CEST

Chair: Abbie Yunita

## ID457.

### From Millennium to Sustainable Development Goals: evolving discourses and their reflection in Policy Coherence for Development

Eileen de Jong<sup>1</sup>, Marjanneke Vijge<sup>2</sup>

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The discourse of sustainable development is highly influential in global and national governance frameworks, though its meaning and operationalisation are context-dependent and have evolved over time. The transition from the Millennium Development Goals (MDGs) to the Sustainable Development Goals (SDGs) reflects the most recent evolution in this discourse. We analyse key differences in storylines between the MDGs and SDGs and develop a conceptual framework to study these, focusing on the objectives of sustainable development, the means to reach those objectives, and the relations between developing and developed countries. We use this framework in quantitative and qualitative discourse analyses of the Policy Coherence for Development (PCD) approach of the Netherlands. This shows that global discourses are closely reflected in national-level policy frameworks. During the MDG era, the key objective of sustainable development was poverty reduction to be reached through

economic growth and participation in the global trade system. The SDGs aim for a broader set of objectives across the full spectrum of the economic, social and environmental dimensions. This is reflected in the Dutch PCD approach, first through a conceptualisation of environmental and social safeguards for trade and economic growth, and later with social and environmental sustainability as equally important objectives alongside poverty reduction. While the MDGs mainly focus on national averages and the poorest, the SDGs target the most marginalised and vulnerable groups with a focus on disaggregate data. In this respect, the Netherlands was ahead of its time; already in the early 2000s it acknowledged that “there is no question of “the” developing countries”. Related to this, the Dutch PCD approach also reflects the changed conceptualisation of the relations between developing and developed countries. This changed from aid to developing countries as reflected in the MDGs, toward partnerships with them, initially for the purpose of stimulating economic growth and trade, later also aimed at environmental sustainability. The article ends with a reflection on how our research findings relate to changes in broader discourses around (sustainable) development governance and cooperation.

**ID286.**

### **Reinventing the Wheel for Policy Coherence? The Questionable Impact of the Sustainable Development Goals in the Netherlands**

*Abbie Yunita, Frank Biermann, Rakhyun Kim, Marjanneke Vijge*

*Utrecht University, Utrecht, Netherlands*

Policy coherence, or the systematic promotion of mutually reinforcing policies, is widely endorsed as essential to the attainment of the Sustainable Development Goals (SDGs). However, despite procedural reforms to improve coherence in many countries, these reforms have often fallen short of ushering substantive policy change. How then, and to what extent have the SDGs influenced policy coherence, and to what effects? This paper addresses these questions through a detailed case study of the Netherlands, where the concept of coherence has long featured in development and sustainability policies. Based on an extensive analysis of the existing literature and official documents, in addition to a series of semi-structured interviews with policy actors, this paper explains the influence of the SDGs on institutional arrangements, and their subsequent effects on policy ideas, development and change (or lack thereof). Covering the period between 2012 and the present, it first traces the processes through which certain institutional arrangements were constituted to promote coherence and coordination in SDG implementation. The analysis focuses on four institutional arrangements: (1) high-level National SDG Coordinator within the Dutch government; (2) the network of SDG Focal Points embedded in each ministry; (3) the ‘SDG Check’, an impact assessment tool within the Dutch government;

and (4) the Wellbeing Monitor, a statistical monitoring tool based on SDG indicators. Second, it examines how these mechanisms and instruments work within the institutional context in which they operate. More specifically, it explores how they interact within and across ministerial domains to influence how policy actors propagate the ideas that gain saliency, deliberate and articulate policy imperatives and integrate individual goals. Third, having described these new mechanisms and instruments in detail, the paper explains the extent to which they influence policy development and change. While earlier contributions on policy coherence indicate that procedural reforms do not necessarily lead to the intended change, very few explain the gap or lag between procedural and substantive change. This paper fills this gap. It goes beyond examining the effects of the SDGs on national institutional arrangements, to analysing their policy implications in the context in which they work. This is instructive to discern how and to what extent the SDGs affect national policy processes and outcomes.

## **ID412.**

### **Sustainability in global trade law and policy – multi-level interactions and policy (in-)coherence in global governance**

Jens Newig, Jelena Bäuml

*Leuphana University, Lüneburg, Germany*

International trade often produces negative spillover effects, which may result in severe environmental degradation of global commons. We study the case of soy production and trade between Latin America and the European Union (EU), with exported soy being mostly used for animal feed. Soy production has been causing forest loss and local chemical

pollution, while indirectly – via European meat production and spreading of livestock manure – entailing nitrate pollution in ground and surface waters in the receiving regions.

While such globally ‘telecoupled’ linkages due to international trade and subsequent issues of unsustainability have been precisely documented, it is less clear how to govern them towards more sustainable regimes. Existing multi-stakeholder initiatives have not proven overly effective in alleviating the mounting sustainability issues of soy production and trade.

Not least due to the recent developments around the EU-Mercosur trade agreement we will in this paper study the potentials of trade law and policy to effectively address the prevailing unsustainability of the soy trade regime between Latin America and the EU. An important challenge lies in the incoherence of existing and emerging governance systems with respect to sustainability clauses. The World Trade Organization (WTO) does not provide for a sustainability chapter or specific exceptions to allow measures aiming at sustainable trade. In contrast, more recent Free Trade Agreements, and in particular the released EU-Mercosur chapters contain expressive provisions on (environmental) sustainability. However, while at the outset, the existence of those chapters appears promising, the soft language as well as possible enforcement of stricter WTO rules leaves their effectiveness highly uncertain.

In order to allow for a realistic assessment of the ‘sustainability potential’ of different governance initiatives and legal institutions, we proceed as follows. First, we summarize the following governance institutions of importance to furthering sustainability of EU-Latin America soy trade: Relevant WTO rules,

regional trade agreements such as the EU-Mercosur agreement, national legislation such as the recent French duty of vigilance law, the Swiss Responsible Business Initiative, the German Supply Chain Act initiative; as well as private governance initiatives, notably the Roundtable on Responsible Soy. Based in this, we conduct a legal analysis to assess how these governance systems interact, to what extent they are (in-) coherent, and draw conclusions for their applicability.

### Panel ID 121

#### Agency beyond the state (i): women, social movements and the private sector

Parallel Panel Session 9,  
Thursday 9<sup>th</sup> September 2021,  
17:15-19:00 CEST

Chair: Katharina Rietig

### ID22.

#### Situating Women's Agency-as-Leadership: a case study of Payment for Ecosystem Services in Southeast Asia

Lorraine Elliott, Abidah Setyowati

*The Australian National University, Canberra, Australia*

This paper addresses questions in the ESG Science and Implementation Plan about sources of agency, the injunction to avoid overgeneralizing and singularizing sources of agency, and the importance of understanding diverse forms of agency. It does so through a critical study of women's agency as leadership in payment for ecosystem services (PES) schemes.

PES schemes involve negotiated agreements between providers (managers) and users (beneficiaries) of local ecosystem services on how those services will be managed, improved, measured and rewarded. They have the potential to deliver conservation gains and improve local livelihoods in the service of equitable and sustainable human development outcomes. To be successful and credible, PES-projects require participatory and transparent governance practices. They must be locally relevant, deliver accessible knowledge systems, and account for distributional outcomes. Despite demands for strong community control over PES-projects, researchers have paid little attention to the emergence of local agency and leadership in PES-governance. Furthermore, research on women in a PES-context has rarely addressed questions of agency through various forms of leadership but has tended to focus on their domestic roles in female-headed households and their economic roles as smallholders.

The paper introduces the framing of a two-year project that addresses these overlapping gaps through grounded-research on women's agency and leadership experiences in PES-schemes in three countries: Indonesia, Vietnam and Myanmar. Our paper has both an empirical and conceptual purpose. It begins with a short overview of the background to this research and describes in brief our selected field-sites in which women have existing community roles as either users or providers of ecosystem services. The paper then demonstrates how a conceptual framework that draws on ideas about 'institutional indigenization', embedding institutions in local practices, hidden agency and closed spaces, and gender as a power relationship can support a more locally-contextualised and gender-sensitive approach to understanding the agency pathways created by or available to

women. In this regard, and through the process of gathering individual narratives of women's leadership journeys in PES schemes (including non-elite journeys), our research remains open to the possibilities of locally-embedded, gender-nuanced and non-elite practices that are not always recognised in conventional theories of leadership and agency.

**ID438.**

**Understanding “deep green” diversity and response to “benefit sharing” framing in boosting support for climate action: A study of Fridays for Future participants from Germany**

*Ilkhom Soliev<sup>1</sup>, Marco Janssen<sup>2</sup>, Insa Theesfeld<sup>1</sup>, Calvin Pritchard<sup>2</sup>, Frauke Pirscher<sup>1</sup>, Allen Lee<sup>2</sup>*

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Many scholars argued that framing, whereby some characteristics of an action or phenomenon are emphasized more than others (for example, benefits versus risks, gain versus loss), can help boost public support for climate action. Although a large and increasing strand of literature exists demonstrating various framing effects in myriad social-environmental contexts, authors largely agree that social-behavioral factors inducing public support for climate action are not yet very well understood, and that there is a particularly urgent need to test effects from combinations of tailored intervention methods. Our first research question is here whether and how framing that emphasizes the shared benefits of climate action could boost support for a

stronger climate policy. Reviewing the literature and particularly drawing from social-behavioral scholarship, we have designed a survey that aims to test such framing effects from a combination of treatments. In the period of November and December of 2019, we have collected responses from 119 participants of the Fridays for Future demonstrations in the east of Germany. Our preliminary results show that there are indeed framing (order) effects with control and experimental group participants indicating distinct levels of support for example for introduction of carbon tax.

Our second research question is how diverse a group of environmental activists or so-called deep green group is and whether framing has an effect on this particular group's policy support. Many studies in the literature suggest that pre-disposition of individuals in relation to certain issues or their existing beliefs systems are likely to guide what people accept or reject, thus rendering simple framing efforts largely irrelevant. As noted above, our preliminary results indicate presence of treatment effects for our purposefully sampled group of deep greens. Further, looking at individual footprints reported by participants on mobility and energy use, but also analyzing their attitudes and beliefs in relation to a number of key climate-related issues, the study also reveals rich diversity within the deep green group itself. Ongoing research and the findings obtained by far on the one hand are in line with the challenge of designing an agreed set of interventions towards sustainability in complex resource systems such as climate; on the other hand these findings reignite the debate on the need for more tailored and diversified approaches to climate action.

**ID507.****More than the sum of its visible parts: Insurance, global change and climate adaptation**Vanessa Lueck*Arizona State University, Tempe, USA*

InsuResilience Global Partnership [InsuResilience], launched by the G7 in 2015, exists to increase access to insurance for the world's poor and climate vulnerable against global climate change. One of InsuResilience's goals is to drive climate adaptation through this insurance finance mechanism. Insurance and the insurance industry are not new actors in the liberal international order, yet with the exception of a few literatures the discussion of its impact has largely remained invisible, confined to financial, insurance and legal experts and journals. Analyzing insurance using a complex adaptive systems lens sheds light on the interdependencies and interrelationships across time, scale and place that otherwise go unnoticed, especially insurance's global rules and network impact on local communities and, the inverse, local impact on global insurance and financial networks and markets. Focusing on these interconnections and interdependencies reveals the various impacts of insurance, provides theoretical understanding for apparent contradictions in local political choices and for connections between global financial changes, local disasters and re-development. Furthermore it opens up alternative manners to view insurance and its role in the current changing global order.

**ID546.****Analysis of Interventions to Manage IUU Fishing in Comparative Context: Transponders and PSMA for Enhanced Transparency**Allison Lobbia, Mark Axelrod*Michigan State University, East Lansing, USA*

Every year, billions of US dollars are lost due to illegal, unregulated, and unreported (IUU) fishing around the world, not to mention the severe toll IUU fishing plays on the long-term sustainability of fish stocks, but countries can take action through policy to combat these practices. India, Cambodia, Namibia, Peru, Somalia, and Indonesia, six countries with variable levels of government involvement in international sustainable fisheries policies, are compared to determine if certain policies lend themselves to decreases in IUU fishing. By assessing catch quantities and IUU catch estimates over multiple data points, trends were discovered in connection with policy implementation choices. While illegal behavior is difficult to control and detect, certain governance actions such as transparency, communication and cooperation can combat IUU activity. These changes, although implemented by governments, must be motivated or approved by the people or the changes will not be effective nor be likely to stay implemented. Those countries engaged in data transparency from vessel monitoring showed improvements in identifying vessel activity. Conversely, the countries widely did not share the same improvements by implementing the Agreement on Port State Measures (PSMA) but did facilitate communication between governments. In this way, PSMA has been able to increase global response and encourage more widespread sustainable governance while combatting IUU

fishing. As these findings show, the use and sharing of transponder data will be influential in the coming years, and will promote more countries to increase monitoring, transparency and global communication. This study demonstrates the importance of not only monitoring resource use, but also how that information is used after it is collected. Additionally, while PSMA facilitates increased communication and transparency, it does not influence countries' IUU responses to the same level transponders are able to achieve.

## Panel ID 122

### Networks, coalitions and alliances

Parallel Panel Session 8,  
Thursday 9<sup>th</sup> September 2021,  
15:30-17:00 CEST

Chair: Kate O'Neill

#### ID95.

### Pathways to Carbon Neutrality: What role for coalitions and climate alliances?

Gunilla Reischl<sup>1</sup>, Naghmeh Nasiritousi<sup>2</sup>

<sup>1</sup>*Swedish Institute of International Affairs, Stockholm, Sweden.* <sup>2</sup>*Stockholm University, Stockholm, Sweden*

While the adoption of the Paris Agreement has provided a basis for collective climate action, the world is far from on track to hold global warming well below 2 °C. The recent COP25 meeting, held in Madrid in December 2019, showed once again the limitations of the UNFCCC process. Both researchers and practitioners have pointed out that cooperation among smaller groups of political actors could accelerate ongoing transitions and help fulfil the objectives of the Paris

Agreement. In particular, the degree of transformation needed requires much deeper forms of international collaboration than the shallow forms that the world has seen so far. Recent studies show that by creating cooperative platforms for climate action, different actors can be induced to work together to arrive at more ambitious climate commitments. In recent years we have seen an increase in coalitions bringing together ambitious and pioneering countries and cities aiming to achieve an accelerated transformation, e.g. the Climate Ambition Alliance and Carbon Neutrality Coalition. Yet we know little about the capabilities and prospects for such coalitions to achieve actual decarbonization. Drawing on the literature on clubs and a new dataset, this paper pursues an in-depth analysis of these coalitions to understand the political aspects behind forming and advancing an agenda toward decarbonization amongst a set of relatively ambitious actors. The paper examines the mechanisms for formation of coalitions, how they work internally, their functions as well as their potential for reducing emissions. Thereby the paper provides a timely contribution to the debate about the need for deeper forms of international collaboration in order to mitigate climate change, and addresses a gap in the literature on the politics of climate coalitions.

#### ID268.

### Joining Forces for Sustainable Development – A Social Network Analysis of Multi-stakeholder Partnerships for SDG Implementation

Lisa-Maria Glass<sup>1</sup>, Simon Ruf<sup>2</sup>

<sup>1</sup>*Leuphana University, Lüneburg, Germany.*

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Multi-stakeholder partnerships have been deemed essential for the implementation of the Sustainable Development Goals (SDGs). In the light of an alleged declining capacity of governments to effectively steer societal development towards a more sustainable future, contributions of non-state actors to the implementation of the 2030 Agenda offer great potential to leverage synergies in the path to sustainable development. Since the SDGs are highly interrelated and involve numerous complex trade-offs regarding social, economic and environmental objectives, multi-stakeholder partnerships can help to share knowledge, values and resources and thus facilitate SDG achievement. The 2030 Agenda, as part of SDG 17, explicitly calls for the enhancement of these partnerships as important means of implementation.

While research has focused on identifying interlinkages between different SDGs in theory or through case study approaches, less is known about the emerging architecture of multi-stakeholder partnerships for the SDGs and the synergies it creates in practice. In this article, we aim at exploring the underlying structure and actor composition of 4,086 multi-stakeholder partnerships and voluntary commitments registered on the Partnerships for the SDGs online platform. Since data is only available through a browser-based web interface, we develop an automatic crawling software to systematically retrieve the information provided and conduct computer-assisted identification and matching of entities to create a structured database of actors with normalized names. Subsequently, we explore the structured data by means of a Social Network Analysis (SNA).

We investigate what kind of interlinkages between different SDGs can be identified in the multi-stakeholder partnership network and how these reflect nexus previously identified

by research. Additionally, we analyze what type of actors (UN Member States, civil society, local authorities, private sector, scientific and technological communities, academia) combine in which constellation to address which goals. Here, we further assess the nature of the links identified between individual SDGs by calculating the betweenness centrality of different types of actors. Finally, we examine the centrality of actors in the network and test for potential differences between public and private stakeholders' connections to the overall network. The findings shall provide insights on the structure of transnational governance for the SDGs, the topology of the current multi-stakeholder partnership network and on how synergies for SDG achievement are leveraged in practice.

**ID276.**

### **Networks, coordination, and authority across the climate governance complex**

Matthew Paterson

*University of Manchester, Manchester, United Kingdom*

Research on global climate governance now recognises that this phenomenon cannot be understood as a single site of governance through the United Nations. Rather, it entails a myriad of governance efforts by states, subnational actors, businesses, NGOs, and others. The resulting effect has been variously described as a 'regime complex', 'polycentric governance', or a 'global climate governance complex'. Two questions (at least) arise out of this shift to a governance complex. One concerns questions of interaction between governance initiatives, the potential for enhanced coordination across initiatives, and whether the patterns of interaction across the

complex improve or harm its overall performance and potential effectiveness. The other is how the political authority across the complex, rather than within individual governance arrangements, operates.

One way to approach these questions of coordination and authority is to focus on the networks of individuals and organisations that generate, organise, and contest these initiatives. Social network analysis (SNA) shows that network structure can play an important role in determining the effectiveness of coordination, learning and strategizing both within individual initiatives and perhaps more importantly across them, as well as in shaping who gets into positions of authority to shape the initiatives. But we have little systematic knowledge about the structure and dynamics of the social networks involved in climate governance.

This paper aims to make a starting contribution to mapping these networks, as part of a much bigger project. It is based on the construction of a database of those governing within specific climate governance institutions: around 100 international or transnational climate governance initiatives, both within and beyond the UNFCCC. It then uses some key methodological techniques in SNA (measures of network density, clustering, core/periphery relations, and the centrality of particular nodes) to analyse how specific individuals, and the organisations they work for, can be understood to exert authority across the 'climate governance complex', through their roles as gatekeepers, as well as a range of processes across governance institutions such as diffusion of ideas and governance models.

**ID332.**

**Cooperation and coercion in polycentric governance: Comparative case study on the reduction of water rights in the agricultural sector of two Spanish river basins**

*Nora Schütze, Andreas Thiel*

*University of Kassel, Kassel, Germany*

Recent literature on polycentric governance of social-ecological systems is moving beyond normative claims of positive outcomes of polycentricity, by rigorously scrutinizing pathways and conditions of effective polycentric governance. This paper aims to contribute to this literature strand, by firstly addressing the question of what are factors explaining the emergence of different types of interaction among and between public and private actors across the agricultural and water sector, and across scales and levels. Based on the seminal paper of Ostrom, Tiebout and Warren (1961), we frame interaction as taking varying forms and degrees of cooperation, competition and coercion, which co-evolve and co-exist next to each other. Secondly, we aim to shed light on whether and how different cooperative, coercive and competitive interaction can be related to performance of polycentric governance.

These questions are addressed through a comparative case study of two Spanish river basins, the Guadalquivir and Júcar, using data collected in qualitative interviews and grey literature. The empirical context is cross-level and cross-sectoral interaction of private and public actors to reduce water concessions of agricultural water users in the context of implementing more efficient irrigations systems. The analysis shows that despite same

overarching and constitutional rules of the two river basins, as well as similar political contexts shaped by the implementation of the European Water Framework Directive, river basins perform differently in terms of actually reducing water concessions. Moreover, forms of cooperative and coercive interaction within the two river basins among the River Basin Authority and water users vary. Empirical evidence suggests that difference in interaction and performance might be explained by variances in biophysical characteristics of the river basins, levels of trust of involved actors, as well as actors' interests and goals.

### Panel ID 123

#### Re-thinking institutions: climate policy and beyond

Parallel Panel Session 4,  
Wednesday 8<sup>th</sup> September 2021,  
9:00-10:30 CEST

Chair: Matthew Paterson

### ID116.

#### 'Climatizing' Military Strategy? A Case Study of the Indian Armed Forces

Dhanasree Jayaram

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Manipal, India*

With climate change becoming the center-point of global environmental governance and increasingly being integrated into security narratives, the role of the military in 'climate security' assumes significance. While the security logic continues to influence this triangular relationship (climate change, security and the military), other processes such as riskification and climatization also have a

bearing on the academic/policy discourse on it. Climatization, in particular, can be analyzed and utilized in terms of how climate change has begun to dominate other domains of global and local politics and governance; and how the climate logic introduces new principles of action and practices in the security sector.

The role of the military in environmental and climate tasks is facilitated through various frames and lenses. While 'greening defence' is a more popular rhetoric, framing of climate change as a 'threat multiplier', exacerbating security threats/risks, especially in conflict scenarios is also gaining traction. However, military-climate-security interface is neither straightforwardly explained, nor diversely represented. In addition, fears related to 'militarization' of climate change and 'green washing' in this context have not been adequately addressed. Another angle that is more prominent in developing countries such as India is the gradual movement towards mainstreaming climate change into military strategy based on the military's perceptions of climate vulnerabilities as well as historically established concordance between civil and military actors on their respective roles.

In this context, this paper analyzes the Indian military's engagement with climate issues – as a part of its security practices – using the framework of 'climatization'. It enunciates the drivers, processes and characteristics of 'climatization' of military strategy within the Indian armed forces. In this study, climatization is classified into four broad types, based on the motivations of the actor and nature-cum-intensity of the process: symbolic, strategic, precautionary and transformative. Since the existing literature mostly looks at securitization (or lack thereof) of climate change in the Indian context, this paper goes one step ahead to identify other processes, mainly climatization,

that have manifested themselves in different ways within the Indian military, either due to organizational dependencies or autonomously developed procedures. The study also attempts to develop an analytical framework of climatization, based on the limited existing literature on it (as compared to securitization), divergences with the notions/processes of riskification and securitization, and more importantly, empirics of the actions of the Indian armed forces related to climate change-related issues.

**ID303.**

### **Remaking Political Institutions: Climate Change and Beyond**

James Patterson

*Copernicus Institute of Sustainable Development, Utrecht University, Utrecht, Netherlands*

While transformations in governance systems are required to address many urgent global sustainability challenges, we still have poor understanding of the processes by which such transformations might occur. The role of institutional change is particularly central but undertheorized. For example, in the context of climate change, many nations struggle to reform political institutions to support rapid and ambitious climate action capable of constraining climate change below agreed global targets of 1.5-2C. Such institutions need to support decarbonization across all sectors of society, adapt to shifting environmental boundary conditions, and foster a long-term view in political decision making. While institutional weaknesses and failures are widely catalogued, an understanding of how improvements may be realized is lacking. A key need is to explain and theorize the processes by which institutions are ‘remade’ within

historically and socially embedded settings (i.e. involving heterogeneity, contestation, path-dependency).

In this paper, I develop an approach to conceptualizing and analyzing institutional remaking. I define institutional remaking as the activities by which agents intentionally develop political institutions in anticipation of, or in response to, institutional weaknesses and failures. First, I build on explanatory arguments from institutional theory (e.g. gradual institutional change, institutional work, path dependency) and normative arguments from political philosophy (i.e. insights from Amartya Sen concerning comparative improvement and ‘comprehensive social realizations’), to develop an analytical lens for studying (i.e. observing, explaining) institutional remaking. Second, I develop a heuristic typology comprised of five broad dynamics which disaggregate multiple forms of action and struggle within processes of institutional remaking (i.e. Novelty, Uptake, Decline, Stability, and Coevolution), to provide entry points for building and testing hypotheses in empirical investigation. Altogether, this provides a robust foundation for studying how institutional improvements are, or may be, generated.

These findings contribute to understanding prospects for political responses for Earth System Governance in turbulent times. First, they contribute to understanding institutional aspects of transformations in governance through advancing process-oriented theorizing, which enables the study of unfolding processes with incomplete outcomes. Second, they contribute to explaining the production of social action, which innovatively bridges the gap between ex post explanation and ex ante political responses. Third, they contribute to studying how trajectories of institutional development

can shift and thereby break out of path dependency. Altogether, this impacts on debates at the intersection of several ESG Research Lenses (Architecture & Agency, Adaptiveness & Reflexivity) and Contextual conditions (Transformations, Anthropocene).

**ID392.**

### **Conceptualizing national sustainability institutions**

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Global agendas like the Paris Agreement on Climate Change and the Agenda 2030 on Sustainable Development hinge on ambitious action at the national political level. National political processes are thus key to understand what shapes countries' sustainability and climate policies and performances. In this context, the role of formal institutions that are deliberately set up to promote sustainability in political decision-making is expected to be decisive. In this study, we consider institutions in the sense of political bodies that are formally part of the national polity: councils, commissions, ombudspersons or civic assemblies on the topic of sustainability. While most countries have established at least one of these specialised political bodies, there is surprisingly little (comparative) research on their characteristics and their impact on sustainability governance and performance, lacking in particular studies on the Global South. The overarching motivation to study sustainability institutions is to assess whether they indeed effectively promote sustainability in ongoing politics. In this paper, we prepare the conceptual grounds for assessing and

comparing sustainability institutions asking: How are national sustainability institutions supposed to work and what are theoretically relevant characteristics for the performance?

First, we define sustainability institutions, arguing that an array of specialized institutions explicitly created to deal with either all three "dimensions" of sustainability (ecological, social, economic), and/or future generations (intergenerational justice) and/or the global common good (intra-generational justice), can be subsumed under this broad category. Second, we present a causal framework, arguing that sustainability institutions can be expected to shape politics and policies under certain conditions of institutional design and if granted political powers. Third, we carve out criteria that probably moderate the political impact of sustainability institutions. We propose to assess sustainability institutions along three dimensions: a) their objective covering the institution's concern with ecological, social and economic sustainability as well as with inter- and intra-generational justice, b) their structure covering institutional design, actors and political instruments, and c) their function, such as coordination, advice, monitoring, public participation or knowledge integration. Fourth, we cluster different theoretical types of institutions to better deal with the variance in institutional design, considering, inter alia, the institutions' formal links to the political power branches (legislative, executive, or judiciary) and its membership (political office-holders or external actors). Throughout the paper, we draw on empirical examples of sustainability institutions from both the Global North and South to underpin and apply our conceptualizations.

**ID498.**

### **Institutional arrangements and policymaking in transition states: comparing environmental governance in Georgia & Armenia**

Ellie Martus

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While much attention has been paid to the experience of Western liberal democracies, our understanding of environmental governance in transition states is limited. This paper examines how institutional arrangements shape environmental policymaking, comparing the experiences of two post-Soviet states, Georgia and Armenia. The paper explores formal governance arrangements for the environment in these states, how these have changed over time, and the consequences of these arrangements for the policymaking process. Ultimately, the paper seeks to comment on how these arrangements influence a state's capacity to address its environmental concerns. Drawing on a series of interviews with NGOs, international organisations, policymakers, and industry, the evidence suggests that ministerial arrangements shape environmental policy in these states in a number of key ways, including how issues are framed, the way in which conflicts are aired, the level of policy activity, and interaction with other actors. Institutional instability was found to be a major factor undermining environmental capacity.

**ID517.**

### **Institutionalization through spiraling stages of adaptation: a comparative analysis of Bilbao, Barcelona and Madrid**

Marta Olazabal<sup>1</sup>, Vanesa Castán Broto<sup>2</sup>

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Comparative studies of urban climate adaptation have evaluated the progress, means and scope of adaptation planning. Such assessments show a wide range of ways of intervention for adaptation -within and outside plans- from the delivery of coordinated, planned measures to the ad-hoc interventions demonstrating innovation. The local politics of climate adaptation advance through various strategies to align different spheres of action or disrupt mainstream practices. However, an understanding of how adaptation action is institutionalized in urban areas is still lacking. We propose a conceptual and analytical framework to examine the institutionalization of climate adaptation, mapping different institutional tools to deliver adaptation in urban areas. We suggest a conceptual understanding of institutionalization where adaptation escalates through spiraling stages of recognition, groundwork and action across time. We map different tools that deliver adaptation outputs relative to these stages. The applicability of this framework is shown through the comparative analysis of three Spanish local government adaptation initiatives in Bilbao (an urban development project), Barcelona (a local climate policy) and Madrid (a nature-based program). We documented the initiatives and worked closely with local stakeholders to systematize evidence of the use of institutional tools and

their purpose. Results show a diversity of tools and combinations used to advance adaptation in each of the cases which go beyond mere policy outputs. We found evidence of the central role of institutional innovation that departs from early processes of visioning across these three urban Spanish cases. We also identify and highlight the importance of coupling processes of recognition, groundwork and action to enable processes of learning through time, which have the potential to enable more transformative adaptation processes. We frame our contribution in two of the conference streams: **Architecture and Agency**, as our work addresses the question of how institutional frameworks evolve to face emergent needs of climate change adaptation pivoting in a series of available tools, and, secondly, **Adaptiveness and Reflexivity**, as our work also contributes to the conceptualisation of adaptation through an escalating spiral and suggests an analysis framework to compare adaptiveness by mapping institutionalisation.

## Panel ID 125

### Environmental treaties: design, interactions and performance

Parallel Panel Session 9,  
Thursday 9<sup>th</sup> September 2021,  
17:15-19:00 CEST

Chair: D.G. Webster

## ID668.

### Global value chains in land-use change governance: an account on transnational sustainability standards.

Paulina Flores Martínez<sup>1</sup>, Tony Heron<sup>1</sup>, Patricia Prado<sup>2</sup>

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Global land-use change for agricultural and forestry purposes is amidst the largest drivers of biodiversity loss, water scarcity and soil degradation. In this article, I analyse private global land-use change governance mechanisms via transnational sustainability standards (TSS). I provide a contribution to an emergent literature bridging the global value chain (GVC) and environmental governance (EG) fields, which seeks to account for the rise of transnational sustainability standards (TSS). This literature identifies two critical barriers to the uptake of TSS: (1) the low level of consumer demand for products certified as ‘sustainable’ and (2) coordination problems between different firms across the value chain (Reference 1). It is argued, high standards are most likely to be found in ‘buyer-driven’ GVCs, in which lead firms exercise control over upstream suppliers but whose brand reputation is sensitive to changing consumer preferences and hence vulnerable to social activism and consumer boycotts.

However, what happens when the aforementioned preconditions are not met? Does it mean that meaningful standards cannot emerge without the presence of brand-sensitive, buyer-driven GVCs? Extant literature, for the most part, focuses on ‘unipolar’ GVCs, yet here I turn my attention to ‘multipolar’ GVCs. According to (reference 2) a unipolar GVC is one in which lead firms are easily identifiable and prevailing governance mechanisms are understood as a function of the dominant role played by these lead firms. By contrast, multipolar GVCs are ones in which lead firms are harder to identify and/or in which a plurality of ‘drivers’ (state and non-state actors, as well as firms) and complex value chain dynamics and governance mechanisms are likely to exist. Apart from the typology introduced by (reference 3), alongside some of (reference 4) empirical work, there has been little advancement on these contributions, despite the strong potential to widen the scope of GVC and EG research agendas.

I begin with a critical engagement with the recent GVC and EG scholarship to develop a framework for understanding the politics of sustainability governance in multipolar GVCs. I then turn to explore key governance structures of major oilseeds and meat produce, paying particular attention to the key distinguishing features of multipolarity and embeddedness, and relate these features to the form and efficacy of different TSS adopted within the chains. Finally, I explore the implications of these findings for prevailing and emergent forms of global governance.

**ID346.**

### **Explaining Variation in International Treaty Design: A Study of Enforcement Provisions in International Environmental Agreements**

Mathilde Gauquelin

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A great deal of scholarly attention is devoted to explaining the design of international agreements, but dominant approaches such as the rational design of agreements or policy diffusion often come up short of fully accounting for variation in treaty content. A stark example concerns enforcement provisions in international environmental agreements (IEAs): even when treaties contain similar substantive commitments for environmental protection, which much of the literature would expect to be associated with similar enforcement provisions, the latter have been found to vary along several key dimensions.

I argue that by conceiving states as unitary blocks that merely interact with one another, standard explanations fail to account for the role of the individuals involved in international negotiations. An added layer of analysis that theorizes transboundary interactions among public officials can contribute to a deeper understanding of treaty design that more closely reflects reality. To this end, I suggest that the concept of transnational policy communities, which has primarily served to explain national decisions up until now, can also shed light on international negotiations.

Indeed, I hypothesize that under certain conditions, public officials from distinct

countries come to form policy communities that share common understandings, norms and beliefs regarding the conduct of their work, transcending state boundaries. As such, belonging to a community preconditions the design options that public officials will consider as appropriate to include in IEAs, explaining the discrepancy between the current literature's expectations regarding enforcement provisions and the actual form that they take.

I test this proposition through a survey of around 300 public officials working on IEAs worldwide. I map out existing transnational policy communities based on respondents' frequency of interaction, depth of interaction, trust and sense of belonging, and relate them to their preferences regarding enforcement provisions. I find that while not all individuals who interact form communities, there exist several communities tied with specific environmental issues (such as climate change and biodiversity), as well as geographic regions. As a whole, respondents who belong to transnational policy communities also tend to prefer more cooperative solutions for enforcement and to perceive jurisdictional dispute settlement procedures primarily as a deterrent.

**ID552.**

### **When environmental treaties do more harm than good: A meta-analysis of environmental problem-shifting cases**

Rakhyun E. Kim

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International environmental treaties (e.g., Paris Agreement) are designed to solve specific environmental problems. Yet their potentially negative impact on environmental issues other than their own is rarely studied. Until now global governance theories have assumed that environmental treaties are inherently 'green', and hence, any adverse consequences are conveniently set aside as unintended or inevitable. But is that true? In this paper I question, do international environmental treaties ever pursue their objectives by merely shifting problems to others? If so, when and why? Does such buck-passing create any systemic risk beyond those directly affected? Environmental problem-shifting, or protecting one part of the environment by damaging another, is a major dilemma arising in global governance. Yet the issue remains under-investigated, requiring an urgent scientific inquiry into its causes, consequences, and solutions. Here I provide a first overview of the complex dynamics of environmental problem-shifting between international environmental treaty regimes. I begin with a literature survey on related concepts such as negative spillovers and ancillary costs and develop a conceptual framework. I then present a meta-analysis of empirical cases found in the scientific literature, where I explore (1) conditions under which problem-shifting occurs between international environmental treaty regimes; (2) systemic risks of problem-shifting through cascades; and (3) solutions for optimizing the

currently fragmented global environmental governance system. Based on the analysis, I highlight promising avenues for future earth system governance research in the era characterized by globally networked “Anthropocene risks”. The study contributes to the theoretical debate on the architecture of global governance and its overall problem-solving effectiveness, and offers practical insights for international law and policy-makers.

**ID554.**

### **Focal Points, Forum Shopping and Credible Commitments: The Regulation of HFC Gases between the Kyoto- and Montreal Protocols**

*Florian Rabitz, Jurgita Jurkevičienė, Vidas Vilčinskas*

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When governments regulate new and emerging issues, they usually operate through focal points, that is, institutions that are widely recognized to exert authority over such issues. Focal points facilitate collective action by contributing to the convergence of actor expectations; they provide social scripts; and their pre-existing rule frameworks make them relatively efficient at regulating new and emerging issues that fall within their jurisdiction. Collective action through non-focal points thus creates a puzzle for institutionalist theory: why do states choose to act through institutions that do not hold jurisdiction over an issue; do not provide established social scripts; and do not offer efficiency gains? This paper analyzes the case of international hydrofluorocarbon (HFC) regulation. HFCs are an industrial gas that came into widespread commercial use after the

Montreal Protocol on Substances that Deplete the Ozone Layer mandated the phase-out of ozone-depleting chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs). While not an ozone-depleting substances, HFCs are greenhouse gases and thus contribute to global warming. Responding to drastic increases in global HFC emissions, in 2016, governments instituted the Kigali Amendment to the Montreal Protocol in order to phase-down global consumption. Thus, rather than operating through the international climate regime, particularly the Kyoto Protocol, governments chose to regulate a greenhouse gas under the international ozone regime. Theoretically, we draw on the literatures on forum shopping, regime shifting and non-regimes. Using a mixed-methods design that combines a case-based approach with large-scale text mining of negotiation records, we find that the shift from a focal- to a non-focal point primarily results from institution-specific differences in the credibility of commitments: with the impending shift towards Nationally-Determined Contributions under the Paris climate agreement weakening the prospects of ambitious and collective long-term action on HFCs, the Montreal Protocol offered a non-focal point setting designed for credible and sector-specific long-term commitments. We conclude with a theoretical discussion on the relevance of credible commitments for state behaviour in fragmented, multi-institutional governance architectures.

## Panel ID 128

### Architecture of global governance: emerging challenges (ii)

Parallel Panel Session 6,  
Wednesday 8<sup>th</sup> September 2021,  
17:00-18:30 CEST

Chair: Ina Möller

#### **ID543.**

### **Informational governance for sustainable development: social dilemmas in providing environmental data for national reporting in the context of international obligations**

Anastasia Gotgelf

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In 2015, the United Nations (UN) adopted the Sustainable Development Goals (SDGs). Sub-goal 15.3 aims to achieve a "Land Degradation Neutral" (LDN) world by 2030 through the national efforts of UN member states. Since 2018, countries supporting LDN are encouraged to report to the UN on the status and change in three globally recognized indicators: land use, land productivity, and soil organic carbon stocks (SOC) within their national borders. All this requires the adoption of an accurate methodology for assessing land degradation.

In Kyrgyzstan, the first LDN report identified a serious gap in national SOC data. Recent efforts to develop scientifically sound methods for assessing SOC address this gap. However, methodological developments alone will not guarantee success in achieving LDN objectives without a functional information system. In a nutshell, sound measurements are useless if

they are not embedded in a suitable institutional architecture. This raises an interest in the factors that might impede the provision of environmental data for reporting under international commitments. Preliminary evidence points to a number of complications that make measuring the SDGs challenging. Major problems at the national level include lack of capacity and insufficient collaboration and information sharing across governments, but these are very general. This raises the question: is there anything else that hinders effective monitoring and assessment of land degradation?

Based on qualitative interviews and group discussions with local experts, this work analyzes existing institutional architecture relevant to LDN assessment, monitoring and reporting. Drawing on and extending the new concept of informational governance, this paper characterizes the deep tensions in key governance arrangements that affect LDN reporting in the Kyrgyz context. It shows how the institutional context within which information users and producers interact (rather than the quality of the information itself) affects the provision of environmental information for national reporting. Addressing these deep tensions would ensure greater coherence between information processes and the environmental governance structures involved.

In light of the similar institutional architecture of the Central Asian countries, the findings are also relevant to other countries in the region. However, I argue that learning is possible both in the broader context of developmental aid and for advancing SDG 15.3. Specifically, the results highlight key issues that are relevant beyond the LDN context and could be fruitful for current developments of the Measurement, Reporting and Verification

(MRV) systems in both developing and developed countries.

## ID149.

### **Integrating sustainability in international organisations: the case of the International Labour Organisation**

*Francesco S. Montesano, Frank Biermann, Agni Kalfagianni, Marjanneke J. Vijge*

*Utrecht University, Utrecht, Netherlands*

In the Anthropocene, integrating socio-economic and ecological systems has become a central sustainability governance challenge. However, have international organisations, as key actors in global governance, responded to this challenge? The existing literature on change towards sustainability in international organisations focuses on the ‘end-results’ of change, and tends to overlook how contextual changes such as the Anthropocene can impact the institutional and organisational level. Drawing on international relations theories that emphasise the incorporation of change into the analysis of political phenomena, this paper develops a novel conceptual framework with ideas, norms and institutions as the key interdependent stages of context-informed processes of change. It then applies this framework to assess integrated sustainability-oriented change processes in the International Labour Organisation (ILO). The ILO, whose original mandate already addressed the integration between social and economic development, constitutes an ideal case study to see whether environmental sustainability is making inroads at all levels. Focusing on the last 10 years, this paper carries out a systematic qualitative content analysis of primary documentary sources, complemented with expert interviews and analyses of budgetary

and operational data. First, it investigates the emergence and development of sustainability-related ideas within the ILO. Linking back to the framework, ideas are operationalised as discursive themes that appear in non-normative contexts. Second, it examines whether and how sustainability-related ideas have evolved into ILO norms. Norms are operationalised as the content of all (100+) negotiated documents (Resolutions, Recommendations, and Conventions) issued by the International Labour Conference in the 2010-2019 period. Third, it assesses to what extent normative developments have informed more concrete sustainability-oriented institutional developments, which are operationalised as concrete initiatives (notably those in the framework of the Green Jobs Programme), as well as budgetary and organisational developments. The paper identifies promising yet uneven trends of ideational, normative and institutional change towards the integration of environmental elements into the ILO’s approach to sustainable development. As such, it also advances the understanding of the relations between the Anthropocene and (institutional) transformations – two of the four key contextual conditions highlighted in the 2018 Earth System Governance Science Plan. Additionally, little is known about whether and how new global sustainability governance tools such as the Sustainable Development Goals (SDGs), allegedly the most advanced ‘integrated’ attempt, can impact the policies of international organisations towards sustainability. Via its analytical approach, this paper also provides valuable insights into the steering role of the SDGs in this direction.

**ID180.**

## Politics of Scale in Global Environmental Governance

*Miriam Prys-Hansen, Alexandr Burilkov*

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One of the defining features of great powers is that they (can) have an impact across all levels of organization in international politics. They engage in bilateral, transnational, regional, and global interactions and often have, within one issue-area, a choice of venues within which to pursue their interests. And while the causes and consequences of what has been called “horizontal fragmentation” or “institutional overlap” have been an important topic in Global Environmental Politics (GEP), vertical institutional fragmentation, i.e. overlaps, complementarities and conflicts between different levels of policy-making (rather than different regimes or issue-areas) have not received much attention. In this paper, we argue that international actors of all kinds, but in particular those with a wide reach engage in a “politics of scale” of a global extension. The concept of “politics of scale” is borrowed from political geography and is defined here as the way in which actors take decisions on how intensely, in what ways and within which institutions to engage. States have varying possibilities to shift their (and others’) institutional focal points within an issue-area and take on different roles according to the level or venue at which they are active. While, for instance, India’s governmental responses to climate change at the global level continue to expose a strong “North-South imaginary” it has increasingly played a much more constructive role at the regional level. In this paper, we aim to identify important factors that have an impact on whether or not emerging powers will

take on “great power responsibilities” – however defined – in the environmental field. We expect one of them to be the level at which environmental policies are formulated and enacted, beyond the particular characteristics of the issue-area and the type of external pressures that is exerted on emerging powers. GEP is of particular interest here as mostly, solutions to the particular governance problem (we initially focus on climate change) at hand require particular financial or other economic burdens from participating states (with case studies on India, Brazil, South Africa). They are hence a particularly interesting case for assessing the readiness of emerging powers to take on “responsibility”.

**ID542.**

## While Nations Talk, Which Cities Act?

*Marielle Papin<sup>1</sup>, Jacob Fortier<sup>2</sup>*

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Global urban climate governance has gained prominence over the last decades. Its most important actors are cities, and transnational municipal networks (TMNs). Climate TMNs are structures cities from different countries create or join to exchange good practices, discuss climate related issues or collaborate on projects tackling these issues. TMNs voice cities’ concerns in international forums. Through their different governance functions, they are likely to impact their member cities’ climate actions, as well as that of other actors involved in urban issues.

While scholars have looked at TMNs and cities individually, the literature lacks analyses of these actors as a group or a system. We notably have little understanding of the composition and inner dynamics of this system, including

who has the most influence. This issue is crucial to better understand who and whose ideas might affect global climate action, however. We thus ask the question: who dominates global urban climate governance?

Our study is descriptive and analytical. Using a political economy lens, we conduct a social network analysis of 15 TMNs and the constellation of actors surrounding them, including cities and non-city actors, and a qualitative cross-case analysis of the selected TMNs. This analysis is a necessary preliminary step to understand the composition and inner dynamics of global urban climate governance. Results emphasise the visibility of certain types of cities in TMN membership, and of non-city actors in TMN partnership. Small and middle-size cities are the most numerous in TMN membership, yet not the most visible. Those appear to be cities that appear in two or more TMNs and which are most often global cities. Our analysis also reveals important differences between membership from the Global North and membership from the Global South. Many member cities from the Global South are global, and the presence of ordinary cities from the Global South is marginal. While often ignored by the literature, non-city actors seem to play an increasing role in global urban climate governance. Future studies need to analyse and measure their impact on the way cities govern climate change.

Our study is in line with ESG's architecture and agency research lens, since it looks at TMNs as structures of global urban climate governance. It also talks to the democracy and power lens, underlining the influence non-city actors might have on cities and their climate actions.

**ID655.**

### **Resisting change. How oil multinationals justify abandoning their renewable energy businesses?**

Elena C Pierard

*University of Oxford, Oxford, United Kingdom*

Climate change has prompted energy systems to innovate into new and cleaner technologies to solve excess CO<sub>2</sub> emissions. For nearly 20 years now, oil multinationals as large energy players have both acquired and abandoned renewable energy companies, often following policy opportunities or their demise. To date oil companies have made little progress overall to advance their businesses in cleaner technologies despite having held significant resources over time, prompting to question the role oil multinationals have played in the energy transition, as well as the use of policy and state aid mechanisms by this type of players.

Using a database of 3,000 financial deals for a sample of seven oil major companies in Europe, we analyse the merger and acquisitions waves of alternative technologies to oil, as well as the chains of investment disposals. In order to identify the policy contexts associated to each deal, we coded and selected all renewable energy deals. We then complemented the 221 resulting deals with its associated press release, and manually coded explicit mentions to forms of state aid and policy for three main renewable technologies: solar, wind and biofuels.

The data allows to compare similar companies' investment behaviour per technology to show how oil multinationals renewable investment behaviour varies with different state aid mechanisms, its behaviour across regions, and

how oil multinationals use shifts in government support to justify abandoning their renewable energy businesses and resist change over time. In the grip of mounting climate pressure, we are now starting a new wave of renewable energy investments by oil multinationals. This research will provide concepts and tools to assess if the current investment wave is different from past.

## Panel ID 130

### Governance of nature: synergies, performance and challenges

Parallel Panel Session 5,  
Wednesday 8<sup>th</sup> September 2021,  
13:00-14:30 CEST

Chair: Eduardo Gallo

## ID221.

### Nature-based solutions with co-benefits: maximizing synergies across climate and biodiversity action agendas

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The world stands before a double challenge: to reverse the trend on biodiversity loss and to respond to accelerating climate change. Current state-centered governance is falling woefully short on both challenges. Governments need to step up their ambition both under the UNFCCC and the Convention on

Biological Diversity (CBD). At the same time, much vision and ambition can be found beyond the (inter)governmental sphere of governance. Thousands of non-state and subnational actors have committed to their own collaborative efforts to bend the curve of species loss, to reduce greenhouse gases, and to aid adaptation to already occurring impacts of climate change. The enormous potential of non-state and subnational actors to contribute to both challenges has increasingly been acknowledged in the UN system. Both the UNFCCC and the CBD have built platforms to elicit efforts additional to those of states through high-level mobilization efforts, notably the Global Climate Action Agenda and the Sharm El Sheikh to Kunming Action Agenda for Nature and People.

This paper discusses the role of local and non-state nature-based solutions with co-benefits to global biodiversity and climate action agendas. The focus is on the Global Climate Action Agenda and the Sharm El Sheikh to Kunming Action Agenda for Nature and People. Through a review of the literature followed by a first-cut analysis of nature-based cooperatives and initiatives, our goal is to identify knowledge gaps and key challenges to effectiveness in building synergies across platforms. We conduct an empirical analysis of the nature-based cooperatives and initiatives, and their linkages to the UNFCCC and CBD platforms. The analysis of the cooperatives and initiatives is based on governance criteria, such as lead actors, funders, and location where implementation takes place. In light of the empirical analysis and an overview of the main issues, we discuss governance and policy challenges for maximizing synergies across action agendas, and make recommendations for policy and for future research.

ID326.

## Addressing green and atmospheric water in global environmental governance

*Sofie A. te Wierik, Joyeeta Gupta*

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Increasing water scarcity is driven by population growth, economic growth, urbanization, technological development and climate change. However, when addressing the impact of these drivers, this seems to be based solely on blue water despite our growing understanding of the systemic nature of water, which is embedded within a complex system of land-vegetation-climate interactions. This accordingly leads to the risk of overseeing the majority of the fresh water, as well as underestimating the impact of these drivers on the hydrological cycle on local to global scales. Hence, we argue that there is a need to revise the framework that addresses water issues in global environmental governance.

In this research, we first address the question why it is relevant to expand water governance research and policy to include green and atmospheric water. Green water, which is the water in the soil comprising approximately half of the available terrestrial fresh water, and atmospheric water, which is all water in the atmosphere. Subsequently, we address the limited focus on green and atmospheric water in global environmental governance by applying a content analysis on three major earth system governance assessments that shape the current environmental research and policy agenda: Intergovernmental Panel for Climate Change (IPCC), the Global Environmental Outlook (GEO), and the Intergovernmental Science-Policy Platform on

Biodiversity and Ecosystem Services (IPBES). Furthermore, we analyze the goals, targets and indicators of relevant Sustainable Development Goals (SDG). We examine only the latest reports, by searching for both explicit and implicit reference to water governance and related terms, as well as descriptively analyzing the indicators used to address the impact on water resources.

Through this analysis, our preliminary findings show that a) the impact of drivers on green and atmospheric water are less addresses in comparison to blue water; b) green and atmospheric water are implicitly addressed via land use assessments; and c) recommendations following the assessments regarding research and policy subsequently do not explicitly address green and atmospheric water. We conclude that, considering the increasing anthropogenic interventions in the hydrological cycle, global environmental governance assessments should include indicators that address water beyond blue water subset. Accordingly, we need to better understand how the drivers influence the systemic nature of water, what are the implications for nature and society, and which instruments would be suitable for the governance of green and atmospheric water.

**ID544.**

**Governance challenges to wicked land-use related sustainability problems: A framework of analysis with empirical illustrations from soil subsidence in peatland areas in the Netherlands**

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Netherlands*

Unsustainable land use is a worldwide phenomenon that appears in different forms, with various levels of intensity, and for short to long time periods. A commonality is that unsustainable land uses offer a potential nurturing ground for complex sustainability problems like soil subsidence, land degradation and loss of biodiversity. Experience shows that land-use related sustainability problems are complicated to deal with, as they typically involve different stakeholders with conflicting land-use claims that do not easily arrive at a shared understanding of the problem or reach consensus on solutions. It is due to this strong normative aspect that environmental governance scholars have labeled land-use related sustainability problems as ‘inherently wicked’. Yet the longer it takes for a sustainability problem to be tackled, the longer it is warranted to keep slumbering and accumulating into a creeping crisis that carries the potential for great societal disruption. A thorough understanding of which governance challenges these wicked sustainability problems face is required to develop an effective and legitimate governance approach. However, the literature has described governance challenges to wicked sustainability problems in a rather general and abstract way

hitherto. To address this knowledge gap, the current paper presents a framework to analyze the governance of slowly developing land-use related sustainability problems, drawing on literature on ‘wicked problems’ and ‘creeping crises’. We illustrate the analytical added value of the framework by operationalizing it for and applying it to the sustainability problem of soil subsidence in peatland areas in the Netherlands. The cause of soil subsidence in these areas is peat oxidation - a process that occurs when water levels are artificially lowered. In the Netherlands, this form of water management to enable agricultural activity on marshy land has been practiced since the Middle Ages. Over the years, however, soil subsidence has led to threats like increased flood risk, damage to infrastructure and buildings, loss of biodiversity and GHG emissions. It exemplifies a wicked problem that governments find difficult to address, but which, in the absence of an effective strategy, can eventually evolve into a creeping crisis. In that context, we are currently conducting empirical research to examine the governance challenges to soil subsidence in Dutch peatland areas. We expect that applying an analytical framework that combines insights of two bodies of literature (on the wickedness of sustainability problems and creeping crises) enables a better understanding of governance challenges to this – and other – sustainable land-use problems.

ID627.

### **Delivering on their goals? Conditions for effective performance of international collaborative initiatives for biodiversity**

Katarzyna Negacz, Matilda Petersson, Oscar Widerberg, Philipp Pattberg

*IVM-VU Amsterdam, Amsterdam, Netherlands*

National governments have largely failed to halt biodiversity loss and to live up to their promises made within the Convention on Biological Diversity (CBD). The CBD has often been described as “gridlocked”, slow, and ineffective for addressing biodiversity loss. In parallel to the state-led efforts within the CBD, a complex landscape of international collaborative initiatives, involving both state and non-state actors, has emerged over the last decade. This in turn, has created an increasingly complex but also promising governance landscape, whereby initiatives may complement efforts by governments.

In this paper, we argue that meaningful contribution of these international collaborative initiatives to the state-led conservation efforts under the CBD depends on the initiatives’ ability to fulfil their own goals. Collaborative initiatives undertake a wide variety of actions to improve conservation and sustainable use of biological resources. Even though their individual contributions may not have a direct significant impact on the overall state of biodiversity, the sum of their goals and commitments can create synergy effects. Therefore, there is a growing need to evaluate their ability to deliver on their stated goals and identify conditions supporting and hindering their success.

In this study, we systematically evaluate the ability of international cooperative initiatives operating within biodiversity governance to achieve their stated goals. Drawing on the latest developments in the literature on transnational governance and multistakeholder partnerships, we apply a framework to examine conditions under which the initiatives can implement their goals. We test the framework empirically on a dataset of more than 300 biodiversity initiatives collected via semi-automated content analysis and validated through expert interviews. Based on our results, we formulate recommendations on how biodiversity initiatives can be supported in achieving their goals.

The preliminary results reveal an increasing number of hybrid initiatives accompanied by a good implementation of accountability mechanisms, which are supporting factors. At the same time, effective leadership and sustained funding, pose challenges, which may hinder the progress in halting the biodiversity loss. We discuss these findings in relation to ongoing policy debates within the CBD as well scholarly debates on the changing nature of transnational governance and emergence of collaborative initiatives.

## Panel ID 133

## Conservation governance and institutions

Parallel Panel Session 3,  
Tuesday 7<sup>th</sup> September 2021,  
16:30-18:00 CEST

Chair: Ingrid Visseren-Hamakers

## ID81.

### Transforming land governance in northeastern Madagascar through transdisciplinary research?

*Julie G. Zähringer<sup>1</sup>, Flurina Schneider<sup>1</sup>, O. Ravaka Andriamihaja<sup>1</sup>, Jorge C. Llopis<sup>1</sup>, Enrico Celio<sup>2</sup>, R. Ntsiva N. Andriatsitohaina<sup>3</sup>, Zo H. Rabemananjara<sup>3</sup>, Patrick Laby<sup>3</sup>, Bruno S. Ramamonjisoa<sup>4</sup>, Clara L. Diebold<sup>1</sup>, Peter Messerli<sup>1</sup>*

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Reconciling economic development with the sustainable management of natural resources in poverty-prone contexts remains one of the most wicked global sustainable development challenges. Tropical forest landscapes not only have to meet people's immediate livelihood needs and their broader development aspirations. They are also expected to provide environmental benefits through biodiversity conservation or carbon storage to people worldwide. This leads to conflicting global and

local claims on land, triggering land use change processes with often irreversible impacts on the environment and substantial changes to people's lives. Therefore, the question of how to transform currently unsustainable land use change processes through improved land governance in tropical forest landscapes is key.

We explore this question using the example of north-eastern Madagascar, a context, which has been receiving much attention from international researchers, development practitioners, and stakeholders involved in commodity trade (e.g. of vanilla, clove) for decades. This is due to the region's high levels of endemic biodiversity and important forest carbon stocks threatened by ongoing deforestation, important development challenges related to health, education, and infrastructure, as well as the favourable climate for cash crop production. At the same time, the quasi-absence of the Malagasy state in the governance of these different claims has led to a somewhat inscrutable situation of international and national stakeholders pushing their individual agendas. Over the last five years, we have been involved in inter- and transdisciplinary research approaches implemented through an international research partnership, to disentangle these complex interlinkages between global and local land use decision-making and the impact of local land use changes on human wellbeing and the environment. To do so, we applied a flow-centered approach to investigate stakeholders' social networks and power relations. Our results, framed through a telecoupling lens, show how conflicting demands on land by stakeholders from different sectors and scales lead to strong competition over land resources. Furthermore, resulting land use changes from shifting cultivation to permanent agroforestry systems for cash crop production led to diverse

outcomes for locally defined human well-being and entail pronounced sustainable development trade-offs. Based on this "systems knowledge", we are currently engaged in co-designing transformative activities together with diverse stakeholders towards improving land governance in the region. In this paper, we attempt to provide a synthesis of interdisciplinary research results and of successes and failures related to a transdisciplinary research process, which aims at actively contributing to the transformation of land governance in north-eastern Madagascar.

**ID426.**

### **Institutional architecture, conservation, and livelihoods in the Caucasus**

*Owen Cortner, Rachael D Garrett*

*ETH Zurich, Zurich, Switzerland*

Since the dissolution of the Soviet Union in 1991, the Republic of Georgia has experienced major political, economic, and social upheavals. It is in the heart of the Caucasus region, a cultural crossroads, a crucial transit route for energy from the Caspian basin to European markets, and a Conservation International biodiversity hotspot and WWF global 200 ecoregion. Institutional architectures have changed significantly in Georgia since the end of the Soviet era, yet they are still tinged with the legacies of that period. With evolving legal and government arrangements, liberalizing markets with new foreign actors including land buyers, and overlapping challenges in conservation and livelihoods, Georgia presents an opportunity to understand the effectiveness of different types of governing architectures and agencies.

Using institutional analysis and system mapping combined with data on land prices, credit creation, and forest disturbance, we examine how changes in institutional arrangements over the last three decades have impacted forests, agriculture, and related livelihoods. By examining connected changes in land tenure, credit creation, and market structures, we show that in contrast to the Soviet period, earth system governance is now more contested, complex, fragmented, and polycentric. Future scenarios for climate change adaptation, biodiversity conservation, and social wellbeing will depend on the path taken by actors within Georgia's physical boundaries but also outside it as the movements of capital, ideas, people, and goods continues to grow.

**ID492.**

### **Conservation governance for migratory shorebirds in the Asia-Pacific is fit for habitat protection but not for hunting management**

*Eduardo Gallo-Cajiao<sup>1,2</sup>, Tiffany H. Morrison<sup>3</sup>, Richard A. Fuller<sup>1</sup>*

<sup>1</sup>*University of Queensland, Brisbane, Australia.*

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Solving environmental problems across more than one country usually entails governance systems with sets of multiple institutional arrangements. Social-ecological fit, generally understood as the degree to which governance systems account for biophysical dimensions, has emerged as a normative tenet of environmental governance. Migratory species, given their long-range movements, can include multiple countries as part of their life cycle. These taxa have been declining around the world and governance systems have now

emerged for their conservation. The social-ecological fit of governance systems for conserving migratory species have, however, received little scholarly attention from an empirical standpoint using spatially explicit approaches at the macro level. Here we address this gap using migratory shorebirds in the Asia-Pacific as a case study. We focus on the two main threats (i.e., habitat loss and hunting) to migratory shorebirds, using a mixed-methods and comparative approach. We first identify the specific governance architectures, including the actors and institutional arrangements, for the two different threats. We then assess the coordinating capacity of each architecture, measure their institutional coverage for each migratory shorebird species across their corresponding range states, and determine the degree of institutional connectivity for the migratory network of select taxa. We show that social-ecological fit is higher for the governance of habitat designation than for the governance of hunting management. Scientists and policymakers could perhaps now shift to an implementation-focus in the case of habitat protection, but further institution building to address hunting.

**ID604.**

**Creative spaces for Seed Commons through alternative social practices: Maintaining, resisting or changing institutions**

Julia Tschersich

*University of Oldenburg, Oldenburg, Germany*

Research on social movements and political change tends to overlook forms of everyday resistance or quiet activism. Seed Commons initiatives counter dynamics of seed enclosures and commercialization, by pursuing alternative

practices related to community-based conservation and breeding. This paper applies the approach of ‘institutional work’ to assess how such everyday social practices of Commoning in seed initiatives maintain, reject, change or create institutions, and thereby contribute to institutional change or persistence. A comparative case study of six initiatives in Europe and the Philippines reveals the high degree of agency of Seed Commons initiatives and their capacity to reinterpret, chose from or resist external institutions. The use of gray areas and informal spaces through everyday practices is essential for preserving and widening the initiatives’ scope of action and preventing the extension of regulations that could further restrict their legal space. At the same time, acting within the existing set of rules means contributing to their maintenance and strengthening them implicitly. Hence seed initiatives should be conscious about their actions and potential political effects. At the same time, by demonstrating the viability, desirability and achievability of alternatives, Seed Commons initiatives especially in the Philippines have succeeded in pushing for the recognition of some of their social practices as alternatives in national policies. Not adopting policies and developing alternative practices on the ground can be a strong form of everyday resistance, especially when initiatives promote alternative values and norms that challenge the logics of the existing system.

**ID124.****Transformations in grassroots global conservation governance and implications for human security: insights from Kenya**Jeremiah O Asaka*Sam Houston State University, Huntsville, TX, USA*

Global conservation governance is characterized by change and continuity. This paper is a case study of grassroots global conservation governance in Kenya. The paper's governance analysis is specifically focused on three parameters: approach, actor, and knowledge. It is based on key informant interview and household survey data from fieldwork conducted in the country during the months of June, July and August 2016. The paper documents, among others, how the governance of wildlife conservation in Kenya has transformed since the first world conservation strategy of 1980. Beyond documenting transformations in conservation governance, the paper also discusses actual and potential implications of the same for human security of indigenous Samburu pastoralist community, which has long shared its land with wildlife. With regards to human security, the paper argues that the noted transformations present a mixed bag of opportunities and challenges to the land-dependent Samburu pastoralists. It notes that the greatest challenge concerns how to ensure a healthy balance between pastoralism and conservation – two currently competing yet vital land use types in the region. A review of literature published over the past decade reveals that much of the recent resource-related conflict in this region is attributable to the competition for land between pastoralism and conservation. Other factors that drive

conflict in the region include political incitement, warrior culture, inter-ethnic rivalry, proliferation of small arms, and climate variability among others. Finally, the paper suggests possible paths to a sustainable and less-conflicted future that will benefit both nature and society.

## Stream 2

### Democracy and Power

#### Panel ID 20

#### Democratic innovation and innovation in the Anthropocene

Parallel Panel Session 4,  
Wednesday 8<sup>th</sup> September 2021,  
9:00-10:30 CEST

Chair: Jasper Finkeldey

#### ID152.

#### Assemblage-democracy: reconceptualising democracy through material resource governance

Will Eadson<sup>1</sup>, [Bregje van Veelen](#)<sup>2</sup>

<sup>1</sup>Sheffield Hallam University, Sheffield, United Kingdom. <sup>2</sup>Durham University, Durham, United Kingdom

At a time where many feel that existing political structures and institutions are insufficient for governing the complexities of modern-day life, there has been a proliferation of civic demands for democratisation of energy, water, food, and other material resources. These calls indicate a desire to transform how societal needs are provided, controlled, and owned, and act as ‘loci of hope’ for achieving a more desirable and equitable future. However, while activists increasingly using the language of democracy to advocate for a transformation of the social, economic and political relations enacted through the governance of these resources, it often remains unclear what form or purpose such new, material, forms of democracy should take.

Conventional democratic theories are equally challenged by recent and ongoing environmental crises and subsequent calls for these materially grounded forms of democracy. In particular, the continued prevalence of democratic theories that are centred on institutional forms of democracy limits our ability to grapple with democratic experiments of resource governance that are not firmly rooted in institutionalised democracy. For us, an integral aspect of the issue of democratic innovation is thus the development of new analytical and conceptual tools for understanding democratic governance.

In this paper we therefore seek to disconnect “democratic idea(l)s from their specific institutionalised semantics” and explore how such a process of disconnection can foster us to rethink and broaden the possibilities of connections between democracy and resource governance. We do so by exploring how an assemblage lens can offer new insights in these emergent democratic projects, and the ways in which they seek to enact democratic resource governance. Assemblage-democracy (our term for democracy from an assemblage perspective) is an emerging concept that has not yet been fully explored. Here we seek to develop this concept through a materially-grounded approach, focused on experiments in energy governance. We develop our conceptualisation through an empirical investigation of community energy projects in the UK, the type that are often deemed to be at the heart of energy democracy visions.

Our ‘assemblage-democracy’ perspective adds to existing thinking on (energy) democracy in three particular ways: it frames materiality as central to the concept of democracy; it emphasises connectivity; and it explores the role of scales and networks of assemblages in

producing wider movements towards democratic horizons.

### **ID223.**

## **Material Participation, Democratic Transformations, and the Politics of Sustainable Practice**

David Schlosberg

*University of Sydney, Sydney, Australia*

Environmental movements of practice – the development of local food systems, sustainable fashion, and community energy, for example – are an important and growing area of environmental engagement. Their focus is on the sustainable flows of materials through individuals, communities, and nonhuman systems. Activists in these movements are often motivated by desires for participation and procedural justice, but these recent notions of participation are often material in nature, and practice-based. Classic notions of political participation or procedural justice are mainly instrumental – we vote for an specific outcome, participate toward an end, or protest to get a message across and change policy. The idea of participation in sustainable materialist movements, however, is articulated as a demand for *material* participation; activists repeatedly emphasise the importance of increasing community *involvement* in the *production and flow* of the basics of everyday life, including energy. This is not only a demand for classic political participation, but an insistence on a sense of material participation, social inclusion in the very flows of food, energy, or other goods and things through bodies, communities, and lives. Material participation is about *doing*. Such a sense of material participation exists in these movements alongside more traditional democratic processes of participation and the

desire for procedural justice. This talk will examine this focus on a more material notion of political participation both theoretically and as articulated by historical and contemporary movements. It makes the argument that material participation illustrates a very political implementation of the concept of new materialism – a sustainable materialism. And it explores this notion and practice against the accusations that both new materialism and “lifestyle activism” are apolitical or post-political.

### **ID228.**

## **Living frameworks: institutional design for the Anthropocene**

Jonathan Pickering

*University of Canberra, Canberra, Australia*

The unstable conditions of the Anthropocene – an emerging epoch characterised by pervasive human influence on the Earth system – pose a troubling dilemma for the design of political institutions. On the one hand, institutions need to be flexible enough to respond to rapid changes in social-ecological conditions such as wildfires, floods or species collapses. On the other hand, institutions need to be stable enough to protect long-term interests, including the wellbeing of young people and future generations and the flourishing of ecosystems threatened by biodiversity loss. Placing a democratic lens over this dilemma raises further complex questions, including whether strategies to safeguard long-term interests (e.g. constitutionally entrenching the right to a healthy environment) are at odds with future citizens’ democratic prerogatives to rebalance environmental and other priorities as they see fit. Conversely, failure to institutionalise the protection of long-term interests could undermine the environmental

preconditions that enable people to meet their basic needs and thereby have the capacity to participate in democratic practices.

This paper aims to explore whether the creation of 'living frameworks' can help to achieve a democratically legitimate reconciliation of the dilemma outlined above. Living frameworks comprise robust legal or policy parameters for the protection of long-term social-ecological interests, coupled with periodic review of those parameters and their implementing arrangements in the light of shifting social-ecological conditions. Living frameworks could be seen as a form of governance innovation and also as a means of 'exnovating' existing practices that are revealed by periodic review to be unsustainable or undemocratic. Building on a brief account in literature of living frameworks, I begin with a conceptual account of the compatibility of living frameworks with principles of democratic legitimacy, drawing on theories of deliberative democracy and reflexive governance. I then set out a typology of living frameworks that spans (i) policy instruments that could constitute building blocks for these frameworks, and (ii) political conditions that may either foster or stymie the functioning of those frameworks. I then apply this typology to multilateral institutions for Earth system governance, examining first the extent to which the Paris Agreement on climate change displays elements of a living framework, then exploring possibilities for the post-2020 global biodiversity framework under the Convention on Biological Diversity to serve as a living framework. The paper concludes with a range of policy recommendations for the design of living frameworks.

## Panel ID 201

### The power and limits of transparency

Parallel Panel Session 1,  
Tuesday 7<sup>th</sup> September 2021,  
8:30-10:00 CEST

Chair: Shruti Neelakantan

## ID234.

### Can transparency help to close the adaptation gap under the Paris Agreement?

Timo Leiter

*London School of Economics and Political Science, London, United Kingdom*

The Paris Agreement has given new impetus to efforts to address climate change, but the gap between current emission levels and what is needed to reach the temperature targets of 2°C or 1.5°C is grossly inadequate. Increasing climate impacts point to the need for greater adaptation to climate change which likewise faces a gap in implementation despite economic benefits of early action. The bottom-up structure of the Paris Agreement which builds on self-determined national pledges requires a solid review mechanism to be able to assess whether the combined pledges are sufficient to achieve the goals agreed in Paris. The transparency framework and the Global Stocktake under the Paris Agreement are designed to build trust and provide clarity on countries' aims and achievements in the hope of leading to a virtuous cycle of increasing ambition. Literature on transparency has been largely critical about its potential to drive ambition in global climate governance. However, most of this literature has focused only on mitigation of greenhouse gases which is concerned with governance of a global public

good. There is no systematic assessment to date about the specifics of transparency of adaptation which is more local and context-specific, and how these characteristics affect the ability of transparency to influence adaptation outcomes. The present paper will therefore investigate how transparency of adaptation differs from mitigation in substance and procedural aspects under the Paris Agreement, and what this means for transparency as a mechanism to drive ambition. From a governance perspective, the focus on adaptation is particularly interesting since all respective transparency provisions of the Paris Agreement are entirely voluntary. Hence it is pertinent to examine motivations to engage, what countries have communicated on their adaptation efforts so far, what they could communicate under the transparency rules of the Paris Agreement as specified in the Katowice Rulebook, and which pathways might lead to an improvement in adaptation ambition. This paper therefore contributes to the research question “under what conditions does transparency contribute to more accountable and legitimate earth system governance?” as defined in ESG’s 2018 science and implementation plan under the research lens “Democracy and Power” (p.55).

**ID608.**

### **Assessing state compliance with multilateral climate transparency requirements**

Romain Weikmans<sup>1</sup>, Aarti Gupta<sup>2</sup>

<sup>1</sup>*Université Libre de Bruxelles, Ixelles, Belgium.*

<sup>2</sup>*Wageningen University and Research, Wageningen, Netherlands*

Transparency is increasingly central to multilateral climate governance. In this paper, we undertake one of the first systematic assessments of the nature and extent of compliance with transparency requirements under the United Nations Framework Convention on Climate Change (UNFCCC). Extensive resources are now being devoted to setting up national and international transparency systems that aim to render visible what individual states are doing with regard to climate change. It is widely assumed that such transparency is vital to securing accountability, trust and thereby also enhanced climate actions from all. Yet, whether transparency lives up to this transformative promise remains largely unexamined. We generate a first systematic overview here of the nature and extent of state engagement with and adherence to UNFCCC transparency requirements. Drawing on extensive primary documents, including national reports and technical expert assessments of these reports, we generate ‘Transparency Adherence Indices’ for developed and developing country Parties to the UNFCCC. Our results reveal wide variations in adherence to mandatory reporting requirements, and no clear general pattern of improvement since 2014. Our Indices help to illustrate trends and highlight knowledge gaps around the observed adherence patterns. This is timely, since the 2015 Paris Agreement calls for an ‘enhanced

transparency framework' to be implemented by 2024 that builds on existing UNFCCC transparency systems. We conclude with identifying a research and policy agenda to help explain observed patterns of adherence, and emphasize the need for continued scrutiny of assumed links between transparency and climate action.

**ID612.**

### **Disclosure or obfuscation in climate finance? Assessing performance in multilateral transparency arrangements**

Robert Bergsvik, Ina Möller, Aarti Gupta

*Environmental Policy Group, Wageningen University and Research, Wageningen, Netherlands*

Ambitious climate action by developing countries hinges on the provision of climate finance from developed countries. Elaborate transparency arrangements are set up by the United Nations Framework Convention on Climate Change (UNFCCC) to track climate financing provision and receipt. The assumption is that these arrangements provide countries and the international community with the necessary tools to hold each other accountable for their actions and conduct in this realm. However, the relationship between transparency and accountability is more assumed than empirically proven, including in the area of climate financing. While there are several non-state tracking initiatives for climate finance, it is essential to interrogate what countries themselves reveal in these dedicated multilateral transparency processes. This article studies what countries make visible in their transparency reports and how reporting under the UNFCCC transparency arrangements is furthering accountability. It

builds on the analytical framework of Ciplet et al. (2018) that interrogates transparency's transformative power in the realm of climate finance. This framework argues that specific norms dominate the uptake of climate finance transparency and subsequent accountability mechanisms. Their cascade and implementation significantly impact the transformative capability of transparency in shedding light on the delivery of adequate and equitable climate financing. We build on this analysis by focusing on what countries are disclosing to each other about climate finance through participation in UNFCCC transparency arrangements. The article focuses on both developed and developing countries, and includes participation in all stages of the arrangements, including a final face-to-face public account-giving session. The analysis focuses on eighteen countries that have completed a full UNFCCC reporting and review cycle in the period 2014-2020: Australia, Bangladesh, Canada, China, France, Germany, India, Indonesia, Jamaica, Japan, Mauritania, the Netherlands, Norway, Papua New Guinea, South Africa, Togo, the UK, and the US. There have been four cycles of reporting and review where these countries have participated, although to varying degrees. The methods consist of analyzing countries' reports; the reviews/analyses of submitted reports by technical experts; and video recordings of face-to-face account-giving sessions. Qualitative coding is applied to identify themes and patterns related to state-to-state reporting on climate finance within these arrangements, a gap in the literature thus far. As the 2015 Paris Agreement relies on similar arrangements, critical interrogation is needed of how countries perform with regard to reporting on climate finance; and whether and how this helps to further (what type of) accountability of donor and recipient countries.

**ID613.**

### **The (in-)transparency of negative emissions: Rendering visible how countries aim to realize aspirational Net-Zero emission targets**

*Heather L Jacobs<sup>1</sup>, Ina Möller<sup>2</sup>, Aarti Gupta<sup>2</sup>*

<sup>1</sup>*World Bank, Washington, DC, USA.*

<sup>2</sup>*Wageningen University and Research, Wageningen, Netherlands*

The recent flurry of mid-century net-zero emissions targets across the globe represents a shift from a decade ago when discussions were focused on emissions in 2100. This momentum provides the impression of increased ambition; however, it is problematic. The very goal net-zero targets seek to achieve runs the risk of lowering ambition and action in the short-term. Observers have criticized that the 2050 targets distract from short-term climate action, and that the apparent increase in ambition relies on large amounts of speculative negative emissions technologies. To avoid a situation in which countries make promises that they cannot deliver, it is important to better understand the relationship between long-term and short-term climate commitments. This paper provides an overview of challenges identified in preliminary assessments of first round net-zero targets, examines concerns posed by the lack of concrete plans to achieve these targets, and interrogates the assumption that this momentum necessarily entails greater action. The paper studies the relationship between long and short-term commitments in the case of the G20 countries. It compares the content of the climate commitments that these countries have made for 2050 with 2030, and with policies that they have implemented to kick-start economic recovery following the Covid19 pandemic. It then compares the institutional settings and mechanisms in which

governments are held accountable for the various commitments. The paper highlights substantial discrepancies between the long-term climate commitments, short-term Covid19 recovery policies, and nationally determined contributions of G20 countries. It examines discrepancies between short and long-term targets with regard to negative emissions technologies. Global projections rely on extensive deployment of these technologies to achieve the ambitious 1.5 target, which may increase the potential for mitigation deterrence. Scenarios focused on using these technologies may disincentivize the urgency of meeting 2030 goals while providing highly uncertain predictions. The paper also shows how differences in the ambition of long-term, mid-term and short-term climate targets are subject to very different mechanisms of accountability. There exists no formal link between long-term and short-term goals considered in UNFCCC transparency agreements, without which countries can be expected to commit to more conservative short-term goals while planning for long-term visionary and aspirational strategies. The paper contributes an important analysis of the institutional settings that shape long-term and short-term climate policies and highlights the need for accountability mechanisms that scrutinize the compatibility of these climate targets and policies.

ID623.

## Opening the Black Box of Transparency in Multilateral Climate Governance: Causal Pathways of Reporting and Review

Harro van Asselt<sup>1,2</sup>, Romain Weikmans<sup>3</sup>, Antto Vihma<sup>4</sup>, Ellycia Harrould-Kolieb<sup>1</sup>

<sup>1</sup>University of Eastern Finland, Joensuu, Finland. <sup>2</sup>Utrecht University, Utrecht, Netherlands. <sup>3</sup>Université Libre de Bruxelles, Brussels, Belgium. <sup>4</sup>Finnish Institute of International Affairs, Helsinki, Finland

Transparency, in the form of regular reporting by nations and expert and multilateral peer review, has become a backbone of the international climate change regime. Although reporting and review have been part of the implementation of the United Nations Framework Convention on Climate Change (UNFCCC) since its inception, with detailed obligations for developed countries, their effects have been highly contested, and compliance has been mixed. The explicit emphasis on transparency in the 2015 Paris Agreement is therefore of particular interest. Whereas previous reporting and review processes under the UNFCCC mainly focused on developed countries, the Paris Agreement is applicable to all Parties, whilst providing flexibility to developing countries with limited capacities.

The hope is that transparency can indicate whether the level of collective efforts undertaken by countries is adequate to address climate change, by shining a light on what countries do individually. However, very little is still known about whether and how such transparency arrangements bring about effects such as increased ambition, stronger policies and/or greater accountability. International

regime theorists suggest that reporting and review can help promote compliance with international agreements. According to the ‘managerial school’, reporting and review can provide insights into the root causes of non-compliance, which can help bring a state back into compliance. Moreover, reporting and review can influence state behaviour, by giving states information on whether they are achieving their policy objectives, providing other states information that allows for diplomatic responses, offering non-state actors information that can generate domestic pressure, and facilitating learning.

This paper aims to open the black box of transparency in multilateral climate governance by identifying the causal pathways through which transparency arrangements, such as reporting and review, can contribute to improved international and national climate governance. The paper will present a theoretically informed analytical framework that distinguishes several ideal-typical causal pathways through which reporting and review leads to certain procedural effects (e.g. empowering certain stakeholders) and substantive effects (e.g. improved reporting, climate policy changes, increasing ambition), and specify the role of various actors (e.g. governments, civil society organisations, international organisations) in each pathway. In doing so, the analytical framework will form an important bridge between international regime theory, critical transparency studies and empirical studies on the functioning of multilateral transparency arrangements.

## Panel ID 202

### Future generations and nature's futures: rights and representation

Parallel Panel Session 2,  
Tuesday 7<sup>th</sup> September 2021,  
10:30-12:00 CEST

Chair: Michael Rose

#### **ID38.**

### **Rights of Nature v Rights of Future Generations**

L.E. Burgers

*University of Amsterdam Faculty of Law,  
Amsterdam, Netherlands*

The Anthropocene has painfully slapped humankind in the face. Human activities transform the earth we live on to our own detriment. It has been analysed how our current legal-political system suffers from 'pathological path dependency' and that the politics of the Anthropocene needs to be redirected so as to cross national boundaries and to include future generations and non-humans [Dryzek&Pickering2018]. The latter two are addressed in this paper.

In available literature on environmental governance, nature and future generations are often mentioned in one breath. Likewise, transnational legal practice shows both a growth in emerging *rights of future generations* and a global emergence of *rights of nature*. Many instances of climate change litigation form attempt to enforce such rights. Relatively little attention is paid, however, at the conceptual, theoretical and practical differences between these two categories: future generations and nature. Whereas rights of future generations might help us to better anticipate for the coming centuries, rights of

nature require an inclusive and empathic imagination that surpasses anthropocentrism. Both future generations and nature can only be enfranchised with the aid of representation, but different theoretical problems may be at play for each of the two categories, as is visible in legal practice of courts.

The paper's methodology is characterised by combining legal practice with political theory on deliberative democracy and representation. In a substantive introduction, Nancy Fraser's work on the transnational public sphere will be connected to Dryzek & Pickering's *Politics of the Anthropocene*, underlining the relevance of enfranchising future generations and nature in the legal-political system (Section A). The paper subsequently turns into the legal-conceptual and theoretical differences between the two, demonstrating that it matters whether we speak of group or individual rights when we represent future generations or nature in our legal-political system (Section B). That these theoretical submissions hold true in practice is showcased with the aid of various instances where future generations and nature were represented in court cases on climate change (Section C). The paper ends with some concluding remarks.

#### **ID219.**

### **Designing fair and inclusive institutions for future generations: lessons from the capability approach**

Nicky van Dijk

*University of Tasmania, Hobart, Australia*

It is widely accepted that the current generation has some obligations towards people alive in the future, but the precise scope and nature of these obligations are

underspecified. Should we protect a safe climate and clean air for future people, or also for example wilderness areas and places of cultural significance? And to what extent should we preserve, change or build these resources for future people? Theorising about such intergenerational obligations is important because it is unlikely that our short-term focused democratic process can consider the interests of future people in a fair and unbiased way. Especially now we face the current climate emergency, neglecting or delaying an adequate governmental response to climate change will have an immense impact on the quality of essential living conditions and opportunities of young people growing up and of future generations.

This paper aims to analyse the intergenerational obligations of state governments facing a climate emergency, and discusses how this improved understanding of our intergenerational obligations could inform institutional and legal reform proposals aiming to improve the representation of young people and future generations in our democratic system. To do so, first, this paper uses the Ingrid Robeyns' modular framework of the capability approach as a theoretical lens. Following the approach's central focus on human agency and diversity, it identifies the most essential interests of future people through analysing self-proclaimed essential values of groups of people over time. Acknowledging individual diversity is important, as honouring this could prevent institutionalising a bias towards majority or privileged groups in society into the future. It combines currently existing capability and human rights lists with grassroots literature, to ensure the inclusion of currently underrepresented groups, and groups that are specifically vulnerable to the impacts of climate change, such as First Nations Peoples. Second,

this paper applies lessons learnt from analysing our intergenerational obligations, to current proposals for institutions for future generations. These proposals—whether they consist of commissioners for future generations, constitutional reform, or other more administrative commitment devices—each make different assumptions about our intergenerational obligations, and institutionalise these assumptions through the mandate and powers given to the legal or institutional reform. Thoroughly analysing these proposals is essential, as it could promote a fair and inclusive design of institutions for future generations.

**ID598.**

### **Captured Futures: The Future in Environmental Politics**

Jeroen Oomen, Maarten A. Hajer

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Over the past half-century, the 'environment' has become a main conceptual driver for policy (references 1). As Biermann (2020) also recognizes, 'the notion of 'environmental' policy has become a mainstay in public and academic discourse'. Crucial in this development was the construction of 'the environment' as a policy object. Looking importantly to expertise and science, environmental policy constructed an idea of the Earth and its systems as an object of global governance (references 2). In the process, the environment became subject to technocratic expertise – and a monochromatic conception of the future that simply extrapolated trends from past and present into the future. Even now, environmental policy still looks to science to provide (often economised) 'facts' for politicians to act upon – the limits within which

human societies (globally) should remain. Against this logic, we pit another history – that of environmental *politics* rather than policy. This is a history that started with concerned citizens and scientists, with social movements campaigning on the streets, with a cultural politics emerging around the environment, one that was eventually channelled into institutional politics and policies accompanied by ecomodernist categories. We argue that environmental policy, and correlated ideas such as Earth System Governance, pay too little attention to the cultural politics in which the centralised discursive logic is challenged by activism on the streets, and by alternative conceptions of the future in the process. In short, we assert that while there is ample attention for the future *of* environmental policy, there is a gap on understanding the future *in* environmental policy and politics.

**ID609.**

### **Responding to the inter-locking crises – updated notions of sovereignty and Rights of Nature as fundamental tools to promote respect for the integrity of the Earth-system**

Susan Shaw, Annaïg Nicol

*Living Law, Glasgow, United Kingdom*

Notwithstanding a plethora of MEAs in international law in the field of the environment (“IEL”), environmental degradation within narrowly defined political state-borders continues to cause substantial risks to the integrity of the Earth-system. Humanity has already collectively transcended critical planetary boundaries identified by leading Earth scientists. As the world faces a new wave of unprecedented crises consequent on ecological breakdown, understandings of

our collective interdependence with Nature have been renewed. All sectors must respond to these new understandings in science. Law is no exception.

In this paper we argue the environmental rule of law is now a critical linch-pin in the Anthropocene to guide humanity towards preservation of the Earth-system and to maintain international peace and security. We emphasise how existing legal concepts and principles of IEL must, therefore, be urgently reconceptualised in light of these new and updated scientific understandings to guide humanity towards the “*safe operating space*”.

Central amongst these, the very notion of sovereignty itself is too frequently still being misrepresented in critical multi-lateral fora to avoid, or at least delay, necessary actions. Understandings of critical Earth-system processes undoubtedly necessitate common actions and common responsibilities. We argue how sovereignty must be understood, as a legal concept, in light of these scientific developments. The current crisis has indeed only served to illustrate further that a portrayal of sovereignty as withdrawal into isolationist approaches is untenable. However, we argue that cooperation between sovereign states, as an intrinsic requirement of sovereignty, mandates a purposive approach towards preservation of common goods and respect for the integrity of the Earth-system, on which all of humanity depend.

At the same time, this conceptualisation of sovereignty must not be misrepresented as undermining the importance also of nationally tailored actions in the environmental field. This remains essential to notions of legitimacy in decision-making and governance at national/sub-structure levels. This is reinforced by refined conceptions of common but

differentiated responsibility and respective capabilities.

Under the power and democracy theme, we also aim to contribute to enhanced understandings of the risks of poorly implemented transition pathways in the Anthropocene which can exacerbate acute inequalities and promote opportunistic power-grabbing and/or domination by powerful voices/actors to the detriment of local and indigenous populations/groups. We conclude by drawing on developments in the Rights of Nature field as critical to strengthen the rule of law, promote equitable responses and upholding existing human rights towards harmony with Nature.

## Panel ID 205

### Participation, representation and deliberation in earth system governance

Parallel Panel Session 3,  
Tuesday 7<sup>th</sup> September 2021,  
16:30-18:00 CEST

Chair: Okka Mathis

## ID17.

### In Whose Name? Civil Society and the Representation of the Global Poor in Earth System Governance.

*Carole-Anne Sénit, Frank Biermann*

*Copernicus Institute of Sustainable Development, Utrecht University, Utrecht, Netherlands*

Civil society is often uncritically recognized as a democratic force in Earth System Governance. Civil society organizations aim to hold States and intergovernmental institutions accountable and channel the voices of what

would otherwise be the ‘Forgotten Billion’ – the world’s billion poorest people – in global policymaking. Yet to what extent do they succeed in performing that role? While existing research has mainly focused on the representation of the interests of the poorest countries in intergovernmental negotiations on global sustainability, whether and how civil society organizations legitimately represent the ‘Bottom Billion’ in these negotiations remains a largely unexplored question.

This paper assesses the representation of the global poor in institutionalized civil society participatory mechanisms during the negotiations on the Sustainable Development Goals (SDGs), a process hailed as the most inclusive ever organized at the United Nations (UN). We perform our analysis at three levels. First, we quantitatively assess the representation of people and civil society organizations from the world’s poorest countries, the Least Developed Countries, in the civil society Hearings of the UN Open Working Group on the SDGs. We see quantitative representation of the global poor as legitimate if 12 percent of participants to the Hearings are from the Least Developed Countries, in line with these countries’ share in world population. Second, we qualitatively analyze how the global poor are procedurally included within the Major Groups, the main institutionalized mechanism for civil society representation in UN negotiations. Legitimate procedural representation entails that the Major Groups include formal and iterative mechanisms that allow the global poor to provide input to civil society statements and hold civil society representatives accountable. Third, we discursively evaluate the extent to which the civil society organizations that speak on behalf of the global poor in the SDGs negotiations legitimately represent the interests of these populations. Legitimate

discursive representation entails that the narratives conveyed within the statements delivered by global civil society representatives on behalf of the global poor qualitatively matches the interests of these populations, as expressed in global citizen surveys or deliberations. We find that the global poor were underrepresented in the negotiations on the SDGs, with participants from Least Developed Countries contributing merely 6 percent of the total participants to the Hearings. Additionally, unclear procedures for input and lack of internal civil society accountability mechanisms undermined the inclusiveness and representation of the global poor's interests, eventually perpetuating planetary injustice in Earth System Governance.

**ID25.**

### **Representative Ingroup Democracy: Modelling a democratic society resistant to environmental degradation**

Katariina E. M. Vuorinen<sup>1</sup>, Jiska van Dijk<sup>2</sup>, Tuva B. Munkeby<sup>1</sup>, Terje Bongard<sup>2</sup>

<sup>1</sup>Norwegian University of Science and Technology, Trondheim, Norway. <sup>2</sup>Norwegian Institute for Nature Research, Trondheim, Norway

At present, no realistic political or governmental alternative exists for stopping the fossil fuel driven global economy from causing environmental degradation. There is an overall consensus that current consumption rates exceed earth's production capacity, but disagreements arise when solutions are discussed. It is common to argue that e.g. more precise environmental knowledge, green consumerism and resource efficiency are needed for individuals and societies to change

their consumption patterns. However, we argue that these approaches as such are unlikely to prevent environmental degradation taking into account the constraints imposed by human biology: in our evolutionary past, we have not evolved to respond to knowledge on collective threats or to limit individual consumption for the good of large groups. On the contrary, natural selection has favored resource use typical for the Tragedy of Commons, reflected to the current society as externality-driven capitalism, conspicuous consumption and resource overuse. This does not, however, justify biological determinism. Environmentally detrimental human behavior tends to realize especially in large outgroups typical for global capitalistic system, whereas cooperation and social control thrive in small ingroups and allow us to overcome the Tragedy of Commons. In our study, we present a realistic alternative for current democracy, Representative Ingroup Democracy (RID), which incorporates the fact that human behavior drastically differs between ingroups and outgroups.

By building on behavioral ecology, evolutionary psychology and game theory, the RID model suggests a society where decision-making structure consists solely on ingroups, where we have a tendency to choose strategies of cooperation and contribution over egoism and corruption. In the model, all individuals judged old enough for participating into decision-making are divided into groups of 25 people, applying Dunbar's Number. On this basis, a nested system of ingroups forming ascending decision-making levels is built: each ingroup selects a representative to the next level, again forming groups of 25 people. This is repeated until we reach the highest level with only one ingroup of 25. From each group, an elected representative enters the next level, where he/she is presenting the views of the lower

ingroup. As an example, we apply this model to the context of Norway, where the RID structure could be implemented to the population of 5 million (160 000 primary ingroups) with only 5 decision-making levels. We predict that the RID model will enable stable and democratic sustainable production, distribution, equality and social security.

### **ID518.**

#### **Enhancing Inclusion in multi-stakeholder partnerships (MSPs): Understanding motivations for participation in MSPs: a case study on Nigeria**

Okechukwu Enechi, Philipp Pattberg

*Department of Environmental Policy Analysis, IVM, VU, Amsterdam, Netherlands*

Multi-stakeholder Partnership (MSP) is increasingly promoted as an inclusive and participatory mechanism in the implementation of the UN Sustainable Development Goals (SDGs) and the Paris Agreement (PA). MSPs play critical roles of facilitating knowledge sharing, technology transfer, and resource mobilization critically needed for actualizing the twin global agenda and systemic transition to global sustainability. Studies also show that partnerships fill implementation gaps particularly in the Sub-Saharan Africa region. Both the UN and UNFCCC, the implementing platforms for SDGs and PA respectively, recognize the important roles of partnerships. However, MSPs are challenged by limited inclusion, particularly, limited participation of stakeholders from sub-Saharan Africa due to such obstacles as limited resources and capacity. This limitation has consequences on partnership initiatives, including risks of contentious outcomes and

mismatch of priorities. Improving stakeholder participation in MSPs demands a focus on the incentives for participation, which are informed by contextual factors. Consequently, research should focus on improving the region's stakeholder participation in MSPs to overcome the observed limited inclusion. Against this background, using the Partnership for SDGs online platform and survey of participating stakeholders as well as expert interviews, the research seeks to understand the motivations for participation in MSPs with Nigeria as a critical case. Understanding the incentives for participation in MSPs among stakeholders and reflecting the outcome in the design and enabling of partnership presents a possibility for enhanced participation of stakeholders both in qualitative and quantitative terms. Exploring diverse incentives for participation could help in overcoming the risk of contentious outcomes and priority mismatch while enhancing inclusion for optimal outcome of partnership initiatives in the region.

### **ID639.**

#### **Can Sustainability Be Democratic? Comparing Sustainability and Democracy as Forms of Political Representation**

Marco Billi

*Center for Climate and Resilience Research, Santiago, Chile*

When we speak of 'sustainability' -and even more, of its political and governance implications- we tend (somewhat acritically) to frame our discussion and assessment in democratic terms. Beyond the simple constatation that embracing sustainability has, historically, led many thinkers to pursue non- or at least non-fully democratic pathways, the

paper aims to question, on a more fundamental level, the compatibility of sustainability and democracy as normative principles. Since both concepts are intrinsically polisemic and controversial, an answer to such question is contingent on the specific understanding of democracy (and sustainability) that is brought forward at any given time.

This paper seeks to bring a new perspective to the debate on sustainability and the need to ‘democratize’ it, observing the relationship between democracy and sustainability from the perspective of (symbolic) political representation. To that aim, the paper starts with a brief genealogy of the notion of sustainability, followed by a general comparative summary of some of the most prominent contemporary interpretations of the different representative, deliberative, populist, epistemic and constitutional dimensions of democracy. We particularly discuss and compare the views of some of the most prominent contemporary scholars on democratic theory, including Nadia Urbinati, Sofia Näsström, Hans Lindahl y Margaret Canovan. On that base, we then delve into exploring to which degree and in what specific configurations the ideas of sustainability and democracy may be led to be compatible normative aims, and derive policy and governance implications. We hold that the concept of sustainability underpins a claim to political representation of a community of interest, spanning all Earth and across generations (and, arguably, across species). Such a representative claim, we contend, is caught on a dilemma: on the one hand, it requires active governance and the respective trade-offs upon individual interests, suggesting it is a prominently *political* representation - and, consequently, one which may be subject to *democratic* standards of representation; and

on the other, where governance must act in accordance with the inner laws of Nature, the claim challenges the immanence and equality inherent to democracy. To overcome this dilemma, the boundaries of the political arena must be significantly redrawn.

**ID662.**

### **Can deliberative citizens’ assemblies increase public support for costly climate policy?**

*Lukas Fesenfeld<sup>1,2</sup>, Lennart Kuntze<sup>3</sup>*

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Ambitious climate policies are urgently needed for reaching the Paris climate targets. Yet, the implementation of such policies implies a trade-off for policymakers. Effective climate mitigation often leads to visible costs and restrictions of personal liberties for individual citizens, and their political feasibility can hence be ultimately limited. Deliberative democracy has been suggested as a way to increase legitimacy and public support for ambitious but costly climate policies. Specifically, it is argued that randomly sampled citizens’ assemblies are a way to integrate different perspectives on wicked issues, incorporate public feedback, induce a concern with the common good, call to mind the interests of future generations and insulate citizens from the influence of interests groups that seek to prevent ambitious climate policies. In this study, we empirically assess to what extent ambitious but costly climate policies proposed by randomly sampled citizens’ assemblies - compared to expert councils and governments - truly garner higher public support. In doing so, we use comparative survey-embedded conjoint experiments with over 3000 respondents in

China, Germany, and the United States and rely on data from over 40 semi-structured interviews with citizens. Our preliminary results point to an unexpected finding contradicting more optimistic perspectives on deliberative democracy. While citizens generally tend to have low self-efficacy when it comes to climate policymaking and perceive a lack of effective opportunities to participate in climate governance, they also tend to distrust their fellow citizens and support costly climate policy proposals more if proposed by expert councils compared to citizens' assemblies. While previous research has shown that deliberation in citizens' assemblies can help to transform individuals' existent values into preferences for ambitious climate action, our research suggests that the political feasibility and legitimization of such deliberate forms of climate governance is limited. Future research should investigate both public and stakeholder preferences for a combination of different forms of climate governance to overcome political gridlock. For example, climate policy proposals prepared by experts and randomly selected citizens that are then voted on by all eligible voters could increase the political feasibility and legitimacy of ambitious but costly climate policies.

## Panel ID 206

### Decentring power

Parallel Panel Session 9,  
Thursday 9<sup>th</sup> September 2021,  
17:15-19:00 CEST

Chair: Arvind Lakshmisha

### ID463.

### Same, same but different? Populism and the legitimacy of climate governance in three democracies

Jens Marquardt<sup>1</sup>, Cecilia M. Oliveira<sup>2</sup>, Markus Lederer<sup>3</sup>

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While the Paris Agreement expresses far-reaching commitments to combat climate change, populist movements, organizations, and individuals around the world have spread skepticism against climate action by challenging the undemocratic and elitist underpinning of the policy field. Building on the tensions between an effective global climate change regime and the democratic legitimacy of decision-making, populists have largely criticized the global "sciento-political consensus" behind climate action. Revisiting earlier debates on the interlinkages between populism and climate change politics, we argue that populists critically question the legitimacy of climate change governance efforts based on at least two interrelated aspects: (1) Since climate knowledge has been globalized over decades, the global phenomenon has become detached from local meanings and world views. (2) The technocratic, apolitical and science-centered framing of climate change narrows down any room for public disputes or

democratic intervention dismissing political struggles. These conceptual arguments on the tensions between climate politics and democratic decision-making are substantiated here with empirical observations from three distinct democratic systems, where populist leaders gained power through regular democratic elections: Brazil, the United States, and the Philippines. Examining the discourse in all three countries sheds light on how populists (strategically) erode the legitimacy of climate governance by highlighting the gaps between a globalized, technocratic, and elitist climate regime, and the people's everyday contexts and experiences. We conclude that climate governance needs to more seriously respond to local contexts and give room for democratic intervention in order to engage with populist claims and the contested nature of any efforts against climate change.

**ID649.**

### **When do cities deploy low-carbon infrastructure? Evidence from the Global South**

Nicholas E. Goedeking

*University of California, Berkeley, USA*

Decarbonization will require significant deployment of low-carbon infrastructure over the next decades, particularly in cities in low- and middle-income economies. Deployment decisions that lead to cleaner urban infrastructure, however, are not yet well understood. To advance our understanding of pathways to low-carbon urban infrastructure, this paper leverages a novel dataset of 92 Bus Rapid Transit (BRT) adoptions between 1974 and 2017 to examine whether political decentralization and democracy, alongside international NGOs, are associated with greater chances of BRT deployment. The

results from three survival analyses suggest they are: politically decentralized countries are significantly more likely to adopt BRTs when they are democratic. Moreover, jurisdictions that host an international environmental NGO advocating for BRT are significantly more likely to adopt BRT demonstration projects. The results show how political institutions critically shape the deployment of low-carbon urban innovation, and call attention to civil society as an important enabling international actor.

**ID537.**

### **What eco-anarchism and cosmopolitics can teach us about ecological democracy**

Jacob Smessaert, Giuseppe Feola

*Utrecht University, Copernicus Institute of Sustainable Development, Utrecht, Netherlands*

Deliberate social-ecological transformations ask for democratic renewal at different levels. Ecological democracy (ED) has addressed some of the tensions raised by this challenge, yet calls for rethinking democracy persist and point to the need to transform both the conception and practice of democracy (ref 1).

In this paper, we assess recent literature on ED through an analytical framework comprising the following dimensions: *actors, praxis and processes*, and *institutions*. From this analysis, we find that the main limitations of current debates in ED lie in **(i)** their excessive focus on deliberation as the quintessential democratic praxis, and **(ii)** their difficulties in envisaging emancipatory collective futures that are not organised around nation-states and (state-like) international institutions.

In order to decenter debates in ED from the hegemonies of both deliberation and statism, we use insights from eco-anarchism (ref 2) and cosmopolitics (ref 3). These theories help us to appreciate a greater diversity of legitimate political actors, strategies and existing practices, and allow us to look differently at ‘classical’ questions of ED (around representation, inclusion, justice).

With regards to the deliberation paradigm, eco-anarchism advances a more oppositional political praxis, while cosmopolitics helps us think about nonhuman political work and human-nonhuman entanglements that render obsolete the conventional thinking about the representation of nonhumans. Similarly, with regards to the state and existing institutions, cosmopolitics proposes to radicalise disagreement with the modern, capitalist state to the ontological level, while eco-anarchism builds on a long tradition of dual power and counterinstitutions that acknowledges and exacerbates conflictual relationships with state institutions and capitalism.

While acknowledging the limitations that these theories present, in turn, in thinking comprehensively about social-ecological transformations, we argue that they can inform a broader ecological democratic research agenda that starts from concrete performances to analyse occurring processes of transformation and prescribe desired ones. Avenues for future research are **(i)** empirical studies in multispecies collective political subjectivation (*actors*), **(ii)** theoretical-empirical studies on the complementarity between different types of democratic praxis (deliberative, agonistic, material,...) (*praxis and processes*), and **(iii)** empirical studies in the relationships and tensions between new community institutions and existing ones (*institutions*).

In sum, this paper advances the debate on ED in two ways: it enriches and diversifies understandings of ecological democracy, and it foregrounds ongoing democratic praxis at the grassroots level as the central locus for future ecological democratic theory and action.

## ID Panel 207

### Energy and Natural Resources: accountability and power dynamics

Parallel Panel Session 2,  
Tuesday 7<sup>th</sup> September 2021,  
10:30-12:00 CEST

Chair: Joost de Moor

## ID27.

### Proxy Accountability in Private Sustainability Regulation: Contested Pathways to ‘Sector Transformation’

Kate Macdonald

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Amidst sustained scrutiny of the social and environmental impacts of natural resource extraction, private and voluntary modes of transnational accountability have proliferated. While such accountability systems claim to enable communities negatively affected by resource extraction to hold companies, governments and other powerful players to account, in practice affected communities often lack sufficient information, power or institutional access to steer accountability processes, relying instead on more powerful third-party intermediaries (or ‘proxies’) to act on their behalf. Such challenges of proxy accountability are both intensified and complicated by the recent popularity amongst

private regulatory schemes of a ‘sector transformation’ paradigm, which foregrounds efforts to catalyse changes beyond directly regulated supply chains by means such as influencing government policies, creating new organizational capacities amongst local producers, and empowering workers and communities to build regulatory policy alliances with social or governmental allies. The complex, interactive character of governance processes associated with such a paradigm diffuses causal processes through which the exercise of power is linked to distributional outcomes—blurring corresponding relationships of power, responsibility and accountability. Drawing on illustrations from a range of private regulatory systems in natural resource sectors in Southeast Asia and Latin America, this paper develops a preliminary framework for conceptualizing the multiple forms of both top-down and solidaristic proxy accountability that emerge within the interactive governance processes associated with a ‘sector transformation’ paradigm, and explores the conflicting and often highly context-specific distributional implications of such alternative variants of proxy accountability.

**ID48.**

### **Proxy Accountability for Natural Resource Extraction in Transitional States**

Michael Mason<sup>1</sup>, Teresa Kramarz<sup>2</sup>, Lena Partzsch<sup>3</sup>

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In regions characterized by political systems in transition, there is often little public

accountability for social and ecological harm caused by natural resource extraction. Resource curse literature suggests that natural resource rents may undermine structures of public accountability (e.g. from increased elite capture and corruption) in states with weak capacity. However, there has been little comparative research on the development of new accountability mechanisms targeting resource extraction in transitional states, notably the rise of private and voluntary modes of accountability. These mechanisms and logics are associated with actors others than nation-states, from supranational bodies and non-governmental organizations to industry and labelling organizations. As a result, communities negatively affected by resource extraction increasingly find multiple parties, often from abroad, claiming to represent their interests (e.g. on environmental and human rights issues) in an exercise of what has been labelled “accountability by proxy” (Koenig-Archibugi and Macdonald, 2003). Accountability by proxy blurs public, private and voluntary purposes, obscures actors’ biases for action, and distorts sanctioning mechanisms available to affected stakeholders. This paper develops a conceptual framework for investigating proxy accountability for natural resource extraction in three transitional areas: the Middle East, the African Great Lakes Region, and South America. It examines the hollowing out and reconfiguration of relations between state, society and nature, analyzing the prospects for stakeholder representation and empowerment.

ID175.

## Governance Gaps and Accountability Traps in the Global Shift to Renewable Energy

Susan M Park<sup>1,2</sup>, Teresa Kramarz<sup>3</sup>, Craig Johnson<sup>4</sup>

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The global uptake of renewable technology has been both dramatic and insufficient to achieve a 2 degree world by 2050. Ramping up renewable energy production relies on intensifying a global supply chain that begins with the extraction of required minerals, metals, and materials from developing countries. This paper examines the governance gaps and accountability traps that constitute the regulatory landscape of supply chains for renewable energy. We develop a constructivist analysis of the global governance and accountability initiatives for renewable technology, specifically onshore wind, solar PV, and lithium-ion batteries, which are vital components of decarbonizing global energy sources and systems. We reveal what is and is not governed in those global supply chains, and analyze what accountability initiatives do and do not do. The governance of some aspects of the supply chain has emerged in response to normative pressure to address harmful practices, leading state and non-state actors to concede to protective standards. Governance gaps pertain to our knowledge of state, industry, and voluntary activity, and an absence of protective norms and regulations. We outline gaps in governance evident upstream and downstream of the supply chains. These gaps provide a sharp relief to where governance has been concentrated, in

initiatives such as the Extractive Industry Transparency Initiative, which seek to hold actors accountable. Yet these processes of accountability may lead to traps: focusing on what can be done rather than what should be done to mitigate the harmful effects of the global shift to renewable energy, and who should be recognized and included in accountability mechanisms. Documenting how global governance of renewable energy is constituted, demonstrates how some social structures, and not others, become taken as given. This analysis is particularly timely during a climate emergency, when an urgent focus on carbon emission reductions can defer questions of process and justice.

ID618.

## South Africa's energy transition: investigating the role of social movements

Almut Mohr

*Willy Brandt School of Public Policy at the University of Erfurt, Erfurt, Germany*

In September 2020, the government of South Africa – a highly coal-dependent country - announced a net zero GHG emissions target by 2050. However, this goal includes continued coal in the energy mix even after that date and further lacks an implementation strategy of respective transition policies to achieve an enduring energy transition. So far, the government institutions do not have developed a coal phase-out plan. In December 2020, the South African president appointed the Presidential Climate Change Coordinating Commission that will advise the president on how to ensure a just and fair transition away from coal for communities and workers in the coal regions. The commission comprises representatives from governments, civil

society, business, academia and traditional leadership. Especially the pace of the energy transition is expected to cause conflicts between members of the commission.

This paper asks how social movements, such as the South African climate justice movement, frame the energy transition and how they mobilize supporters for their objective of a just transition, inside the presidential advisory commission and among civil society actors. The paper is empirically motivated by South Africa's long and rich history of protest, among them environmental protests against pollution and environmental racism, especially by poor and often black communities. Resistance against coal mining is not only evolving from environmental organizations, but also in coal-mining affected communities and even among some trade unions that demand a just transition away from the current coal regime. Drawing on qualitative research, such as interviews, as well as newspaper articles, reports by environmental organizations and official policy documents, the paper analyzes how such social movements affect the processes of energy transitions and the implementation of policy decisions towards low carbon futures in South Africa. With this, it theoretically contributes to the literature on energy transition in the Global South and the role of social movements in such transition processes.

**ID633.**

### **Natural Resources and the tipping points of political power**

Jasper Finkeldey, Petra Dobner

*Martin Luther University Halle-Wittenberg,  
Halle(Saale), Germany*

In the face of climate change, earth system science (ESS) contributes to our “understanding of non-linear mechanisms that ultimately shape the planetary mode of operation” (reference 1). In this context, reflections on natural system stability and resilience are at the core of ESS debates. One crucial question is how to steer complex earth systems away from planetary tipping points (reference 2)? The earth system governance (ESG) approach tackles this challenge by looking especially at global rule systems and actor networks capable of governing the Anthropocene (reference 3).

In order to enhance earth system governance however one also has to understand the role of resources for and in political strategies on the state level. Availability, extraction, usage, government and strategies to secure future access to resources are central for the economic and political life cycles of states. Their handling of resources therefore influences the prospects of a more advanced and sustainable resource management on the global scale as envisaged in ESG. But confronting ESG aspirations with national resource strategies reveals three important research gaps: First, albeit natural resources are constantly categorized a holistic and systematic approach from a social science perspective is still missing. Second, while political science takes a great interest in regime stability and collapse in general (reference 4) and while the importance of resources for regime stability is widely acknowledged on a general level (reference 5), the exact interdependence between natural resources and regime stability has been marginal so far. Third, the question how national resource strategies could become compatible with the concepts of ESG is hardly addressed. Our aim is thus to synthesize and systematize our

knowledge on the interface of ESS, ESG and democratic national politics.

After some preliminary considerations on ESS and ESG concerning natural resources and system stability, we first offer a systematic overview of natural resources with respect to their socio-political dimensions like substitutability, recyclability e.g. Second, we look at the role of natural resources and political power in democracies without however essentialising resources as the only source of political power. Third, we discuss three resource regime ideal types and their particular contribution to or obstruction of ESG: global extractivism, mitigation and adaptation, and a sustainable resource regime. We conclude by reflecting on the implications for future research on the interface of ESS and ESG and political system stability.

## Panel ID 208

### Extractive industries and extractivism

Parallel Panel Session 6,  
Wednesday 8<sup>th</sup> September 2021,  
17:00-18:30 CEST

Chair: Sherrie Baver

#### **ID143.**

### **The Search for Alternatives to extractive Economies through legal Changes in mining Regions of Mexico**

Leticia Merino

*Universidad Nacional Autónoma de México,  
Mexico City, Mexico*

For the last three decades, Mexico's participation in global markets has been increasingly oriented to the production of mineral exports. As in other Latin American countries, extractive activities acquired prominence despite previous industrial growth. Political elite capture has enabled the imposition of this economic model, resulting in increased political and economic inequality.

The implementation of the North American Free Trade Agreement was accompanied by new legislation that challenged the role of the state as responsible for the public good, opening access to natural resources to private corporations at the expense of environmental quality, livelihoods and public health. In order to favor extractive activities, the new land tenure, water and mining laws created concession systems for water and minerals that ignored traditional and even constitutional rights of communities and individuals. From 2000 to 2016, the number of mining concessions increased, reaching 33% of mountainous forest lands of the country, creating dispossession and marginalizing previously viable rural communities, as well as serious environmental and public health problems.

With an openly extractive vision, the current mining law defines mining as an activity of public interest; supports the imposition of mining on community or private lands at the discretion of the federal government; grants corporations preferential access to water and lands despite existing rights; almost exempts them of fiscal obligations and permits financial secrecy for their operations. The law doesn't consider the violation of human rights or environmental damage as causes for concession removal.

Societal responses have included social mobilization and judicial defense, and have frequently met with repression by local governments, corporations and organized crime. I propose to analyze the results of seven community workshops in diverse regions of Mexico with open pit mining and frequent socio-environmental conflicts. The workshops were implemented to discuss proposals for changing the environmental law. Community responses range from a total rejection of mining activities and skepticism about the viability of changing the law, to demands to mobilize for profound legal changes. Differing positions reflect the diverse impacts of mining activities on local lives and communities' cohesion. We aim to analyze the social viability of alternative frameworks to extractivism in the context of economic and social crises in rural Mexico and in the Latin American region.

**ID377.**

### **Power and Procedural Justice in Unconventional Oil and Gas Development: The Overriding of Local Governments and Democratic Practices in the US and UK**

*Stacia S Ryder, Patrick Devine-Wright*

*University of Exeter, Exeter, United Kingdom*

Unconventional oil and gas development (UOGD), and in particular hydraulic fracturing (fracking) has transformed the energy world since the early 2000s. While the practice has shifted markets and brought great economic benefits to the United States, it has also faced much contestation around the world, including in the US and the UK. Activist and concerned community members have resisted efforts to drill in both of these countries, primarily on the basis of concerns for health, public safety and the environment. The practice has also created

tensions and conflict across governance scales between local authorities and state or national level governments. Despite differences in the US and UK decisionmaking processes for managing oil and gas proposals, in both cases decisions generally left to local governments are taken out of the communities and being made at state or national governance scales. As such, local government officials and residents in communities impacted by UOGD share similar concerns about their lack of procedural justice in these processes. Drawing on nearly 100 semi-structured interviews, participant observation and document analysis we briefly highlight the different ways that decisions about UOGD have been moved out of local communities in both the US and the UK, producing similar experiences of procedural injustices in communities on the ground. Finally, we discuss what constitutes 'community' in these contexts and how the structure of these decisionmaking processes might be transformed to be more procedurally just for communities where UOGD is proposed.

**ID381.**

### **Extractivism, water spirits and science – Understanding mining and water governance in Mongolia through the lens of governmentality**

*Mirja Schoderer*

*German Development Institute, Bonn, Germany. Vrije Universiteit, Amsterdam, Netherlands*

Since transforming to a market-based economy in the 1990s, Mongolia has experienced a mining boom that has given a significant boost to economic performance metrics such as GDP growth, but has also induced significant water resource degradation and sparked public contestation. Protestors demanded better

protection of water resources but also contested the large presence of multinational corporations, arguing for increased resource nationalism. The economic contributions of the extractive sector and the associated promise of increased incomes and a better standard of living are powerful motivators for decision-making at the individual and at the collective level. Simultaneously, Mongolian identity politics are heavily tied to the notion of living in harmony with nature. In particular in the rural areas and among older citizens, traditional forms of managing and conceptualizing interactions with water resources persist, such as behavioral norms and taboos that are based on animistic beliefs. Over the last decade, reforms pertaining to the public sector in general and to water management in particular have brought the country's legislative framework closer in line to the institutional prescriptions of the Integrated Water Resources Management paradigm, which has long been promoted by the academic community and by international development organizations. The simultaneous presence of extractivism, traditional notions of nature, and science-based natural resources management are expressions of powerful rationalities that have shaped actors' interests, beliefs, and decisions over long periods of time.

This paper uses Foucault's concept of governmentality to shed light on how diverging rationalities – the art of governing through a) state sovereignty, b) discipline, c) truth, and d) neoliberal governmentality, respectively – interact and overlap to produce the governance and management system currently in place. It is based on several rounds of fieldwork conducted in Mongolia between September 2017 and November 2019, as well as an in-depth literature review of Mongolia's legislative framework as it pertains to water and mining.

## Panel ID 209

### The environmental state and its discontents

Parallel Panel Session 5,  
Wednesday 8<sup>th</sup> September 2021,  
13:00-14:30 CEST

Chair: Antonio Cardesa-Salzmann

#### **ID137.**

### **Non-majoritarian institutions in national climate change governance: Towards a unified analytical framework**

Diarmuid Torney

*Dublin City University, Dublin, Ireland*

Increasingly, national governments have created non-majoritarian institutions (NMIs) to shape their policy responses to climate change. These are defined as “governmental entities that possess and exercise some grant of specialised public authority, separate from that of other institutions, but are neither directly elected by the people, nor directly managed by elected officials” . NMIs take different forms. These include expert bodies such as the UK Committee on Climate Change, stakeholder institutions such as the Dutch Energy Agreement process, and instruments of public participation such as Ireland's Citizens' Assembly on climate change. Their form varies widely, as does the degree to which power is delegated to them, but they share the common characteristic of being removed to some degree from elected institutions. To date, there has been no systematic research on NMIs in a climate policy context.

This conceptual paper will seek to develop a three-fold conceptualisation of NMIs. First, NMIs can be differentiated according to their composition. Second, NMIs can be differentiated according to their authority, which captures both their independence from the executive and legislature as well as the degree to which decision-making power is delegated to them. Third, NMIs in the climate governance context can be differentiated according to their policy function(s), which can be divided into the stages of agenda setting, policy formulation, policy adoption, implementation, and evaluation.

The paper proposes a new theory of NMIs to account for their impact on climate governance in terms of policy processes and policy outputs. First, with respect to policy process characteristics, NMIs can shape perceptions of legitimacy of climate governance. NMIs can also impact the deliberative quality of climate governance which, following the systemic turn in the deliberative democracy literature, is conceived of as a distributed characteristic of governance systems. In terms of policy outputs, NMIs can be theorised as impacting on the strength of policy outputs. Reflecting the distinctive characteristics of climate governance and going significantly beyond standard accounts of NMIs, these institutions can also, in a climate context, shape the innovativeness of climate policy. Illustrative examples will be used to showcase the utility of the framework, but the paper's contribution is primarily theoretical and conceptual. The paper contributes to the "Architecture and Agency" and "Democracy and Power" conference streams.

**ID120.**

## **Mining in Sweden. Unpacking the state and its inherent contradictions.**

Sara Moritz

*Stockholm University, Department of Political Science, Stockholm, Sweden*

This paper maps and analyses narratives and tensions within the Swedish state's engagement with mining in peripheral municipalities in the north, viewed from the local perspective.

In Sweden, the northern region's relationship with the central state authorities and the state mining company is complex. Historically, the extraction of natural resources in the northern mountain areas is connected to the establishment of national borders and deeply intertwined with the colonization of Sámi land. In the mining municipalities of Kiruna and Gällivare, the dependence on the state-owned mining company LKAB is substantial and the traditional role of the north as a resource industry region continues. However, during the recent global mining boom, several conflicts concerning planned mines emerged.

Previous research on extractive industries in various parts of the world has primarily focused on resource conflicts and particularly highlighted community resistance against mining expansion. Moreover, debates on the resource curse have demonstrated the role of the central state and political elites in pushing for extraction due to the profits it generates. A few studies have addressed the state's role, paradoxically describing the state as being both absent and "hollowed out" yet present and authoritative. This paper contributes to these

debates by exploring the dynamics between different levels and sectors of the state.

Theoretically, this paper draws on an understanding of the state as non-monolithic and continuously constructed through its interactions with other social forces. Empirically, the study is based on a collection of local media material from 1950 to 2020 and additional semi-structured interviews with local representatives. The paper analyses the contradictory narratives on what the state is and should be that are articulated concerning mining issues from the local perspective. Based on the findings I will theorize the relationship between the state's constructed inside (state institutions and its representatives) and outside (civil society and other social forces) and how such relationships have changed over time.

By providing for novel empirical findings about the strategies and practices of state engagement in extraction over time and how it is reflected locally, the paper contributes to debates on extractive governance. Through unpacking the state and its inherent contradictions, the paper advance debates on how to conceptualize the extractivist state and shed light on the multiple and conflicting claims within government institutions and beyond them, and also how the boundaries between the inside and outside of the state are upheld and reinvented.

**ID113.**

### **Why is South American environmental governance declining?**

Ana Flávia Barros-Platiau, Cristina Yumie Aoki Inoue, Eduardo Viola

*Earth System Governance Research Centre at the IR Institute. University of Brasilia, Brasilia, Brazil*

From a complexity thinking perspective, this paper analyses three major areas of environmental policy in South America with global impact: forest, climate and oceans in the 2014-2019 period. A systemic approach of three different but interconnected governance complexes sheds light on regional emerging patterns and future outcomes.

South American countries benefited a lot from the commodities super boom (2003-2013) having had high economic growth, poverty reduction and expansion of a new middle class. During this prosperity period, most countries improved environmental policies. Forest and climate regulations were established and marine protected areas increased. For example, among Amazonian countries, Brazil had the most significant progress in reducing deforestation around 2005-2014.

However, corruption grew dramatically and these countries did not take up the challenges of doing very needed economic, social and political reforms. In addition, policies did not consider the nexus between climate change and biodiversity in the air, land and water. Consequently, most South American countries entered in deep economic, political and environmental crisis after the end of the commodities super boom. In this sense, 2014 is a tipping point for the region. New middle

classes became extremely disappointed and social upheaval undermined the stability of most governments, either right or left wing. Environmental policies were also undermined during the crisis, with the exception of Chile and Uruguay that successfully promoted renewable energy. The most dramatic case of erosion being Brazil: since 2015, Amazonian deforestation has increased, reaching in 2019 twice the area of 2012, when it had the lowest rate. Besides, the main sources of greenhouse gases emissions augmented and tend to increase in the near future. Concerning the ocean, sustainable policies and regulation are still lacking. Regional cooperation is rather fragile and there is no regional fisheries management organization for the South Atlantic.

Two main issues engender feedback loops and durable unsustainability: the lack of policies and the incapacity to deal with environmental damage, as it was the case with forest fires and oil spills in 2019. Using quantitative data and qualitative analysis, this study identifies the actors interactions, and governance processes that led to the demise of environmental policies in this region, which plays a key role in the stability of planetary systems. The main proposition is that South American political and economic crisis (2014-2019) shifts the public support, partisan coalitions and policies away from environmental issues and low carbon economy, undermining Earth systems' governance.

**ID445.**

## **Failures of the environmental state**

James Meadowcroft

*Carleton University, Ottawa, Canada*

Over the past few decades scholars have directed increased attention to the development of the 'environmental', 'green' or 'ecological' state. Although usage of these terms varies, all draw on the fact that modern states have increasingly become enmeshed in the challenge of environmental governance. During the last third of the twentieth century advanced industrial states built elaborate mechanisms of regulation, specialized bureaucracies, and ideational and knowledge systems for addressing environmental challenges. And environmental argument became an irreducible feature of contemporary political life. Over the ensuing decades much has been done to improve environmental conditions in the most developed states, and yet the shortcoming, inconsistencies and the fragility of environmental states are continuously on display. Setting aside the complex and 'wicked' problems of climate change and biodiversity decline, *even on the most mundane issues of air and water pollution supposedly sophisticated states (such as Germany or the United States) are prone to serious 'lapses'*. Consider the Volkswagen diesel engine emissions scandal which exposed hundreds of millions of citizens (especially in Europe) to elevated particulate and NOX emissions. Or the lead contamination in drinking water brought to the fore in Flint Michigan, but which has much wider ramifications across North America.

This paper explores the gap between the claims and practical accomplishments of contemporary environmental governance,

focusing particularly on the example of conventional air pollution. It deals with the dynamics of regulatory control, industry resistance, environmental advocacy, internationalization and evolving scientific understanding. And it revisits discussion of the environmental state in light of the empirical record of state performance over the last two decades. The paper draws on the recent contributions to state theory, comparative politics and environmental governance. It does not present new empirical data. Rather it offers a synthesis of recent assessments of studies the effectiveness of air pollution control mechanisms and offers a new interpretation of their significance.

## Stream 3

### Justice and Allocation

#### Panel ID 15.

#### Planetary Justice: Aspirations, Contestations and Efforts towards Realization

Parallel Panel Session 5,  
Wednesday 8<sup>th</sup> September 2021,  
13:00-14:30 CEST

Chairs: Agni Kalfagianni, Dimitris Stevis, Stefan Pedersen

#### ID5.

#### Decolonizing Earth System Governance: From Agency to Moral Relationships

Jeremy D. Bendik-Keymer

*Case Western Reserve University, Cleveland, USA*

The Earth System Governance Project involves agency as a special focus of research. Agency, according to this broad focus, is the power of people, institutions or other agents to make changes in the world, advance their interests, and so on. It is a broad extension of what in the Eurocentric philosophical tradition has been the domain of practical reason: the power to seek goods as determined by those who act intentionally. Such a broad concept involves an implicit ontology: the world is to be acted upon; impacts are to be made in and on social space; and the main preoccupation of people in the world advancing their interests is to achieve their own objectives.

One might be concerned with this ontology for several reasons. The first is that it prioritizes

objectives and impacts over moral relationships. When we begin our ontology with moral relations, we do not think of action in terms of impacts but in terms of considerate relations. The space of the world is not a blank slate or a field to be shaped, but is crisscrossed and created through myriad relations of accountability that constitute the social. Being people and stewarding good institutions in such a space is a matter not of acting on the world but of meeting others appropriately, respecting them, and of interacting with all our relations in considerate ways. An entirely different map of the world emerges when moral relations are prioritized over agency.

A second reason to be concerned with a focus on agency and its implicit ontology is that it does not make room for many indigenous forms of life in which moral relations are the basis of everything, including how one conceives of action. One might think that if Earth system governance wishes to be more than Eurocentric it should consider an ontology of moral relations before agency. In such a light, constructively resituating agency as a secondary concern behind the primary ontology of moral relations would amount to “decolonizing” Earth system governance in a small but fundamental way.

In this paper, I explore how an ontology of moral relations shifts how we approach agency. I intend to show that a focus on moral relationships not only goes some distance as decolonial work on Earth system governance, but that it does, in many ways, a better job of getting at what our concern with agency really is.

**ID85.**

### **Planetary health and planetary justice: strengthening the links for improved governance**

Kathryn J Bowen

*Australian National University, Canberra, Australia*

The concepts of planetary health and planetary justice are contemporaneous. Planetary health refers to "the health of human civilization and the state of the natural systems on which it depends" (Horton, 2015). Planetary justice is about effectively addressing the global environmental challenges we face now and in the future, while safeguarding social, cultural, economic and other protections. The two concepts have inherent commonalities yet the linkages between them have not been thoroughly explored. Both concepts are fundamental when considering transformations to sustainability. It is clear that, for example, the greatest burden of the health impacts arising from climate change will fall mostly on the those communities and countries that have emitted the least greenhouse gases. When attempting to develop and implement solutions to the health impacts of climate change it is vital that these endeavours adopt a planetary justice approach. This will help to ensure that those who are most at risk are included in governance processes so that health responses are just and do not exacerbate inequities. This paper will provide an overview of the concept of planetary health and its potential usefulness within the planetary justice debate. The paper will outline current planetary health activities, future directions and priorities. Areas for greater linkages with planetary justice will be presented, in order for a coherent and complementary path for future research and

policy approaches. Ultimately, a stream on planetary health within the Earth System Governance project would be very useful outcome of this paper and associated discussion.

**ID100.**

### **Planetary justice as an analytical device and practical guide in earth system governance**

Agni Kalfagianni<sup>1</sup>, Dimitris Stevis<sup>2</sup>, Stefan Pedersen<sup>3</sup>

<sup>1</sup>*Utrecht University, Utrecht, Netherlands.*

<sup>2</sup>*Colorado State University, Colorado, USA.*

<sup>3</sup>*University of Leeds, Leeds, United Kingdom*

The paper aims to initiate a debate on the promises and limits of planetary justice both as an analytical device and as a practical guide for realizing justice in turbulent times.

The paper starts from the observation that we are currently experiencing major planetary transformations that are multidimensional and interconnected. The first is ecological or what many scientists call earth system transformations. These mark an unprecedented change in key indicators that keep the earth system hospitable to human beings, thus signifying a new geological era, the Anthropocene. Second, it is proposed that earth system transformations occur in parallel and in many ways are driven by socio-economic transformations. Although these are very diverse and include population growth, urbanization, and changes in income and wealth, what is staggering is the observation by many analysts that the imprint on the earth system has been mostly driven by a fraction of the global population living in OECD countries. Third, we are facing major governance transformations reflecting a shift from

hierarchical forms of steering with states as the central actors to multi-actor, multi-level decision-making and to even a privatization of governance, with business actors featuring particularly prominently.

In view of these transformations, this paper underlines the need to reconceptualize core values of earth system governance, specifically the idea and practice of justice. For this purpose, the paper develops a number of questions for deliberation and debate regarding the distinctiveness of planetary justice versus traditional notions of justice: First, does the term ‘planetary justice’ capture a fundamental departure from thinking about justice in Holocene terms? Second, does planetary justice encompass but is also beyond any particular locality in which environmental change is experienced? Does/should it thus evoke an understanding of ‘space’ that is multidimensional and interlinked? Third, does planetary justice encompass but is also beyond the present time to include both the past and the future intertemporally? Does it thus evoke an understanding of ‘timescapes’ rather than single times? Fourth, does planetary justice encompass but is also beyond global justice with its focus on the global order, international institutions, and nation-states? Fifth, does planetary justice invite us to think about the ‘interrelatedness’ among species as well as between the human species and the entire planet? And sixth, which are the practical implications for realizing planetary justice?

**ID229.**

## **Planetary justice and ‘healing’: decolonizing environmental futures?**

Adrienne Johnson

*University of San Francisco, San Francisco, USA*

Environmental scholars have long debated definitions of ‘justice’ in connection to fair and equal allocations of, and access to, environmental resources. Conversations surrounding ‘just’ environmental outcomes have exploded in recent years as scientists bring our attention to, as some say, the irreversible multi-scalar harms that affect human and non-human systems in the current era known as the Anthropocene. The term, ‘Planetary Justice’ has been offered as a way to simultaneously account for the emerging global, intergenerational, and non-human dimensions of justice and the multi-scalar institutions and strategies that are needed to remedy and move beyond current ecological injustices. Following efforts by Earth System Governance (ESG) researchers to rethink and expand the concept of ‘justice’ under Anthropocene conditions, this paper argues for the consideration and integration of the Indigenous notion of ‘healing’ as an important concept in both ESG research and justice scholarship more broadly. Doing so may lead to the envisioning and development of environmental futures that promote intersectional and representational justice – both important principles in the achievement of justice at the planetary level. ‘Healing’ can be described as the process of ‘righting’ past wrongs. For many Indigenous peoples, this is closely linked to the assertion of self-governance and autonomy through environmental stewardship practices following the devastating effects of state and non-state

institutionalized power relations aimed at erasing their existence. The concept of healing also acknowledges the subtle continuation of colonialism in current environmental management frameworks and aims to forge pathways towards inclusive and diverse environmental institutions and ideas through the process of ‘decolonization’. This paper draws on on-going participatory ethnographic research with the Amah Mutsun Tribal Band, a non-federally recognized Indigenous group located in California, United States. It examines their experiences as they seek to heal from past environmental and social injustices by reclaiming land within their traditional territory, and revitalizing Indigenous culture by teaching and sharing traditional skills focused on native plant regeneration and language knowledge. Their ultimate goal is to renew their relationship to their ancestral territories while strengthening tribal bonds. The paper concludes with some critical possibilities that the concept of healing may offer to planetary justice scholarship in ESG research.

## Panel ID 24

### Earth System Law (i): Transformation and law futures

Parallel Panel Session 5,  
Wednesday 8<sup>th</sup> September 2021,  
13:00-14:30 CEST

Chair: Catherine Blanchard

## ID30.

### Transformative Pathways in Pursuit of Earth System Law for the Anthropocene

Louis Kotzé

*North-West University, Potchefstroom, South Africa. University of Lincoln, Lincoln, United Kingdom*

This paper builds on two earlier publications that have respectively: i) made out a case in support of rethinking environmental law alongside an Earth system perspective and to develop a new juridical paradigm called “Earth system law”; and ii) elaborated three considerations that environmental law will need to embrace in the course of its transformation to Earth system law (i.e., inclusivity, interdependencies and complexity). Putting the cart before the horse, as they did in a sense, neither of these publications explained in full what an Earth system perspective would actually mean for environmental law’s much needed transformation to Earth system law; neither did they offer a thoroughgoing definition of Earth system law, nor did they map and describe the critical transformative pathways in pursuit of Earth system law for the Anthropocene.

In this paper I will endeavour to address these epistemic gaps by critically interrogating, in Part 2, what an Earth system perspective

entails and what its regulatory implications could be for environmental law. In Part 3, I offer a more elaborate definition and conceptual description of Earth system law. Part 4 identifies six characteristics of environmental law (there may be several others), that could potentially prevent, or at least complicate, its transformation to Earth system law. These are: i) environmental law's state-centrism and virtually exclusive embrace of conventional, top-down, "hard" law; ii) its fetish with creating a specific type of selectively privileged order; iii) its preoccupation with geographically bounded jurisdiction; iv) its almost exclusive anthropocentric focus on protecting and advancing the interests of the autonomous human legal subject and its promotion of associated predatory patterns of human mastery; v) its one dimensional functional pursuit of prohibiting and penalising, instead of also encouraging, rewarding and accommodating alternative modes of compliance and enforcement; and vi) its fragmented and compartmentalised architecture that leads to problem-shifting to the extent that it treats specific "environmental" issues as discreet, unconnected problems. Finally, Part 5 formulates potential pathways to confront these six obstructions that could facilitate environmental law's transformative pursuit of becoming Earth system law.

**ID435.**

### **Social Resilience in the Anthropocene: A New Role for Environmental Law?**

Brita Bohman

*Department of Law, Stockholm University, Stockholm, Sweden*

Governance principles for achieving social-ecological resilience are rather well established. They are principles such as adaptive governance, multi-level governance, diversity and stakeholder participation, which are also increasingly reflected in law. Some aspects of these principles are equally important for social resilience as they are for ecological resilience. However, the emphasis in these principles are generally in achieving ecological resilience. Meanwhile there is an accelerating focus on the role of social resilience in Earth System change and the Anthropocene. Of course, social resilience is depending on ecosystem services, but there are also other key values for keeping a society in a stable or sustainable state. As the concept of interconnected social-ecological resilience also acknowledge, the interplay between social and ecological is an interdependent relationship where ecological resilience is equally dependent on social resilience. Achieving and establishing social resilience is an important role for law both in the concept of social-ecological resilience and in Earth System Governance. Law will moreover only be a truly effective tool if it is legitimate and acts in its different roles to achieve social resilience.

In parallel to the facts laid out above, international and EU environmental law and environmental law structures are successively adjusting to a changing environment. These changes in the structures of environmental law

and governance are present in many different areas. A significant change is the role of experts and scientists in decision-making and in defining legal norms. This challenges the traditional structures of how laws are adopted and changed. In turn that could have affects the legitimacy of these laws. Moreover, in light of Earth system change and the Anthropocene and the effects that this may have on the environment and natural resources, environmental laws need to focus more on questions of access and distribution of resources. Participation may be of great importance also in these matters. Achieving fair distribution and access to resources may also be or become an important factor for social resilience in the Anthropocene.

This paper aims to map out and discuss these features of law and questions of legitimacy in its role to create access to resources and the role of achieving social resilience. The analysis will primarily deal with these issues on a general theoretical level, but to some extent also in regards to relevant examples from marine governance, protecting biodiversity or climate change governance.

**ID555.**

### **Earth system law in Gaia 2.0**

Rakhyun E. Kim

*Utrecht University, Utrecht, Netherlands*

The current critique of international environmental law builds on the assumption that humanity still has a chance to avoid crossing irreversible tipping points in the Earth System. Yet, earth system scientists increasingly voice their concern that ‘we might already have lost control of whether tipping happens’. In this paper I ask what it means for international environmental law scholarship to

take earth system science seriously, or to assume that humanity has lost the ability to avoid what I call a ruptured Anthropocene. I begin by highlighting that global tipping signifies the end of environmentalism as we know it. When the Earth System crosses irreversible tipping points and begins a nonlinear transformation into a hostile state dubbed a ‘Hothouse Earth’, the concept of protecting the environment from human interference loses its meaning. Not only the dichotomy between humans and nature becomes irrelevant, but the environment itself no longer exists as an object for protection. My main thesis is that, for international environmental law to stay relevant in the ruptured Anthropocene, it needs to shift away from its traditional focus on restoring the planetary past, and instead play an active role in the making of planetary futures. The need for such a paradigm shift in international environmental law (or environmentalism more broadly) speaks to the idea of ‘Gaia 2.0’, the term Lenton and Latour recently introduced to denote a fundamentally new state of the Earth System. In Gaia 2.0, the emphasis is on the agency of life-forms and their ability to make conscious choices for deliberate self-regulation or planetary stewardship. The corresponding form of international environmental law 2.0 is then not so much about maintaining or restoring the integrity of the Earth System and ‘let nature be’, and instead it will need to contribute to planning and steering the course of the Earth System towards a desirable future, while remaining centrally concerned with the questions of social justice on a planetary scale. International environmental law scholarship, therefore, faces uncomfortable questions that challenge the foundations of international environmental law. The nascent concept of earth system law provides a promising alternative paradigm, and I offer my take on how it could capture what is required of

international environmental law 2.0 in the ruptured Anthropocene.

**ID584.**

### **Exploring new frontiers in earth system law: An invitation to fellow epistemic travellers**

*Louis J. Kotzé<sup>1</sup>, Rakhyun E. Kim<sup>2</sup>, Catherine Blanchard<sup>2</sup>, Frank Biermann<sup>2</sup>, Cameron Holley<sup>3</sup>, Margot Hurlbert<sup>4</sup>, Marie Petersmann<sup>5</sup>, Harro van Asselt<sup>6</sup>*

*<sup>1</sup>North-West University, Potchefstroom, South Africa. <sup>2</sup>Utrecht University, Utrecht, Netherlands. <sup>3</sup>University of New South Wales, Sydney, Australia. <sup>4</sup>University of Regina, Regina, Canada. <sup>5</sup>Tilburg University, Tilburg, Netherlands. <sup>6</sup>University of Eastern Finland, Joensuu, Finland*

The need to go beyond reductionism in earth system governance points to the need for more intensive co-learning and problem-solving to occur. Law and legal scholarship have an important role to play in this endeavour. One key concern that requires critical reflection is the prevailing inability of law to embrace an earth system ontology. Unless law does so sooner than later, it will remain ill-equipped to respond to the most recent understanding of global governance challenges emanating from an interconnected Earth system. More specifically, the perceived incompatibility between law and earth system governance challenges revolves on three concerns. First, we observe that legal scholars often confine their research within their specific areas of legal specialisation such as criminal law, property law, and tort law, and research collaborations, to the extent that they occur, are more often the result of haphazard interactions. Second, we question to what extent law as a discipline has engaged with

other disciplines situated in the humanities and the natural sciences, since a thoroughgoing interdisciplinary dialogue still seems to be in its infancy. Third, legal scholarship is often criticized for not having yet fully embraced a more thoroughgoing engagement with society in asking and answering questions that matter to all interested and affected stakeholders. Recently, earth system law has been proposed as an alternative innovative legal imaginary that is rooted in the Anthropocene's planetary context and its perceived socio-ecological crisis. This paper serves as an invitation to fellow epistemic travellers hailing from various legal fields, other disciplines, and from a broad range of interested and affected stakeholders, to join the conversation that seeks to explore new frontiers in earth system law. Here, we elaborate the need to embrace a systems-oriented ontology as a justification for the need to work collaboratively. We explore the stifling limitations as they exist with respect to silos within law as a discipline, between law and other disciplines, and between scholars and stakeholders, that might inhibit the type of collaboration we need to shape law for the Anthropocene. The discussion in each of these three parts ultimately seeks to reveal the liberating prospects of thoroughgoing collaboration and co-learning that would be necessary to further explore earth system law as a viable alternative for law in the Anthropocene.

## Panel ID 26

### Earth System Law (iii): Earth system law and global governance

Parallel Panel Session 9,  
Thursday 9<sup>th</sup> September 2021,  
17:15-19:00 CEST

Chair: Laura Mai

#### **ID89.**

### **Governing Fossil Fuel Production in the Age of Climate Emergency: Assessing the International Law of “Leaving it in the Ground”**

Harro van Asselt

*University of Eastern Finland Law School, Joensuu, Finland. Utrecht University, Copernicus Institute of Sustainable Development, Utrecht, Netherlands. Stockholm Environment Institute, Oxford, United Kingdom*

Climate policy—both globally and domestically—has focused on the demand-side (i.e. consumption) of fossil fuels, aiming at reducing the greenhouse gas emissions that occur with fossil fuel combustion. This has resulted in policies and measures to roll out low-carbon technologies and practices (e.g. carbon pricing, renewable energy support, energy efficiency measures). The supply-side—i.e. fossil fuel production—has been largely overlooked in the policy discourse and in research. To achieve the long-term temperature goals set by the 2015 Paris Agreement, however, fossil fuel production cannot continue to proceed unabated. Economists and social scientists have accordingly begun to look into the potential for supply-side climate policy to complement existing, more demand-side-oriented interventions, with a view to bringing about a transition away from fossil fuel production.

Such policies include moratoria on new fossil fuel development, coal export taxes, levying fees for leasing land to fossil fuel extraction, and the removal of subsidies to fossil fuel production. While the precise environmental and socio-economic impacts of these policies, as well as their political feasibility, remain subject to further research, the interdisciplinary literature on fossil fuel production and climate policy has only paid scarce attention to the role of the law in regulating fossil fuel production. This paper makes a first step towards addressing this gap by disentangling the applicable international legal framework for fossil fuel production in light of climate goals. Covering a range of relevant—yet disparate—issue areas, including international energy, environmental, trade and investment, and human rights law, as well as the activities by informal institutions (e.g. the G20) and transnational governance arrangements (e.g. the Extractive Industry Transparency Initiative), the paper will uncover the extent to which international law and governance provides normative guidance to states and fossil fuel companies on the transition away from fossil fuel production. Drawing on the theoretical literature on the fragmentation of international law and regime interactions, the paper will show the extent to which international legal regimes, informal institutions, and transnational governance arrangements interact with each other, including possible instances of normative conflict and institutional cooperation. By shedding light on the various institutions and their interactions, the paper will provide an assessment of the overall coherence of international law and governance of fossil fuel production in the current age of climate emergency, and offer suggestions on how international law could support the shift away from fossil fuel production.

**ID133.**

### **Specialist Environmental Courts and Earth System Law: reviewing the literature and identifying research opportunities**

Michael Angstadt, Maddi Schink

*Colorado College, Colorado Springs, USA*

Amidst turbulent times and growing demand for innovative environmental governance institutions, a community of Earth system governance (ESG) scholars has advocated a new Earth system approach to law. These researchers note that analytical and normative efforts to reimagine legal structures will bear implications for how best to achieve the envisioned futures. These questions, and attention to potential institutional models, align closely with existing scholarship examining how domestic legal institutions might better accommodate environmental concerns. In particular, researchers have explored an emergent trend to establish specialist environmental courts and tribunals, institutions that exclusively hear environmental cases. These institutions have taken diverse forms across national settings, and the existing literature mirrors this fragmentation in both substance and approach. Additionally, while relevant scholarship exists across disciplines and has been produced for several decades, a systematic literature review remains absent.

This project reflects a first effort to comprehensively characterize existing green courts literature. Complementing recent harvesting efforts within the ESG community, this project will aim to categorize and conceptualize existing analysis. First, it will descriptively characterize temporal, geographic, and disciplinary trends in

scholarship. Second, it will qualitatively characterize key trends in the orientation of existing literature, noting methods and dominant emphases. Ultimately, it will use this foundation to identify opportunities to advance analysis, to increase its coherence, and to pursue synergies that equip environmental court scholarship to advance emergent Earth system law research efforts.

**ID132.**

### **International Relations and the Analytical Dimensions of Earth System Law**

Michael Angstadt

*Colorado College, Colorado Springs, USA*

The development of Earth system law demands analytical tools and frameworks that comprehensively address interlinked environmental and human-social changes. It also presents an opportunity to reimagine existing research frameworks and to advance interdisciplinary engagement that promotes practice-relevance. This presentation will share progress on a draft chapter by the same name which is under preparation for the forthcoming ESG edited volume, {Anonymized}. It highlights how existing international relations (IR) and global environmental politics (GEP) tools and theories can benefit Earth system law researchers. It will suggest that existing IR and GEP scholarship may advance efforts to equip environmental law to more comprehensively address Earth system challenges. Specifically, it will argue that existing IR evaluation of norm diffusion and judicial globalization can facilitate legal practices that reflect an Earth system approach. Further, it will suggest that leveraging existing theory offers both academic and applied benefits. First, in an academic sense, it will suggest that explicitly

incorporating social science insights from beyond the legal discipline will (1) help align Earth system law with broader Earth system governance scholarship, (2) answer longstanding calls to more clearly integrate IR and social science theories with international law, and (3) promote theoretical and methodological pluralism within Earth systems research. Second, in an applied sense, it will suggest that drawing upon multiple existing disciplines and theories can help an emergent Earth system law approach to address identified shortcomings of environmental law, including its reductionism and inability to rectify limitations of the dominant state-centric approach.

## ID201.

### **Perspectives on Earth System Law: The Case of Global Social-hydrological Systems**

Hanna Ahlström<sup>1</sup>, Jacob Hileman<sup>2</sup>

<sup>1</sup>*Global Economic Dynamics and the Biosphere, Swedish royal Academy of Sciences, Stockholm, Sweden.* <sup>2</sup>*Stockholm Resilience Centre, Stockholm University, Stockholm, Sweden*

Earth's hydrological system is characterized by complex interdependencies and feedbacks that keep water resources in a state of constant flux across local, regional, and global scales. This implies that, in any given location, sustainable solutions to water resource dilemmas – water scarcity, declining water quality, and related challenges – must necessarily address the multi-level interconnectedness of water resources. However, current water governance regimes are poorly equipped to handle this reality; management institutions remain largely divided along political and administrative boundaries, which typically do not account for

hydrological connectivity at higher geospatial levels. Even more critically, most management institutions lack the regulatory means to directly address water resource dilemmas when the source of the problem is located outside their administrative boundaries, and must engage in cross-level collaboration if they aim to treat root causes and not merely symptoms. This becomes especially problematic at the global level, given the lack of global water governance institutions, and the fact that human activities are now increasingly altering the production and distribution of precipitation – the primary driver of flow through Earth's hydrological system.

The growing focus on Earth system governance as a field of research presents an opportunity for interdisciplinary study of global social-hydrological systems and the current dispersed regulatory capacity across sociopolitical jurisdictions. Such analysis can go beyond resolving transboundary water governance problems and include principles, norms, rules, and decision-making procedures, which can enable an improved socio-legal analysis. We elaborate on this proposition following the specific notion of law used by the Task Force for Earth System Law, where law is recognized as a “social institution that plays an increasingly important, but sometimes questionable and often ineffective, role in addressing the pressing problems of earth system governance, from the local to the global.” Building on recent literature in the field, we delineate earth system law in terms of institutional fit, complexity, interconnectivity, and polycentricity in context of Earth's global social-hydrological system. We advance the conceptual understanding of key hydrological phenomena – in particular global moisture cycling and telecoupling – beyond the biophysical realm, and into the

socio-political. Additionally, we elaborate on the need to better integrate understanding of the functioning of earth system processes into theories of international law, in this case the science of global hydrological cycles. We conclude with identifying some key challenges when applying such complex and abstract concepts to international environmental law, implications for practice, and potential avenues for future research.

### Panel ID 301

#### Rights, Ethics and Justice for nature

Parallel Panel Session 8,  
Thursday 9<sup>th</sup> September 2021,  
15:30-17:00 CEST

Chair: Katinka Wijsman

#### **ID277.**

#### **Integrative animal and biodiversity governance: justice and the institutionalisation of animal ethics**

*Cebuan Bliss, Ingrid J Visseren-Hamakers*

*Radboud University, Nijmegen, Netherlands*

At first glance it may be assumed that the relationship between the issues of animal welfare and rights on the one hand and biodiversity conservation on the other are synergistic, but this relationship is much more complex. Moreover, despite their dependent relationship, a thorough empirical analysis of the synergies and trade-offs between animal and biodiversity governance is lacking. In the last four decades of development, just how have animal ethics been institutionalised in biodiversity conservation and what does this mean in terms of justice?

One of the core debates in the animal governance literature has been the extent to

which animals should be considered in human practices, with the main approaches including animal welfare, liberation and rights, underpinned by different conceptions of justice. Discussions follow a longstanding debate on the priorities in conservation; the individual animal or the species. Examples include synergies and trade-offs between biodiversity conservation and the welfare of wild animals in protected areas; promoting (trophy) hunting to finance conservation; and combatting Invasive Alien Species (IAS), in which individual animals are killed to conserve native species or ecosystems.

This paper advances our understanding of the relationships between animal and biodiversity governance in order to enhance the performance of, and synergies between the two domains, and to explain why conceptions of justice and animal ethics are increasingly important in this regard. With this, the paper contributes to debates on earth system governance more generally and Integrative Governance (IG, defined as the theories and practices that focus on the relationships between governance instruments and/or systems) more specifically. Using an IG framework, we can determine how animal ethics are institutionalised and implemented in practice at multiple governance levels.

The paper will present a preliminary empirical analysis of synergies and trade-offs between the animal and biodiversity governance systems in the European Union in the form of a comparative case study between the Netherlands and Germany. Moreover, it will provide insights into how the SDGs can be better implemented in an integrative manner, whilst strengthening the incorporation of animal issues, on which several of the SDGs implicitly depend.

ID607.

### **Pachamama as Ecosystem Integrity - The Rights of Nature in the Constitution of Ecuador and their environmental ethical justification**

*Stefan Knauss*

*Martin-Luther University Halle-Wittenberg, Halle, Germany*

The constitution of Ecuador (2008) is the first in the world to contain the Rights of Nature ("RoN"). Nature is named as a legal entity next to people and corporations (Art. 10). It is granted a right to existence and regeneration (Art. 71), which applies independently of human rights (Art. 72) and can be claimed by all people worldwide (Art. 73). Although the constitution is based on the indigenous concept of nature pachamama and the well-being of nature is framed within the Andean concept of good life (span. buen vivir), there are great similarities to positions of environmental ethics. The holistic understanding of nature is similar to ecocentrism, as nature as a supra-individual whole is assigned an irreducible protective status. The ecocentrism of the constitution of Ecuador can be defended against the following three criticisms: Ecocentrism seems to be incompatible with the methodological individualism of human rights. Since ecosystems are at least partly dependent on the human observer they lack ontological stability. Furthermore ecosystems don't provide an inherent criterion for damage.

The concretization of ecocentrism in relation to the constitution of Ecuador allows three theses: 1) The protection of nature as a supra-individual whole must not be misunderstood as the sole ethical principle (monistic holism). Within a pluralistic holism, ecocentrism does

not per se take precedence over the interests of individual natural beings and legal persons. 2) Since, in contrast to individual natural beings, ecosystems are not ontologically independent entities, their rights cannot be justified analogously to those of natural persons. 3) According to the Association Theory of legal personality (reference 1). The environmental personhood (Gordon 2018) has to be understood as a human construct The yardstick for the damage to ecosystems cannot be "found" as an objective criterion inherent in nature. Rather, ecological damage to the "integrity, stability and beauty" (Leopold 1949) of nature is damage to human values. As such, in the case of the Ecuadorian constitution, they arise primarily from non-instrumental human references to nature. Eudaimonistic value and moral self-worth are ascribed to nature (Potthast et al. 2007).

Keywords: rights of nature, environmental constitutionalism, integrity of nature, environmental ethics, ecosystem integrity

ID502.

### **Justice in translation: understanding the meanings of justice in nature based solutions work**

*Katinka Wijsman<sup>1</sup>, Marta Berbés-Blázquez<sup>2</sup>*

*<sup>1</sup>The New School, New York City, USA. <sup>2</sup>Arizona State University, Phoenix, USA*

Justice and fairness have recently become key considerations in the thinking about and application of nature based solutions (NBS), following environmental justice activists and critical scholars who have long argued that the environment is an inherently political space and requires an analysis of benefits and burdens associated with its existence, use, and access. However, what justice means and how

it is expressed, recognized, or achieved is often implicit or only partially addressed in the literature on NBS, even though underlying theorizations of justice shape the kinds of analysis we do and the actions we propose. This paper starts from the premise that justice is not a universal concept or principle, but instead knows many different interpretations, therefore warranting scholars and practitioners working on NBS to carefully consider the differences and frictions between competing meanings of justice. Drawing from the rich history of social and environmental justice theory, we give an account of some key justice theories (e.g., utilitarian, liberal, communitarian, deliberative-democratic, and feminist) and their tenets as it relates to the end, means, and participants in the making of justice. From this, we draw out the questions and commitments academics and practitioners in the NBS space should grapple with more explicitly, relating to both form and content. We argue that the emergent tension between pragmatic policy approaches and critical theoretical engagement is hindering a version of NBS that goes beyond a reflection of the justice implications of NBS to ensuring that NBS contributes to the furthering of justice. We advocate for the inclusion of critical social sciences and the humanities perspectives and approaches beyond tokenism to instead encourage ontological, epistemological, and political reflection of the work academics and practitioners do in the NBS space.

**ID90.**

### **Ethical dilemmas of climate change attribution - a critique and alternative approach**

Henrik Thoren<sup>1,2</sup>, Lennart Olsson<sup>2</sup>

<sup>1</sup>*Helsinki University, Helsinki, Finland.* <sup>2</sup>*Lund University, Lund, Sweden*

In recent years a debate has flared up within the detection and attribution community concerning the appropriate methodology for attributing climate change as a cause for extreme events. The conventional approach, based on the use of dynamic climate models and frequentist statistics, is problematic for two reasons: it is conservative (yields many type-II errors) and it is disadvantageous for data poor regions. Both these problems are epistemological and profoundly ethical. Our paper will provide a critique and suggest an alternative approach based on how attribution is approached in epidemiology – a field with a long and rich tradition of attribution in a context of strong ethical considerations.

The kind of attribution of global warming caused by anthropogenic radiative forcing presented in early IPCC reports (TAR and AR4) was independent of geographically explicit data, hence unproblematic from an ethical perspective. Recent and more advanced approaches to attribute particular extreme events (such as heat waves, droughts, and floods) to climate change are highly data dependent and downplay causal links. This is where the ethical dilemmas arise, particularly in the context of the political discussions of loss and damages. The alternative approach is inspired by the Comparative Risk Assessment method (CRA) used in epidemiology. The CRA approach is primarily theory driven and is neutral in terms of potential type-I error

(overestimating the role of climate change) or type-II errors (underestimating the role of climate change).

We argue that event attribution based on frequentist statistics is politically problematic from an allocation and access point of view because of its inherent bias towards type II errors and dependence on the availability of long time series of geographically explicit data. In discussions about loss and damages we suggest that a more theory driven attribution should be practiced. To support our case, the presentation will provide illustrations of both approaches.

## Panel ID 302

### The role of finance, investment and philanthropy in advancing justice

Parallel Panel Session 9,  
Thursday 9<sup>th</sup> September 2021,  
17:15-19:00 CEST

Chair: Sander Chan

## ID29.

### Access and Allocation: The Role of Large Shareholders and Investors in Leaving Fossil Fuels Underground

Joyeeta Gupta<sup>1,2</sup>, *Arthur Rempel*<sup>1</sup>, *Hebe Verrest*<sup>1</sup>

<sup>1</sup>University of Amsterdam, Amsterdam, Netherlands. <sup>2</sup>IHE Delft Institute for Water Education, Delft, Netherlands

An under-researched story in greenhouse gas mitigation is how leaving fossil fuels (FFs) underground (LFFU) is being undertaken by large shareholders (e.g. Pension Funds) and

investors (e.g. Export Credit Agencies). Hence, this paper addresses the question: What arguments are used by shareholders and investors in making their financial flows consistent with phasing out fossil fuels, and what do these arguments imply for: access to fulfilling needs; allocation of related resources, responsibilities and risks; and, the right to (sustainable) development? This paper uses the access and allocation framework in combination with the inclusive development concept to assess the differing responses to this question put forward in the literature. It develops five investor scenarios and assesses each for its impact on access and allocation. It concludes: (a) that despite the trillions of dollars involved, LFFU remains under-researched from a socio-environmental justice perspective; (b) the access and allocation framework allows for a comprehensive socio-environmental justice analysis of the impacts of large investors in FF phase-out. Furthermore, (c) there is prima facie evidence that FFs are doomed to become obsolete and hence a stranded asset. This implies that shareholders and investors (mostly in industrialized countries) should not transfer this ‘stranded asset’ to developing countries using the Right to Development as an excuse. This is because such transfers have negative access and allocation impacts – creating, inter alia, a FF infrastructure and path dependency in the South and amounting to a de facto transfer of a carbon budget along with carbon dependency to the Global South.

**ID71.****Climate Justice and Carbon Pricing**Katja Biedenkopf*University of Leuven, Leuven, Belgium*

Carefully crafted and ambitious carbon pricing policies can be powerful tools for transitioning to a low-carbon economy. They capture the external costs of carbon emissions and increase the price of high-carbon products and services, which makes low-carbon products and services financially more attractive and competitive. Yet, increasing prices for certain products and services affects some parts of the society more than others. For this reason, some carbon pricing policies incorporate provisions that address and remedy inequalities and climate injustice.

As a first step, this paper analyses and compares European and North American carbon pricing policies with regard to the ways in which they address climate justice aspects. A typology of different ways to incorporate climate justice in carbon pricing policies is developed. As a second step, the observed differences and similarities are explored and explained in a Qualitative Comparative Analysis (QCA). QCA identifies necessary conditions and unveils combinations of sufficient conditions for explaining a specific outcome. It captures causal complexity expressed in conjunctural causation, equifinality and causal asymmetry. The explanatory factors that will be tested include framing by different actors in the political debate, interest group constellations and power, level of ambition of the carbon pricing policy, and policy mixes. Categorising climate justice provisions in carbon pricing policies and understanding why they were adopted can help improve future policy designs.

**ID101.****Private foundations as norm entrepreneurs in global sustainability governance**Agni Kalfagianni*Utrecht University, Utrecht, Netherlands*

Private philanthropic foundations – such as the Bill & Melinda Gates Foundation- have become key political actors in global sustainability governance. Their collective efforts amount to over USD 112 billion for the implementation of the UN's ambitious plan to deliver on seventeen interconnected Sustainable Development Goals (SDGs). This corresponds to about a quarter of governmental contribution through Official Development Assistance for the same purposes.

Many of these foundations implicitly or explicitly aim to foster global justice, through for example, empowering women, reducing inequalities and promoting democracy. They thus act as norm entrepreneurs shaping the substance and practice of justice in global sustainability governance. But what does this direction of private money into supporting global justice norms really mean? This question deserves scrutiny especially against a context of diverse and contested meanings of justice *and* because philanthropy -beyond an act of giving- is often an exercise of power.

Using critical discourse analysis of texts produced by foundations which are key funders of the UN Sustainable Development Agenda, this paper examines how private foundations frame global justice and with what implications for sustainability governance.

**ID362.**

### **Carbon offset from the Amazon forest to compensate aviation emissions: global solution, local struggles**

Veronica Korber Gonçalves

*Federal University of Rio Grande do Sul, Porto Alegre, Brazil*

The paper focus on the actors' engagements in climate governance and the politics of scale to study how actors re-signify locally a climate international agreement involving carbon offset in terms of their differential interests and understanding about the material and symbolic meaning of the territory. Approved in 2016, the Carbon Offset and Reduction Scheme for International Aviation (CORSIA) defines that part of the greenhouse gases emissions from international aviation will need to be offset by purchasing carbon credits. Should forest carbon credits be accepted under the scheme, it would greatly stimulate forestation projects as well as programs for combating deforestation. The paper analyzes the Brazilian debate about the eligibility of forest carbon credits' implications under CORSIA, as the scheme may impact on land use in Brazil. The argument is that, at the global level, CORSIA may be about fighting climate change; however, at the local level, it is about defining and legitimizing ways of living and using territory and forests. The study is based on extensive empirical research as well as qualitative analyses of primary and secondary sources. Semi-structured interviews were conducted with key members of different groupings.

The Brazilian case indicates that CORSIA may allow local political dynamics changes in unpredictable ways, and may have varied and unforeseen social and environmental impacts, despite of public debate, particularly involving local communities that will be affected.

### **Panel ID 303**

#### **Justice in water governance**

Parallel Panel Session 3,  
Tuesday 7<sup>th</sup> September 2021,  
16:30-18:00 CEST

Chair: Tatiana Acevedo-Guerrero

**ID34.**

### **Current trends and dilemmas in water 'ownership'**

Joyeeta Gupta, Hilmer Bosch

*University of Amsterdam, Amsterdam, Netherlands*

Through history, water has been either 'owned' by local communities, public authorities or privately owned by, especially, land owners. Different systems of ownership developed in different parts of the world. However, with colonization and globalization, neo-liberal messages on water 'ownership' have been marketed by different public agencies. This paper examines the question: What are the different trends in water ownership in different parts of the world? What dilemmas are apparent in these ownership trends? This paper is based on a content analysis of water laws and policies in many parts of the developing and developed world, and the emerging literature on the subject. It concludes that: (a) surface water is generally owned by the state or is in the public domain; (b) groundwater is owned by land

owners, communities and/or the state, and increasingly by private sector organizations; (c) there is legal pluralism in groundwater control; (d) there is growing donor driven privatization or commercialization in municipal water supply systems in the developing world; (e) while ironically, there is growing re-municipalization of water supply systems in the industrialized world; (f) ownership systems are becoming more hybrid and confused and states are finding it increasingly difficult to compensate water owners when they try to redistribute the water in the public interest; (g) communist countries are increasingly moving from state ownership to private ownership; (h) even where the state controls or owns the water, the use of permits leads to de facto private ownership of water with consequent challenges for water governance; (i) new long term contracts is another instrument that is leading to the de facto privatization of water ownership; and (j) in many parts of the world water ownership is being unbundled. These trends show that countries are experimenting with how to deal with de jure and de facto ownership; countries with water shortage or inequalities in distribution are finding it increasingly difficult to redistribute while compensating the erstwhile owners, and there is no clear narrative about how to reconcile the fugitive and non-substitutable nature of water with the needs of farmers, businesses and municipalities to have reliable and predictable access to water.

**ID174.**

## **A systematic review of justice and water governance**

Stijn Neuteleers

*Open University, Heerlen, Netherlands*

There are several challenges to water governance, such as population growth, changing management views (e.g. role of markets) and in particular climate change. All these challenges have potential distributive effects. There is therefore an increasing number of authors arguing that there should be more attention for the topics of justice, equity and fairness in water governance, partly also because this might be part of realising successful climate adaptations. There is a gradually emerging debate on these topics but it is fragmented across different disciplines and approaches and it is not very clear what the main topics, approaches and definitions are. This study aims to examine what is known from the existing literature about justice in the field of water governance and to identify main research discourses and research gaps on water justice.

For this, we conduct a systematic literature review, using the databases Web of Science and Scopus. A combination of relevant search strings and exclusion criteria resulted in a selection of 154 papers for analysis. This sample will be analysed both quantitatively, by scoring the papers on a set of standardized coding categories, and qualitatively in a way close to a regular narrative review.

The quantitative analysis will provide data (frequencies) on: water justice topics (e.g. drinking water, irrigation); definitions of justice; (macro)regions and countries; focus population (seen as unjustly treated);

frameworks used; methods used; and descriptive data on science output (journals; evolution number articles; countries authors). This quantitative data can subsequently be compared with other systematic reviews on water governance in order to reveal specific features of the water justice debate (e.g. particular regions).

The qualitative analyse will focus on following questions: What is justice (dimensions, levels) and how is justice conceptualised (approaches, discourses)? How is injustice coming about (mechanisms)? What are the consequences of injustice? We will also examine the arguments why authors believe dealing with justice issues is relevant? For instance, because an unjust approach might have blind spots, or because a just approach might increase support for policy, or because justice is important as such. Finally, we will look whether authors also propose a positive account – how to evaluate and design just policies – besides a negative one (criticising injustice).

Taken together, we aim to provide a comprehensive picture of current water justice debates, which will allow us to point out research gaps and directions for future research.

#### **ID454.**

### **The role of the 2030 Agenda for governing the Water-Energy-Food Nexus - The case of controlling groundwater abstraction in the Jordanian highlands**

*Ines Dombrowsky, Ramona Haegele*

*German Development Institute / Deutsches Institut fuer Entwicklungspolitik (DIE), Bonn, Germany*

An integrated implementation of the 2030 Agenda with its 17 Sustainable Development Goals (SDGs) requires the mobilization of synergies and the mitigation of trade-offs between economic, social and ecological dimensions of sustainable development. For example, water, energy and food security and thus SDGs 2 (Zero hunger), 6 (Clean water and sanitation), 7 (Affordable and clean energy), 13 (Climate action) and 15 (Life on land) are closely linked. Particularly in water-scarce countries, the question arises as to how water use among different sectors can be governed in such a way that social, economic and ecological goals can be achieved simultaneously. We analyze this question using the case of the Jordanian highlands, where groundwater resources have long been overexploited, and where households, smallholder farmers, profit-oriented farmers and ecosystems compete for shrinking groundwater resources. Specifically, we conduct a Social Network Analysis, semi-structured interviews with government representatives at multiple levels, donors, civil society and academia, as well as a policy document analysis to assess if and how the 2030 Agenda affects policy implementation on the ground and which actors interact to achieve the ambitious goals of the 2030 Agenda. Preliminary insights indicate that the

implementation of the 2030 Agenda in Jordan has not yet affected the governance of the water-energy-food nexus in the Jordanian highlands. A possible explanation for these shortcomings can be found in the Kingdom's organization of political power, the so-called shadow state that influences policies, actors and water resources. Our findings show that in order to improve groundwater management and strive for an inclusive implementation of the 2030 Agenda, deeper reforms are needed.

**ID643.**

### **Principles of environmental justice for advancing moisture recycling governance**

Patrick W Keys

*School of Global Environmental Sustainability,  
Colorado State University, Fort Collins, USA*

The atmospheric water cycle can broadly be described as water evaporating from the surface of the Earth, flowing through the atmosphere, and precipitating elsewhere downwind. This process, when it occurs over land, is often referred to as moisture recycling. Humanity is capable of significantly modifying moisture recycling via land-use change in evaporation source regions, and, such changes can impact downwind regions leading to changes in precipitation and impacting rainfed livelihoods. These changes do not stop here, but percolate through socio-political systems, and can lead back to evaporation source regions. Thus, these moisture recycling systems could have extensive implications for coupled human and environmental systems. Understanding these systems is urgent, given that changes in moisture recycling are likely disproportionately impacting marginalized communities, including women, minorities, and indigenous communities. This is because

moisture recycling changes will be experienced most acutely in rainfed landscapes that are characterized by differential access to political and economic power, exacerbated by other forms of privilege. Environmental justice is a theoretical lens through which we can directly examine these disproportionate impacts that may characterize moisture recycling systems. In this work, we introduce for the first time, principles of environmental justice for moisture recycling, including: (1) Equitable distribution of risks and benefits associated with a changing atmospheric water cycle; (2) Fair and meaningful participation in decisions that alter moisture recycling; and (3) Equitable protection from harm if moisture recycling conditions change.

We explore these principles in the context of multiple case study locations, globally, based on case-specific analysis of the sources and sinks of moisture from 1979-2014. Based on these explicit biogeophysical connections to both upwind and downwind areas, we then explore how the proposed principles of environmental justice practically manifest in terms of historical land-use changes, social power dynamics, and tele-coupled global pressures. We find that there is a substantial gap in achieving environmental justice in moisture recycling systems, owing primarily to an absence of actual governance. We discuss how nascent, theoretical approaches to moisture recycling governance could be strengthened by including our principles of environmental justice. Finally, we situate our results in the broader Anthropocene, emphasizing the need for cross-scale approaches to the complexity of moisture recycling governance.

## Panel ID 304

### National and regional contexts of justice

Parallel Panel Session 6,  
Wednesday 8<sup>th</sup> September 2021,  
17:00-18:30 CEST

Chair: McElwee Pamela

#### **ID190.**

### **Livelihood outcomes in smallholder schemes in Indonesian palm oil: An examination of recent policy reforms**

Samuel A Levy, *Janina Grabs*

*ETH Zurich, Zurich, Switzerland*

Oil palm is a globally important, yet highly controversial commodity. Palm oil accounts for 38% of world vegetable oil production, is linked to rural and national development in the countries that grow it, but also to increased greenhouse gas emissions, biodiversity loss, land grabbing and land conflict. In Indonesia, where 55% of world production occurs, palm oil is a major tool for advancing rural development goals by promoting the participation of smallholders in its production. A key vehicle for implementing palm oil as a development tool in Indonesia is the smallholder scheme – whereby smallholders are tied by contract to a central mill/plantation company, in theory ensuring guaranteed supply for the company and agricultural extension and inputs for smallholders. This project examines the livelihood impacts of the “One-Roof Management” or *Kemitraan Manajemen Satu Atap* (KMSA) smallholder scheme system whereby the plantation company is able to manage both its landholding and that of the smallholder scheme with smallholders receiving only the

dividends of production. This is a major change in the smallholder-company relationship resulting from a 2006 legislative change that sought to reduce corporate risk from smallholder schemes. We examine the impacts of these new contractual arrangements via an ethnographic analysis of three divergent villages linked to one plantation in West Kalimantan, Indonesia. Our approach gives explicit attention to differences in livelihood outcomes at both village and sub-village levels. We find differences in the benefits obtained by smallholders and identifies smallholders’ pre-existing wealth and status, as well as village-level land holdings and leadership as critical reasons for these differences. We do not find extreme negative impacts others have found to result from KMSA systems. Instead, reductions in potential benefits (e.g. size of smallholding) appear to be offset by improved security of land tenure. However, we conclude by arguing that these relative benefits may change over the course of the scheme as the benefits of secure tenure may not outweigh reduced monetary returns. This case has relevance to wider debates on the role of private companies in development, because it presents a case of corporate-driven policy reform having some potentially beneficial livelihood outcomes relative to previous government-led schemes.

ID383.

### **Brazil's anti-environmental politics: "too much land" for "so few indigenous groups"?**

Veronica Korber Gonçalves<sup>1</sup>, Marcelo Eibs Cafrune<sup>2</sup>

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Most part of the protected forests in Brazil are located in public lands, and a significant part of these lands are indigenous territories. Understanding Brazil's environmental politics – a megadiverse country and one of the top greenhouse gases emitters – involves comprehending how Brazil regulates and protects the territorial rights of indigenous groups. After the election of Jair Bolsonaro as president in 2018, a strong rhetoric against environmental policies and indigenous rights has emerged and, as consequences, the deforestation rates and the violence against forest communities has increased continuously. The paper aims to address how far Bolsonaro government anti-environmentalism went in its first year, in legal and institutional perspectives, specifically concerning indigenous territories. The paper maps the recent regulation changes on demarcation of indigenous lands since 2019 and the Federal Administration responses to the loggers and land grabbers activities in the indigenous territories, with a focus on the States of Acre, Roraima and Pará, in order to provide empirical elements to qualify Brazil's environmental politics. The lens of environmental justice allows us to assess the impacts of the Brazilian government policies on the land rights of indigenous groups, in order to analyze how the indigenous groups are mobilizing against these policies. The empirical

findings point to the setback in the recognition and guarantee of human rights of indigenous people, especially the territorial rights, by changes to legislation and dismantlement of the administrative structure. Besides, the findings reveal the increase of violence against indigenous communities and other forest communities in the region, but also to the intensification of the transnational mobilization among indigenous groups and its supporters to denounce and give international visibility to these International law violations. Brazil is facing a change in its environmental policies, one that allows the agribusiness and mining sectors to expand its activities. The stigmatization of indigenous and forest peoples as enemies of development and as synonym of poverty resume an anti-indigenous ideology from the Brazilian colonial period that has been recaptured by the federal government, and has been translated into a sovereign rhetoric in opposition to a proactive role in global environmental governance.

ID514.

### **Out of sight – out of regulation? - Ensuring sustainable underground governance in the UK**

Kevin Grecksch

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In the light of increasing claims on underground space for fracking, transport or storage, I assess the question how an improved and sustainable governance of underground space can be ensured. Geological underground models deliver only frameworks for possible uses and we do not know much about the context between geological characteristics and human uses, demands and changes of underground space. Moreover, governing underground space can be complicated as it

involves conflicting objectives and regulatory frameworks. One key objective therefore must be to conceptualise and implement new approaches to underground governance taking into account its diverse uses and various stakeholders' claims.

Although humanity has been using underground spaces for thousands of years for example for extracting mineral resources or water, the systematic use of underground space, especially in urban areas is a developing field and laws are not keeping pace with the demand for, and opportunities of underground space. Construction, transport, groundwater, geothermal energy, geomaterials, storage or mining are possible uses of underground spaces. Extreme cases can be seen in London, where so-called iceberg houses are extended extensively underground. Hence, the underground has become an economic and political arena with potential consequences for example for safe drinking water supply. Furthermore, the governance of underground space can be complicated as it involves conflicting uses and legal regulations. For example, whereas in the UK coal, gas, minerals, silver and gold belong to the Crown, groundwater is owned by the landowner, yet its use is limited to reasonable use or governed by abstraction licenses. This paper introduces the current situation of underground space governance and regulation in the UK, discussing themes such as property rights, regulation, planning, groundwater, fracking and the future of underground space use exemplified by the storage of nuclear waste. Property rights in underground space exist, but they differ across jurisdictions, and in order to enable underground activities, property rights have been adapted over time. Groundwater is an essential resource that is endangered by activities such as shale gas exploration. Moreover, the Netherlands were able to

develop a national subsurface strategy, while the UK has a fragmented planning system, keeping things local but not without problems as the example of fracking shows. All of these aspects matter and there is an interdependence between them requiring a coordinated, interdisciplinary and integral approach. Hence an 'underground dialogue' is necessary that includes a larger and more diverse range of stakeholders and the public.

**ID589.**

### **Examining the Expansion of Ecosystem Services Policy in Southeast Asia: Implications for Participation and Pluralistic Valuation**

Pamela McElwee<sup>1</sup>, *Tuyen Nghiem*<sup>2</sup>, *Ida Ansharyani*<sup>3</sup>, *Win Maung*<sup>4</sup>

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For the past twenty years since the Millennium Ecosystem Assessment, the need to identify, classify, value, and preserve ecosystem services (ES) has become a major component of many environmental policies, including payments for environmental services (PES), biodiversity and carbon offsetting, natural capital accounting, and other approaches. Particularly in developing countries, such as those in Southeast Asia, attention to ES and policies based on them have been strongly promoted by states and donors as a solution to rapid declines in biodiversity and conflicts over natural resources. As ES concepts become more widespread in policy, however, there is a need to understand and explain the underlying

assumptions regarding how nature's benefits to humans are defined, measured, and valued. Yet the transfer of knowledge around ES into policy, decision-making and research is often implicit but underexplored.

Our project has been examining the emergence of policies and decision-making based on ES in three countries of Southeast Asia: Indonesia, Myanmar, and Vietnam. By assessing how ES concepts and valuations are being incorporated into governance at different levels across a single region, we aim to address gaps in understanding how sustainability, efficiency and equitability of ES provisioning is being addressed. Through interviews with nearly 50 policymakers at national and subnational levels across the three countries, we note that ES concepts have been included in only some policies, but not others, leading to contradictions and conflicts for management of some resources, like water and forests. We show that ES concepts, when used to design new policies like PES, are not yet inclusive of multiple stakeholders, and that ES policies do not appear to have increased public participation in policymaking. The implication is that there are few formal processes to include multiple values for nature in decision-making, despite active academic literature on ES valuation across multiple methods (e.g., nonmonetary methods like deliberate valuation) and multiple ES (water, carbon, pollination, etc.). We discuss the implications of these findings for earth systems governance, and provide some suggestions for ways to improve just ES policymaking across the region, particularly in ensuring stakeholder voices are heard and multiple conceptualizations of nature are recognized.

**ID232.**

### **The Nature of Peace – The dynamics between post-conflict peacebuilding and environmental justice**

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This paper presents mid-term results from a three-year inter-disciplinary research project that scrutinizes the mutual constitution between environmental protection, environmental justice and peacebuilding processes after internal armed conflicts.

An integral part of our research design is the difference in timing between our two selected case studies. In Uganda, the signing of the peace agreement officially ended the conflict in December 2002. Tensions over resources have persisted, implying mineral exploitation, land grabs and conflicts between returnees and community members. Together with high poverty and low education levels, they bear a high potential of relapse into violent conflict. Colombia, by contrast, is still in the midst of the peace process. Areas formerly used by guerrillas as hiding places are now undergoing rapid transformation with land conversion, illegal land grabbing, new forms of natural resources exploitation and the growing of illicit crops. We ask to what extent certain lessons for environmental justice, positive and negative, can be learnt from Uganda for the Colombian case.

The linkages of internal armed conflicts to environmental justice are complex. Such conflicts may entail direct environmental destruction and a deterioration of livelihoods, e.g. through population displacement, land grabbing and illegal extraction of natural resources. On the other hand, internal armed conflicts may provide an unintended protection for forests, wetlands and other ecosystems.

Notwithstanding increasing scholarly acknowledgement of this interlinkage, we lack theory-driven comparative empirical analyses for the nexus between post-conflict peacebuilding, justice and the natural environment. Our inter-disciplinary research project provides such an analysis for the Colombian and Ugandan cases, guided by the following research questions:

1. *Taking stock*: To which extent are environmental concerns integrated or neglected in the post-conflict peacebuilding process, especially through environmental institutions and legislation?
2. *Causes*: What are major drivers and conditions underlying this integration or neglect?
3. *Environmental Consequences*: How does the post-conflict peacebuilding process impact each country's natural environment?
4. *Social Consequences*: Which consequences do peacebuilding activities, and their environmental implications and omissions, have for local communities that depend on certain ecosystem services or natural resources?
5. *Political Consequences*: How do these various developments feed back into the peacebuilding process and affect

its objective of sustainable and equitable peace?

6. *Responses*: Which lessons can we learn from these causes and consequences to safeguard environmental justice in peacebuilding processes?

## Panel ID 305

### Justice in a global context

Parallel Panel Session 8,  
Thursday 9<sup>th</sup> September 2021,  
15:30-17:00 CEST

Chair: Vitor Martins Dias

### ID495.

### Rethinking the Polycentricity-Equity Paradox: On the North-South Imbalances in Transnational Climate Change Governance

Cille Kaiser

*Vrije Universiteit, Amsterdam, Netherlands*

Tensions between the global North and South have complicated international climate negotiations from the outset. Due to global asymmetries in the distribution of greenhouse gas emissions and the associated impacts—which in turn are driven by larger, structural inequalities—the international system of states struggles to implement and maintain a one-size-fits-all approach through which these equity deficits can be appropriately addressed.

In contrast, the *transnational* climate change regime (TCCR), led by sub- and non-state actors including businesses, municipalities, and NGOs, holds greater potential for the meaningful involvement of marginalized peoples, in part by virtue of its polycentric character. But while in theory polycentric governance does stimulate

more diversity among stakeholders, the relationship between polycentricity and more equitable governance remains puzzling. This paper explores this relationship in the context of the TCCR.

To this end, I answer two interrelated research questions: 1) how is the TCCR organized along the global North-South divide? And, based on the TCCR's geography, 2) does its polycentric character contribute towards more equitable governance between the global North and South? Based on a large-*N* case study involving the mapping of 174 governance arrangements and 1196 relevant stakeholders, I argue that the TCCR's geography remains notoriously uneven, gravitating visibly towards the global North and its existing centers of international diplomacy. In line with the theoretical notion of mutual adjustment, I identify synergies between the international and transnational regimes, calling into question to what extent polycentricity is an objective condition to begin with.

That the rapid increase in transnational climate change governance arrangements has made little to no meaningful contributions to the equitability of the global climate governance system, I argue, is because of the system's *monocentric* tendencies, which—despite sounding paradoxical—are integral to most, if not all, polycentric systems. Until the active, bottom-up call for deliberation on this matter, these monocentric tendencies will, within the (normative) context of our current political economy, likely continue to gravitate transnational climate change governance towards the global North.

**ID496.**

## **The Role of International Organizations in Equitable Planned Relocation**

Gabriela Nagle Alverio<sup>1,2</sup>, *Sara H Hoagland*<sup>2</sup>, *Erin Coughlan de Perez*<sup>3</sup>, *Katharine J Mach*<sup>4</sup>

<sup>1</sup>*Duke University, Durham, USA.* <sup>2</sup>*Stanford University, Stanford, USA.* <sup>3</sup>*Red Cross Red Crescent Climate Centre, The Hague, Netherlands.* <sup>4</sup>*University of Miami, Miami, USA*

Since 2010, States party to the United Nations Framework Convention on Climate Change have recognized planned relocation as a viable adaptation to climate change. Planned relocation has been attempted in many communities globally and has raised serious issues of equity in some cases. Implementation driven by principles of equity is crucial in ensuring successful planned relocations that decrease loss and damage. In this Policy Analysis, we put forth a framework for equitable planned relocation rooted in theories of justice as a basis for implementation. The framework centers around three principles: comprehensive recognition of affected stakeholders in decision-making, consideration of socio-cultural risk factors relevant to relocation, and evaluation of multiple measures of well-being.

There are many actors involved in planned relocation. Unique features and abilities of international organizations lend themselves to promoting equitable planned relocation in partnership with other stakeholders. Through the exploration of case studies, we identify best practices that international organizations have available to influence the design, implementation, and evaluation of planned relocation processes. These practices are relevant when striving for equity for all

affected individuals and communities. Points of intervention include agenda-setting and advocacy, funding and implementation standards, and facilitation of international cooperation. International organizations also face barriers to supporting equitable planned relocation. Limitations include lack of enforcement mechanisms, limited resources, and fundamental dependence on existing governance structures and global collaboration. As the necessity of planned relocations grows, the need for leadership from international organizations in implementation is magnified, underscoring the importance of developing and evaluating approaches to just implementation.

**ID547.**

### **The organizational ecology of justice groups at the UN climate change summits**

Bi Zhao

*Whitworth University, Spokane, USA*

How have social justice advocacy groups arisen at the United Nations climate change annual conferences? Over the years, non-state observers focusing on climate justice and human rights became a new element at the annual conferences of the United Nations Framework Convention on Climate Change (UNFCCC). While they have different issue focus—be it gender equality, indigenous rights, or intergenerational justice—they all worked hard to raise awareness of the unequal distribution of the negative climate impacts among societal groups. What kind of participation pattern of these justice groups can we observe at the UN climate change governance? What explains the growth of these organizations and the dynamics among themselves?

To answer these questions, we develop a theoretical framework based on organizational ecology (ref 1). As a structural theory, organizational ecology emphasizes the structural determinants of the environment in which the organizations operate. Therefore, we focus on the institutional impacts on the participation of social justice groups at the UNFCCC. We compiled a dataset on justice-oriented groups at the UNFCCC annual conferences from 2003 to 2019. Three main findings illustrate the participation pattern of these groups. First, there has been a significant growth of these groups since 2009. The increase, however, is accompanied by a high turnover rate of organizations. Second, institutional features such as organizational density and resource scarcity shape the justice groups' participation. Finally, unpacking the population of justice groups at the UNFCCC shows the coexistence of collaboration and competition among groups with different justice claims.

The significance of this paper is twofold. First, many existing studies on non-state actors' participation in global governance focus on individual-level factors such as organizational finance, capacity, and membership. By contrast, we know little about the effects of structural and institutional factors on NGO participation. The findings of this paper add new insights from a structural perspective. Second, this paper also spells out broader implications for future research on advocacy groups at global climate governance venues. While climate negotiations are often considered highly technical and economic-driven, the social impact of climate change has garnered increasing attention at the global level. The advocacy groups brought the interests of oft-neglected societal groups into the spotlight, as well as shaped the rhetoric and norms around climate change at the UNFCCC. Their political clout calls for a better

and more comprehensive understanding of their roles and activities in global climate governance.

**ID204.**

### **Misrepresentation and Marginalization of Least Developed Countries in Global Change Science**

*Frank Biermann, Carole-Anne S nit*

*Utrecht University, Utrecht, Netherlands*

The planetary-scale changes associated with the Anthropocene carry major risks for the world's poorest countries, the Least Developed Countries, which soon will represent about one fifth of humanity. These countries are not only poor today, but are also disproportionately vulnerable to increasing risks of global environmental change, and they lack adaptive capacity to cope with future transformations of the earth system. In this situation, one would expect that the least developed countries play a central role in global change science and would be the focus of scholarly assessments and studies. But is this the case? What knowledge, and whose knowledge, prevails in politically significant assessment reports on global change? This paper provides a detailed and comprehensive study of the representation of research institutions from least developed countries in mainstream scientific knowledge production on global environmental change. The study of knowledge production is crucial to the understanding of power dynamics in earth system governance: the production of knowledge is shaped by inherently plural, contestable and political processes that are underpinned by a multiplicity of values, ideologies and interests, which again determines how issues are represented and politics are defined. Using both statistical analysis and discourse analysis

on a set of scientific articles and research networks engaged in science-policy interfaces on climate change and sustainable development, we find that knowledge production on global change remains dominated by a small set of research institutions in North America and Europe. Specifically, this paper maps a lack of representation of South-based institutions and a marginalization or even misrepresentation of the interests of least developed countries in scientific knowledge production and politically significant assessment reports on global environmental change. Ultimately, the global norms designed on the basis of such reports are likely to be unresponsive and unsuitable to the specific environmental vulnerabilities faced by the world's poorest. This paper hence makes vital contributions to the 2018 Earth System Governance Science and Implementation Plan, by directly engaging with themes such as justice and allocation; anticipation and imagination; agency and architecture; as well as the larger thrust of the Earth System Governance community to become a more global and more diverse network.

## Panel ID 308

### Earth system law: new directions

#### (i)

Parallel Panel Session 7,  
Thursday 9<sup>th</sup> September 2021,  
8:30-10:00 CEST

Chair: Ke Tang

#### **ID112.**

### **Innovative yet Inflating: An Introspection on Chinese Environmental Public Interest Litigation Regime**

Ke Tang

*China University of Political Science and Law,  
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Williamsburg, USA*

Facing a more rigorous eco-crisis than ever before, China used to seek a pathway towards modern environmental governance. Now the answer is clear, instead of depending merely on active administrative supervision, environmental public interest litigation (PIL) regime as a passive, judicial way to counter the current pledge, is playing a more crucial role under present Chinese politics-priority system. In response to the political mission of reinstating natural surroundings from constant deterioration, three amendments, the 2014 Environmental Protection Law, 2017 Civil Procedure Law and 2017 Administrative Litigation Law entitled the NGO and procuratorate branch to file lawsuits aiming at protecting environmental public interest. However, such litigation, notwithstanding its theoretical merits, shows an inflating phenomenon in practice. Statistical analysis shows that such a matter could be divided into three parts: The inflation of overall amount, the expansion of procuratorate branches'

involvement and the trespass into private interest's category. As a result, it will lead to fatal consequences for the future development of Chinese environmental PIL, making adverse impacts not only on its social recognition, but taken as a whole, on judicial resource scheduling and trial neutrality as well. There are three reasons for the inflating situation. First, the undefined concept of "public interest" are blurring the boundaries between public and private interest litigation; next, the power-deprived procuratorate branch are overwhelmed by the new-born supervisory power in their position crisis, owing to the 2018 Constitution's amendment; finally, the environmental supervisors are using environmental PIL to divert public attention away from government failure. In response to this, three measures must be taken to ice-break present deadlock, starting with separating the environmental interest of "publicity" from that of the "private", including the state and collective, and thus precluding their benefits from the scope of environmental PIL regime. Second, reducing limitations placed on the NGO in filing environmental PIL also plays a critical part in solving the inflating problem, which makes it possible to decrease the procuratorate branch's unnecessary involvement. Last but not least, a better option for Chinese legislators is to strengthen the convergence between environmental criminal prosecution and public interests lawsuits. By internalizing PIL's cost into that of the former, courts can do maximum savings to judicial resources. In addition, policy-makers are able to offset the outflow of people procuratorates' political power.

ID242.

## Law for the Anthropocene: earth system law and the rights of nature

Alice D.R. Bleby

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Global ecological degradation, on an unprecedented scale and catalysed by human-social systems and activities, lends strong evidential weight to the conclusion that we are now living in the Anthropocene. The implications of this new, turbulent era for law, governance and society are profound; the systems that have helped create this crisis are ill-equipped to respond to it, and urgent adaptation and reform is needed. Earth system law, derived from and related to earth system governance, and explored in this paper through the illustrative example of the rights of nature doctrine, seeks to address this imperative.

The Earth System Governance Project has been pursuing an integrated approach to synthesising the challenges and objectives of social science research and practice and the principles of earth system science for more than a decade. However, exploration of the legal and juridical dimensions of this agenda remains relatively underdeveloped. Earth system law is a nascent discipline emerging to address this gap, with potential to both describe and prescribe paradigmatic shifts in law for the Anthropocene.

The movement to recognise legal rights and legal subjecthood of nature and natural entities is gathering pace around the world, with laws recognising nature as a legal subject and rights-holder in force in Ecuador, Bolivia, the USA, Aotearoa New Zealand and elsewhere. This paper argues that the rights of nature doctrine

is a tangible example of earth system law, which both exemplifies the qualities of earth system law, and offers insight into the normative contours of law necessitated by the Anthropocene.

Drawing on emerging scholarship in the domain of earth system law, earth system governance research and the contextual conditions and research lenses identified in the *Earth System Governance Science and Implementation Plan 2018*, and a broader range of scholarly discussions about the Anthropocene, this paper posits three core tenets of earth system law: promoting an ecocentric approach; embracing complexity; and adopting a planetary perspective. It discusses how these themes or qualities manifest in burgeoning rights of nature laws, as expressions of earth system law. Finally, it argues that the normative underpinnings of the rights of nature doctrine could inform the evolving normative content of earth system law – and the political and behavioural responses it may facilitate – suggesting there is great potential for fruitful exchange between these two emerging frameworks for legal reform in the Anthropocene.

ID493.

## Jurisprudential Cross-Fertilization in Climate Litigation

Otto Spijkers

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This paper purports to look at the actuality and potential of jurisprudential cross-fertilization, i.e., the emergence of interconnections between the rulings of various domestic, regional, and international courts, tribunals, and other norm-shaping bodies and institutions, in climate litigation. We see the emergence of a community of judges, to facilitate judicial cooperation, urging courts to further harmonize the fundamental rules of international (human rights) law that serve as foundation of climate litigation. In a blog post of 2015, Ziccardi Capaldo already described this task and responsibility of the judge. She noted that “it is the duty of the courts, in fulfilling their role of applying the norms of international law, to contribute to its harmonious development eliminating the points of conflict which may arise from the interplay between international rules, or between these rules and domestic laws, as well as from the coexistence of different international courts and tribunals” (Reference 1). In my paper, I will show that various courts indeed already attempt to be consistent with each other, to interpret-away apparent inconsistencies, and to elucidate aspects of the relevant norms of international human rights law that remain unclear. They feel responsible, not only to settle a particular controversy or question put before them, but also to provide further clarity and coherence to the law. In doing so, they refer to each other’s case law and argumentation. For example, in its ruling in

the Urgenda case, the Netherlands Supreme Court cited from the case law of the European Court of Human Rights (ECtHR). And the UN Human Rights Committee referred in its Views in the Teitiota-case to an advisory opinion and judgment of the Inter-American Court of Human Rights, a general comment of the African Commission on Human and Peoples’ Rights, and a series of judgments of the ECtHR. In their application instituting proceedings before the ECtHR, a group of Portuguese children and youngsters refer extensively to the ruling in the Urgenda case, inviting the ECtHR to take part in this phenomenon of jurisprudential cross-fertilization in climate litigation. This is only the beginning of that phenomenon.

ID615.

## Whither the ‘System’ in ‘Earth System Law’?

*Michael C Leach*

*Tilburg Law School, Tilburg University, Tilburg, Netherlands*

The concept of ‘Earth System Law’ at first glance seems to need little explanation about what the ‘system’ is that ESL refers to. The ‘system’ of ESL is the biochemical systems that characterize the ‘Earth System’ models, and/or as the socio-ecological system of the ‘Earth’. In either case, ESL structurally characterizes ‘law’ in a very particular way as a kind of regulatory response mechanism to the complex empirical reality that they describe, a rendering that has largely been used to promote a normative imperative that ‘law’ writ large should better ‘reflect’ or ‘respond’ to the systemic phenomena modelled as the ‘Earth System.’ How exactly law and/or lawmakers can fulfill this normative goal on planetary and lower levels is, however, is still very unclear. While it

is true that ESL is still in its conceptual infancy, this paper will argue that its current structural and functional imaginary for law can only go so far, and even restricts the ability of ESL scholars to recognize its broader dimensions as a normative project. The purpose of this paper is to propose that it is worth considering that the ‘law’ component of ‘ESL’ has systemic characteristics of its own that may be different, albeit not separate, from the systems that characterize Earth System sciences. Doing so will allow for a richer appreciation of how the ‘reflective’ relationship between law and Earth Systems as imagined by ESL is far from straightforward and requires further theoretical consideration. Looking at ESL from a systemic perspective may offer a useful sense of what the nature of the change is that ESL is advocating at a fundamental level. The paper will offer a critical and exploratory overview of the different schools of systems thinking (autopoeisis, complexity, etc.) that could be applied to understand that ‘reflective’ relationship between law and Earth Systems. As such, the paper will contribute to the central conference theme by considering the structural dimensions of both *how* and *where* law can be expected to ‘respond’ to the Earth System as both a regulatory mechanism and a structural dynamic operating both upon and within socio-ecological systems at multiple levels and scales over the planet. In so doing, it will locate ESL as a particular kind of normative project with that construct in order to derive insights into the relevance and scale of its self-described task and purpose.

## Panel ID 310

### Just energy transitions and climate justice

Parallel Panel Session 9,  
Thursday 9<sup>th</sup> September 2021,  
17:15-19:00 CEST

Chair: Pablo Serra-Palao

#### ID274.

### Is the current energy transition a just energy transition?

Larissa Basso

*Stockholm University, Stockholm, Sweden*

Although the world remains highly dependent on fossil fuels – they answered for 81.3% of total primary energy supply in 2017, against 86.8% in 1973 (IEA, 2019) – there is definitely an ongoing energy transition towards renewables in electricity markets. Investment in research and development of renewable technologies and storage is going strong; more and more utilities relying primarily on renewable sources enter grids; in many places, building and running new utilities with renewable sources became less expensive than their fossil fuel counterparts. This is great news for climate change mitigation – though partially, as we still need technology breakthrough in storage to counter fossil fuel dominance. But is this energy transition also contributing to a just transition, towards integrating the needs of different peoples who will be differently affected by climate change?

In this paper, we focus on the tension between the ongoing energy transition and the idea of a just energy transition. We divide our analysis in two parts. First, the global political economy of wind and solar energy and its developments since the 2000s is demonstrated, focused in

showing how technology has developed and who and what drove it. Then we compare its developments in two countries, Brazil and South Africa, most-different cases in terms of electricity matrix but very similar in terms of vulnerability to climate change as well as institutional challenges. Our objective is to identify how the transition towards more renewable electricity is developing in both countries and which interests are driving it. We argue that although the ongoing energy transition is highly positive – even if still insufficient – from the point of view of reducing dependence from fossil fuels, it is fundamentally not aligned with the idea of a just energy transition, beyond the objectives of energy access and energy poverty.

**ID551.**

### **Examining Justice Claims in the Energy Transition in Sweden**

*Vasna Ramasar<sup>1</sup>, Henner Busch<sup>1</sup>, Eric Brandstedt<sup>1</sup>, Krisjanis Rudus<sup>2</sup>*

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The way in which we produce and consume energy has profound implications for our societies. How we configure our energy systems determines not only our chances of successfully dealing with climate change but also, how benefits and burdens of these systems are distributed. In this context, Sweden is a particular case. As one of the Nordic countries, its political culture focusses on consensus building. The country's electricity production is already mostly decarbonised, due to hydro and nuclear electricity generation. However, a considerable expansion of wind power, especially in the North of the country is well underway, leading to conflicts around the siting of new turbines. Another critical question

is the decarbonisation of the transport sector. A recent increase in fuel taxes has given rise to the movement Bensusuppreret 2.0 (“gasoline revolution 2.0”), which claimed to have several hundred thousand supporters, even though protests in Sweden have not turned as violent and confrontational as in France. Nevertheless, these points highlight the challenges that even a country such as Sweden, which is blessed with ample hydro and bio-energy, has to face when instigating a transition to a decarbonised and fossil-free energy system. In this paper, we set out to map conflicts related to the energy system in Sweden. The purpose of this exercise is threefold: first, to identify and understand energy conflicts in Sweden; second, to inform policymakers of the challenges they face when they are to instigate a just transition and third, to identify gaps in the literature on energy justice in Sweden.

This systematic review builds upon 35 scholarly articles focusing on energy conflicts in Sweden. All articles were written in the time period from January 2012 to July 2020. All articles were peer-reviewed in scientific journals and published in English. The papers were analysed using a framework for energy justice that focused on the elements of distributional and procedural justice and justice as recognition.

The findings of the review suggest that there has been little explicit focus on energy justice in the literature on Sweden's energy system. Issues of distributional justice are most raised and procedural and recognition justice are often conflated. Whilst conflicts over hydropower and nuclear have dominated in the past, wind energy in Sami territory is most problematised in the reviewed literature. Another missing element in the understanding of justice in the Swedish energy system is a rigorous handling of ecologically unequal exchange.

**ID642.**

## **Can Climate Justice Accelerate the Energy Transition in Canada?**

Alexandre Gajevic Sayegh

Université Laval, Québec City, Canada

The central hypothesis of this project is the following: can climate justice reduce the social and political tension surrounding climate policy implementation, and thereby accelerate the green economy transition in Canada? The inclusion of fairness measures in the green economy transition – especially by targeting workers in the most affected sectors (e.g. those in oil and gas sectors in Alberta and Saskatchewan) – should impact the political acceptability of climate policy. This paper will thus formulate just transition measures and then test – via surveys – whether they increase the social acceptability of climate policy.

The background of this paper was given by a previous assessments of net job creation, investments projections and price-increase of carbon intensive goods in Canada between 2020 and 2030. This will allow in Part I in to better formulate fairness-based provisions aiming to support workers, communities, and industries in the energy transition. In Part II, this paper will include these measures in survey questions in order to test the social acceptability of climate policy. For instance, survey questions will compare the social support for carbon pricing in Canada with and without accompanying fairness provisions for workers and communities, such as support for retraining and relocation. This will cast light on the potential role of climate justice as an accelerating device for climate action, for the idea of complementing climate policy with targeted fairness measures may or may not increase their social acceptability.

**ID251.**

## **Access for Whom: The Politics of Resource Allocation in Urban Adaptation and Mitigation Planning**

Devon Cantwell

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Cities have been enthusiastically developing and revising climate action plans to target adaptation priorities and to signal support for mitigation efforts over the last decade. As the international community begins to give more weight and attention to subnational actors, and especially cities, it begs an ethical question: who reaps the benefits of climate action planning? In essence, who are cities choosing to save through their climate action planning priorities?

This paper uses ArcGIS, spatial ethnography, and policy document analysis to explore the relationship between economic access, gender, race, and social capital and the allocation of resources related to city adaptation and mitigation planning efforts. Four case studies are used to explore this relationship: Mexico City, Seoul, Ho Chi Minh City, and Buenos Aires. This research contributes meaningfully to the current literature on urban climate action planning by providing additional empirical and global accounts of adaptation and mitigation planning at the city level and by connecting this research with larger normative and ethical questions of justice in environmental governance.

## Stream 4

### Anticipation and Imagination

#### Panel ID 10

#### The Role of Emerging Technologies for Sustainability Governance

Parallel Panel Session 3,  
Tuesday 7<sup>th</sup> September 2021,  
16:30-18:00 CEST

Chair: Josh C. Gellers

#### ID46.

#### Greening the Machine Question: Towards an Ecological Framework for Assessing Robot Rights

Joshua C Gellers

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Should robots have rights? This question has inspired much debate among philosophers, computer scientists, policymakers, and the popular press. However, much of the discussion surrounding this issue has been conducted in the limited quarters of disciplinary silos and without a fuller appreciation of important macro-level developments. I argue that the so-called ‘machine question’, specifically the inquiry into whether and to what extent intelligent machines might warrant moral consideration, deserves extended analysis in light of these developments. Two global trends seem set for a collision course. On the one hand, robots are becoming increasingly human-like in their appearance and behavior. On the other hand, legal systems around the world are increasingly recognizing the rights of non-human entities. Courts in different corners of the globe have similarly identified rights held by non-

humans—the Whanganui River in New Zealand, the Ganges and its tributaries in India, the Atrato River in Colombia, and Mother Nature herself (*Pachamama*) in Ecuador. These worldwide movements casts doubt on the idea that humans are the only class of legal subjects worthy of rights. In this paper, I present an interdisciplinary framework for evaluating the conditions under which some robots might be considered eligible for certain rights. This framework derives inspiration from contemporary paradigm shifts observed across several disciplines, including the Anthropocene turn in philosophy, the materialist turn in the humanities and social sciences, the ontological turn in environmental law, the relational turn in ethics, and the relational turn in robotics. Bringing together heretofore disparate concepts and empirical evidence from anthropology, law, ethics, philosophy, and robotics, I introduce an analytical tool designed to help academics, activists, judges, lawyers, and policymakers evaluate the extent to which rights might apply to a given robot. In so doing, I herald the arrival of what I call the ‘robotic turn in human rights.’ Ultimately, I argue that a critical, materialist, and broadly ecological interpretation of the environment, along with decisions by jurists establishing or upholding the rights of nature, support extension of such rights to non-human entities like certain robots.

#### ID484.

#### Anticipating sustainability transitions: the adoption of climate-related technologies in oil incumbents

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Ongoing technology developments have made more solutions available to address current climate and sustainability challenges. However, the process of change towards the adoption of new technologies has been difficult to imagine for established organisations and actors which usually concentrate most of the polluting social and technological structures. The new technologies designed for greater sustainability are disruptive to incumbent or established companies when their adoption requires the redesign of the organisation itself along with the new proposed product. Furthermore, they include a long-term planning component distinctive of sustainability decisions that for most organisations is hard to grasp fully. This paper proposes that oil major companies and their attempts and setbacks in the development of new renewable energy technologies exemplify processes of imagination and anticipation present in established organisations that require to adopt new climate-related technologies. Particularly since oil companies need urgently to reimagine their organisations and identity in terms of new technologies in order to achieve global emission reduction targets. The literature on incumbent firm's adaptation to technical change has proposed several factors to explain the heterogeneity in a firms' adoption of disruptive technologies, such as its organisational structure, stakeholders, its ecosystem and environment, as well as the cognitive models of its members and its identity. This paper explores this heterogeneity by asking how companies decide to turn disruptive climate-related technologies into profitable businesses in the future – a crucial step towards fully transitioning to sustainable technologies. And which factors facilitate the processes of anticipation and imagination for engaging with these technologies. To address these questions, this paper follows an inductive research design to

identify the external and internal processes of eight European oil majors over the last 20 years in their engagement with renewable energy technologies, as a type of climate-related technology. With the analysis of corporate historical records and interviews with key managers, the paper will present a detailed analysis of the processes of anticipation and imagination present in the adoption and backtrack of climate-related technologies, as well as the cognitive frames formed within the organisations when facing these decisions. The research aims to contribute to the organisational literature on incumbents' responses to technology disruptions by detailing the evolution of processes associated with the adoption of climate-related technologies over time. And aims to provide one plausible avenue for integrating studies in organisations and climate change with the study of incumbents' responses to technological disruptions.

**ID536.**

### **Anticipatory Governance of AI and Data Driven Precision Agriculture Technologies**

*Benjamin E.K. Ryan<sup>1</sup>, Asim Zia<sup>1</sup>, Maaz Gardezi<sup>2</sup>, Donna M Rizzo<sup>1</sup>*

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The term, farming 4.0 has been used to characterize technologies and practices in precision agriculture (PA), generally defined as software and hardware technologies for data collection, analysis, and control of farm equipment and rural infrastructure. These technological transformations in agriculture have the potential to improve economic productivity and environmental sustainability, but can be disruptive to the future of

agricultural work and workforce. As certain tasks become more efficiently performed by machines, jobs will be lost. However, other jobs will emerge and flourish that augment worker productivity and could improve quality of life. Corporate ownership of farm level data across the supply chains, ranging from seeds to the harvesting of agricultural products, pose serious ethical and governance challenges. Little is known about how farmers and consumers come to trust artificial intelligence (AI)-based PA technologies and what governance and regulatory arrangements are needed for PA's effective adoption among farmers. This paper explores the potential of an anticipatory governance framework to co-design and co-develop AI and data driven PA technologies with multiple stakeholder groups. Anticipatory governance is broadly defined in the literature as "governing in the present to adapt to or shape uncertain futures". In this study, we apply an anticipatory governance framework – utilizing probabilistic, plausible, pluralistic and performative approaches – to understand multiple stakeholder perspectives about governing and co-designing PA technologies. Six focus groups with stakeholders representing farmers, policy makers, academics and PA technology developers were implemented in South Dakota and Vermont in 2019. A foresight method for co-production of knowledge was also applied as part of these focus groups. Foresight is an anticipatory method used to draw out future visions held by various actors. We used a mixed methods approach, with a focus on qualitative thematic analysis of foresight data and quantitative statistical analysis of survey data, to examine probabilistic, plausible, pluralistic and performative implications for anticipatory governance of PA. We found stakeholders across the food value chain shared governance concerns of PA regarding data ownership, access and privacy. There was also strong

consensus among stakeholders to co-design PA technologies specifically using performance-based payment for ecosystem services mechanisms for sustainable agriculture. Trust was found to be fundamental in willingness of farmers to adopt and implement PA technologies, citing power asymmetries between corporations and producers. AI and PA industries are contemporarily self-regulating and as these technologies emerge, we found support among stakeholders for more pluralistic governance.

### **ID557.**

#### **Building an integrative framework for the fair and responsible governance of synthetic biology**

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*University of Trento, Trento, Italy*

Synthetic biology aims to exercise control in the design, characterization and construction of living organisms and biological parts. No longer the domain of science fiction literature, it has progressed by leaps and bounds in recent years, accompanied by great promises and grave risks. Law and governance lag behind. Lab experimentation and field trials take place in a legal vacuum. On top of companies and research institutes, a vibrant do-it yourself community is engaged in research, claiming to democratize innovation. Global deliberations on the environmental and socio-economic impacts have only recently begun under the auspices of UN multilateral environmental agreements, and policy-relevant academic analysis is urgently needed. This paper will present the framing and planning of socio-legal research undertaken in the framework of a Marie Skłodowska-Curie Individual Fellowship, which aims to develop a new integrative framework for the governance of synthetic

biology, developed on the basis of an investigation from the macro-level (international environmental law and institutions for global governance) to the micro-level (actors involved in lab research), also addressing the meso-level of institutional structures for risk management and responsible research and innovation practices that may be used to connect them. Such a framework will be built upon: a) an assessment of the current state of international law and governance, including an analysis of regulatory gaps and novel normative challenges; b) an examination of existing theoretical frameworks on risk management and responsible research and innovation, including gendered approaches to risk that have been understudied to date; and c) a typology of actors involved in synthetic biology research, including an analysis of who does what, why, and how they envisage regulation, with a particular focus on gene editing in agriculture. Aiming at improving accountability and enhancing legitimacy, both of law and governance and of the innovation process, this framework aims to bridge gaps in scholarly efforts, as well as facilitate decision making, ensuring that synthetic biology applications promote the global objectives of food security, sustainable agriculture and environmental protection.

## Panel ID 19

### New Technologies and Environmental Governance: Expertise, Transformations, and Institutions in the Anthropocene

Parallel Panel Session 8,  
Thursday 9<sup>th</sup> September 2021,  
15:30-17:00 CEST

Chair: Ina Möller

**ID87.**

## Institutional Adaptation to Technological Change

*Florian Rabitz, Eglė Butkevičienė, Jurgita Jurkevičienė, Vidas Vilčinskas*

*Kaunas University of Technology, Kaunas, Lithuania*

Technological change frequently generates regulatory gaps in international institutions: some or all aspects of a novel technology might fall outside of the pre-existing set of international rules; rules might be inadequate for mitigating risks and capturing benefits; and different rules might be inconsistent or even subject to norm collision. Regulatory gaps thus create functional pressure for institutional adaptation. This paper assesses when, why and how international institutions adapt to technological change. We distinguish between adaptation processes (understood as the scope of formal institutional change) and adaptation outcomes (in terms of legalization). Both processes and outcomes vary across institutions and technologies: in some cases, adaptation processes consist in the layering of novel sets of rules onto an existing institutional core. In others, institutions are converted to serve fundamentally different purposes than those for which they were originally designed. Similarly, adaptation outcomes sometimes consist in imprecise rules of weak normative force, and sometimes in highly-specific, legally-binding rules that are potentially monitored, enforced and adjudicated by third parties. For explaining cross-institutional and cross-technology variation in adaptation processes and outcomes, we develop a series of hypotheses associated with three key factors: the international constellation of interests, the state of scientific knowledge, as well as the flexibility of institutional design features. We use four cases for hypothesis testing via a combination of within case- and cross-case

comparisons: biotechnology under the Convention on Biological Diversity (CBD); climate engineering under the CBD and the London Convention / London Protocol; mineral extraction in areas beyond national jurisdiction under the United Nations Convention on the Law of the Sea and the Outer Space Treaty; as well as hydrofluorocarbons under the Montreal- and Kyoto Protocols. Our results suggest a primacy of interest-related factors: adverse interest constellations are associated with marginal adaptation processes through institutional layering and weakly-legalized outcomes, whereas benign interest constellations enable transformative adaptation processes through institutional conversion as well as outcomes with significant depth of legalization. We also find a limited role for institutional design elements such as voting rules and transparency measures, yet their efficacy in facilitating deep adaptation is possibly tied to their interaction with the international constellation of interests. Finally, we only find very limited evidence to suggest that the state of scientific knowledge has a significant impact on adaptation.

**ID285.**

### **Interrogating the dominant and peripheral socio-technical futures in US agriculture**

Maaz Gardezi<sup>1</sup>, Asim Zia<sup>2</sup>

<sup>1</sup>South Dakota State University, Brookings, USA. <sup>2</sup>University of Vermont, Vermont, USA

In recent years, food, energy, and water security has emerged as a pressing and salient social, economic, and political issue, with

increasing calls for a purposive agricultural transformation to sustainability in the Anthropocene. The road to sustainability in agriculture is fraught with uncertainties relating to the future arrangement of food systems, the expectations of benefits and risks of new and existing technologies, uneven adoption of agricultural technologies, the governance of artificial intelligence and machine learning algorithms, and the promises and perils of technologies to tackle some of the most serious issues pertaining to climate change. A key approach to envisioning pathways to sustainability has been through the development of scenarios and methods of anticipation that unveil different plausible and desirable futures. These anticipatory exercises are useful for diverse stakeholders to deliberate on strategies and changes in the present that can help nation-states, coordinating commissions, actors and organizations achieve desirable outcomes in the future. Building on existing work on sociotechnical imaginaries and relational co-productionist approach, this paper analyzes both the dominant and the non-conventional or peripheral imaginaries in the US agricultural space. Drawing on foresight workshops and focus group discussions conducted in the Midwest and Vermont, this paper highlights diverse sociotechnical imaginaries of food and agriculture systems. It concludes by recommending ways in which agriculture and society can attend to this diversity of visions by intentionally shaping socio-technical transformations toward sustainability in agriculture today.

**ID469.**

### **Anticipatory Governance of Solar Geoengineering: How Future Visions Shape Proposals to Govern**

Aarti Gupta<sup>1</sup>, Ina Moller<sup>1</sup>, Frank Biermann<sup>2</sup>,  
Sikina Jinnah<sup>3</sup>, Prakash Kishwan<sup>4</sup>, Vikrom  
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DC, USA

Solar geoengineering (or ‘solar radiation management’) refers to a suite of speculative technologies designed to reflect some incoming solar radiation back into space, as a way to counteract some of the adverse consequences of climate change. This includes stratospheric aerosol injection, i.e. the deliberate, large-scale injection of reflective particles, such as sulfate aerosols, into the upper atmosphere to reflect and scatter some incoming sunlight. Solar geoengineering ideas remain highly controversial, with scientific uncertainties regarding their feasibility and efficacy in avoiding the worst consequences of climate change, as well as unevenly distributed potential benefits and risks. A growing social science literature now highlights the urgent need to govern such speculative technologies, yet such governance has to be largely *anticipatory* in nature. This article examines whether and how a growing academic literature on governing solar geoengineering acknowledges and conceptualizes the anticipatory nature of this governance challenge. It then identifies and categorizes the political implications of diverse proposals relating to the *what, why and how of governing solar geoengineering*, and links this to diverse visions of climate futures with or without solar geoengineering that are implicit in these governance proposals.

Such an analysis is very timely in light of the increased policy attention and developments relating to solar geoengineering in the last years. These include the special report by the Intergovernmental Panel on Climate Change on the Paris Agreement’s aspirational 1.5-degree temperature target, which called for further investigation into governance and governability of solar geoengineering. The government of Switzerland also tabled a resolution, supported by 11 other developed and developing countries, at the United Nations Environment Assembly in 2019 calling for an international assessment of potential risks posed by diverse climate engineering technologies. The US National Academy of Sciences has launched a new assessment process on these technologies, and small-scale outdoor experiments are now being contemplated in the US. The growing rhetoric around a climate emergency in the last year also plays into these debates in diverse ways, including by giving further impetus to calls for researching solar geoengineering options. This greatly increases the political stakes in scholarly debate on anticipatory governance of solar geoengineering. This paper contributes to the *Anticipation and Imagination in Earth System Governance* conference theme, and to the ESG Task force on Novel Technologies and the ESG Working Group on Anticipatory Governance under the Task force on Conceptual Foundations.

#### **ID504.**

### **Arguments and Architectures: Discursive and institutional structures shaping international decisions on climate engineering governance**

Miranda Boettcher<sup>1,2</sup>, Rakhyun E Kim<sup>3</sup>

<sup>1</sup>*Copernicus Institute of Sustainable Development, Utrecht University Utrecht, Utrecht, Netherlands.* <sup>2</sup>*Institute for Advanced Sustainability Studies (IASS), Potsdam, Germany.* <sup>3</sup>*Copernicus Institute of Sustainable Development, Utrecht University, Utrecht, Netherlands*

The Anthropocene is giving rise to novel challenges for global environmental governance. The barriers and opportunities shaping the ways in which some of these complex environmental challenges become governable on the global level is of increasing academic and practical relevance. In this article, we bring together neo-institutionalist and post-structuralist perspectives to create an innovative framework for analysing how institutional and discursive structures bound and shape the international governance opportunities which become thinkable and practicable in the face of new global environmental challenges. We apply this framework to assess the way in which governance of climate engineering – the large scale, deliberate invention into the global climate system to mitigate climate change – is being shaped by intuitional and discursive structures in three international forums, namely the London Convention and its Protocol, the Convention on Biological Diversity, and the United Nations Environment Assembly. Our analysis illustrates that the ‘degree of fit’ between given discursive arguments (or ‘software’) and material architectures (or ‘hardware’) made climate engineering (un)governable in each of these forums. Furthermore, we find that the ‘type of fit’ across four different levels - objects (what), rationales (why), modes (how), and speakers (who) - set the discursive and institutional conditions of possibility for what type of governance emerged in each of these cases. Based on our findings, we critically discuss the

implications for the future governance of climate engineering at the global level.

## Panel ID 401

### Anticipating the Future: Politics, Governance Modes and Challenges

Parallel Panel Session 4,  
Wednesday 8<sup>th</sup> September 2021,  
9:00-10:30 CEST

Chair: Carla Alexandra

## ID553.

### The International Regulation of Transnational Commons: Regime Formation, Institutional Design and Implications for Near-Earth Asteroid Mining

Florian Rabitz, *Eglė Butkevičienė*

*Kaunas University of Technology, Kaunas, Lithuania*

Transnational commons are shared natural resources for which no effective access regimes exist. Such resources include Antarctica, the atmosphere or international waters. Without international access regulation, transnational commons are prone to overuse. As the technological and economic capacities for access are distributed highly unevenly, a lack of regulation also raises questions of fairness and equity regarding the distribution of benefits resulting from the use of transnational commons. We presently witness intensifying commercial interest in Near-Earth Asteroids (NEAs), known to contain deposits of precious- and other metals of significant market value. While international law (broadly) treats NEAs as the common heritage of humanity, no

operational rules currently exist regarding their use as "the province of all mankind" (as stipulated by the Outer Space Treaty). This paper elaborates a) the conditions under which international regimes for transnational commons emerge, and b) the relevant institutional design elements for combining access with a fair and equitable distribution of the resulting benefits. To do so, we analyze two historical cases: The international regime for deep-sea mining under the United Nations Convention on the Law of the Sea, as well as the system for the multilateral sharing of plant germplasm under the International Treaty on Plant Genetic Resources for Food and Agriculture. Our findings suggest a) that the successful formation of a comprehensive international regime for NEA mining is highly unlikely in the absence of broader multilateral package deals, the scope for which is extremely narrow; and b) that onerous obligations regarding compliance and the sharing of commercial and other benefits are likely to deter potential users, leading to underutilization and limiting the scope for benefit-sharing. Instead, our analysis suggests that a phased approach, which would combine an initial soft-law instrument with a ratchet mechanism, would have greater political feasibility and larger aggregate effectiveness than the conventional approach to the international regulation of transnational commons based on binding international law with stringent monitoring- and compliance procedures.

**ID60.**

**Coordinated pathways towards a climate-safe future? Analysing climate policy advice from international organisations over time**

Ina Möller, Aarti Gupta

*Wageningen University, Wageningen, Netherlands*

Global climate governance is strongly shaped by the forward-looking expertise of authoritative actors. The production of forecasts, prognoses and scenarios represents a form of anticipatory global governance that is especially influential when expressed by globally recognised international organisations. By identifying certain problems and naming corresponding solutions, they essentially define the spectrum of appropriate behaviour for other actors. Yet despite the uncertain and fragile nature of forward-looking knowledge, the recommendations issued by authoritative actors on the subject of climate change are surprisingly homogeneous. This implies a coordination of global futures through anticipatory practices, and necessarily involves a coordinated choice in what problems to report and what solutions to name. In this way, fragile and potentially contested future-looking knowledge is stabilised and institutionalised in present-day policy making. To document this process and critically reflect upon it, this article analyses how the ten largest international organisations, measured by annual turnover, define the spectrum of appropriate behavior to ensure climate-safe futures. Using the analytical tool of topic modeling, it maps trends in the choice of policy recommendations contained in climate change reports issued by these organisations between 2000 and 2019. The recommendations cover options ranging from carbon markets and the expansion of renewable energy, to negative emissions technologies and other forms of climate engineering. The results show that at any point in time, most of the studied international organisations identify the same problems and suggest a similar set of policy options, despite

the much wider variety of available forward-looking knowledge collected by the Intergovernmental Panel on Climate Change. The article ascribes this apparent coordination to a self-organising principle evident within and between influential, mainstream international organisations, where shared logics of manageability, reduction of complexity, linear thinking, and/or compatibility with economic growth result in the exclusion of policy recommendations that diverge from the aforementioned logics. By revealing this *de facto* coordination, the article contributes a critical anticipatory governance lens to the international relations literature on climate change policy making. As such, it fits most closely into the ‘anticipation and imagination’ theme outlined in the call for papers for the 2020 Earth System Governance Bratislava conference, given this theme’s focus on anticipation processes that seek to imagine and govern contested climate and sustainability futures.

**ID567.**

### **Advancing ‘anticipation’ as a normative ideal of earth system governance: A synthesis**

Emily Boyd<sup>1</sup>, Izabela Delabre<sup>2</sup>

<sup>1</sup>LUCSUS, Lund, Sweden. <sup>2</sup>Sussex Sustainability Research Programme, Brighton, United Kingdom

Anticipation is increasingly central to contemporary environmental governance debates on future earth systems transformations. Anticipatory governance is seen as an emerging concept that captures the current science of uncertainty including climate change, divergent views on decision-making for the ‘right’ solutions for the future, and the distribution of justice implications for future transformations. It is largely agreed that the earth system requires long-term thinking coupled with new forms of adaptive decision making that build resilience to future large-scale, uncertain and rapid changes at a global scale and that takes into account diverse views of the future. Anticipatory practices are thus coming to the forefront of political, organizational, citizens’ society and humanitarian relief. Research into anticipation, however, has not kept up with public demand for insights into these anticipatory practices, their risks and uses. Where research exists within social sciences, it is deeply fragmented. There exist basic gaps in our knowledge such as how is anticipation conceptualised within social science literature and what can we learn from that? What can the Earth System Governance community learn from other literature in the social sciences? What is the relevance to earth systems transformations knowledge? We systematically review the development of discourse on the anticipation concept in scholarships in social science as a reaction to rationalist and linear accounts of policymaking, such as: 1) futures studies; 2) policy and planning studies; 3) post-positivist policy studies; 4) political science literature on defense studies and presidential decision-making; 5) post-normal science and STS studies and 6) reflexive governance for sustainability. Within a framework of environmental governance, we explore how these understandings of anticipation relate to the notion of long-term, futures-informed and

imagined earth system governance. There are many different strands of ‘anticipation’ but we will fail if we just go down the dominant socio-technical and planning route.

#### **ID394.**

### **Discourses of the future: sociotechnical imaginaries and water governance in Australia’s Murray Darling Basin.**

Carina Wyborn

*Australian National University, Canberra, Australia*

Global environmental change is increasing pressure on water resources, complicating already contested governance processes that seek to balance social, environmental, cultural, and economic objectives. These conflicts are ever present in Australia’s Murray Darling Basin, home to ~2.6million people and the site of contested governance reforms for over a century. With decreasing inflows and rising temperatures, longstanding conflicts between environmental flows and economic development are becoming more fractured and divisive. In this context, there are increasing calls for governance processes that anticipate, and prepare for future environmental change.

This paper will present an analysis of the anticipatory framings within selected policy and planning documents from different scales of water governance within the Murray Darling Basin. It will draw on the concept of sociotechnical imaginaries to examine how the future is imagined and theorised. Imagination is a social process, shaped by situated practices and politics that infuses the cognitive, emotive, and normative to generate new ideas or practices not known in the present. Imaginaries

influence environmental governance through delineating the boundaries of how and issue and its possible solutions are framed, to invoke images of how the world ‘ought to be’. The politics of imaginaries comes into play when we ask questions about which types of imaginary practices, and whose imagination of the future is embedded within decision-making processes. This paper directly connects to the Imagination and Anticipation theme within the Earth Systems Governance Science Plan, and will provide a framework to consider what types of knowledge and practices are invoked to imagine the future, and how those conceptualisations are embedded within current governance practices and processes.

#### **Panel ID 402**

### **Foresight and Scenarios as Sites of Anticipatory Governance: Comparative Experiences**

Parallel Panel Session 3,  
Tuesday 7<sup>th</sup> September 2021,  
16:30-18:00 CEST

Chair: Valerie Luzadis

#### **ID327.**

### **The anticipatory governance of food system transformations: an analysis of the governance-literacy of foresight processes**

Karlijn Muiderman<sup>1</sup>, Monika Zurek<sup>2</sup>, Joost Vervoort<sup>1</sup>, Aarti Gupta<sup>3</sup>, Saher Hasnain<sup>2</sup>, Peter Driessen<sup>1</sup>

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This paper examines the ways in which foresight processes inform policy making in food systems transformations. Foresight is a label for a wide range of methods and tools such as modeling and scenarios narratives. Such approaches engage with future change processes under uncertainty and complexity. The challenge of transforming food systems is a policy area in which foresight is considered particularly useful. Foresight methods and tools can take a wide range of possible drivers of changes to future food security into account, including changes to demography, economics, geopolitics, and climate and other environmental factors. In turn, foresight can help think about the steps needed to drive transformational change. Though foresight has long been used by policymakers and practitioners to support their decision making, now it is increasingly taking center stage in sustainability theory and practice. However, there is a lack of research into the anticipatory steering effects of foresight onto decision-making processes on food systems. Foresight practitioners often do not offer comprehensive investigations of how foresight is seen to impact policy and governance processes, and/or what the political implications of their engagement with the future are. Responding to this gap, this paper applies a novel analytical framework for analyzing links between foresight and policy. This framework identifies four distinct ideal-typical approaches to anticipation and anticipatory governance are identified, which differ in their conception of the future and implications for actions to be taken in the present. Developing and applying this framework, we examine the extent to which, and how, foresight practitioners proactively and explicitly engage with the policy and governance context in which they hope to intervene. To do this, we analyse the Foresight4Food initiative, which is a network

initiative of international foresight practitioners working on food systems transformation. We surveyed their foresight community and used results as the starting point for an in-depth multi-stakeholder exploration of foresight-policy links in a workshop setting. Based on these results, the paper offers comprehensive insights into how foresight practitioners understand policy guidance, where such perspectives are incomplete or limited, and how integration between foresight and policy might be improved in a way that is sensitive to the politics of futures. The paper contributes to the conference stream ‘anticipation and imagination’ and to the Task Force on Conceptual Foundations of Earth System Governance.

**ID349.**

### **Imagining positive futures for nature in an co-creative process – the new IPBES Scenarios on Nature**

Machteld Schoonenberg<sup>1,2</sup>, Marco Immovilli<sup>1,3</sup>,  
Sylvia Karlsson-Vinkhuysen

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<sup>3</sup>*Wageningen University, Wageningen, Netherlands*

Scenarios are tools for imagining future directions for governing complex problems. In developing directions for the new, post-2020 Global Framework for Biodiversity under the Convention of Biological Diversity (CBD), scenario-analysis plays an important role in informing parties. Up till now many scenarios narratives are developed by the climate change community and further analyzed for biodiversity. This has certain shortcomings

from a nature perspective. Therefore, since 2016, the IPBES Expert group on Scenarios and Models (now Task Force) is developing a new set of scenarios for the future of nature. The main objective is to identify alternative pathways towards improving biodiversity and ecosystem services while also achieving other international goals and targets. The ultimate aim is to establish ‘community scenarios’ for researchers applying scenario-methods across a range of disciplines, to provide a common and strengthened basis for future IPBES assessments to inform decision-making on nature.

Using stakeholder workshops and consultations, we have captured a continuum of different future visions for nature. These have been based on promising examples of local initiatives (‘seeds’) that, if extrapolated, would result in positive futures for nature and people. From these visions a triangular value space emerged, the nature’s future framework, encompassing how stakeholders value nature from different perspectives: Nature for nature, where nature is intrinsically valued; Nature as culture, where people consider themselves as part of nature, and nature as part of their culture; and Nature for society, where nature is seen as a useful resource. A next step in this process is to co-create with stakeholders, full scenario narratives of these ‘nature futures’, including existing mechanisms and which interventions and (behavioral) changes are needed to achieve these visions, anticipating restricting factors. We will present the outcomes of and next steps in work, as well as reflect on the context, politics and power-relations in this participatory process. Furthermore, we will present an application of the nature’s future framework to two alternative scenarios for biodiversity and ecosystem services that have been formulated by PBL Netherlands

Environmental Assessment Agency in support for the development of the Post-2020 Strategic Plan of the CBD. We have used the framework to make considerations on how equity, justice, power and values of nature influence political decision-making with regard to biodiversity governance.

## **ID526.**

### **Unbounding the future: A framework for more reflexive use of scenarios in sustainability science**

Anita Lazurko

*School of Environment, Resources, and Sustainability, University of Waterloo, Waterloo, Canada*

Sustainability scientists are increasingly concerned with overcoming path dependence in pursuit of transformative change. Processes of anticipation – often centering the use of scenarios – are important for imagining and governing the complexities of transformation, including the interplay of persistence and change across scales (ref 2). These anticipatory processes influence the future in various ways, such as by informing strategic decision making and creating transformative spaces where participants learn and deliberate over multiple framings and interests (ref 3).

Despite this explicit orientation toward impact in the present, scenario practice has been relatively uncritical of the impact of scenario framing or method on outcomes (ref 4). Anticipatory governance researchers are addressing this gap by connecting different types of anticipation to their present political implications (ref 5). However, sustainability scientists still face numerous practical choices that delimit the range of future conditions discussed and reflected in scenario processes.

What is the purpose? Who is involved? How are uncertainties elicited? Are they modelled? Do the scenarios consider top-down or bottom-up change? What epistemological lens underpins the process? The way these choices implicitly and explicitly delimit the future may reinforce or challenge assumptions about the future in ways that impact transformation.

In this paper, I present a novel framework that aims to enable more reflexive use of scenarios in sustainability science in the context of transformative change. This initial framework was developed through an abductive process from literature on critical systems thinking, social-ecological systems, and transformation. The framework will be refined through a mixed method review of peer-reviewed social-ecological scenario case studies, including statistical meta-analysis. The framework characterizes the implicit and explicit choices involved in scenario processes as boundary judgements (ref 6) and relates different boundary judgements to theories of transformation. For example, scenarios bounded by consensus-oriented, positivist rationalities may generate status quo scenarios, while deliberative, pluralist rationalities may generate greater scenario diversity (ref 7). Similarly, scenarios derived from exogenous uncertainties help mitigate risks to existing systems (ref 8), while expanding scenarios to include endogenous change can reveal sources of novelty for transformation (ref 9).

**ID635.**

**Linking multiple values of nature with future impacts: Value-based participatory scenario development for sustainable landscape governance**

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Reaching sustainable and just futures for people and nature requires tackling complex social-ecological challenges across multiple scales, from local to global. Pathways towards such futures are largely driven by people's decisions and actions, underpinned by multiple types of motivations and values. Thus, understanding the link between potential futures and the values underpinning them represents a key question of current sustainability research, recently embraced by the Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services (IPBES). Particularly the understanding of causal chains leading from values to futures across different contexts and scales is vital to identify which sustainability pathways to collectively pursue. In this study, we build on a transdisciplinary knowledge co-creation process in an array of local case studies in protected areas in the Czechia (Central Europe). We apply a novel combination of two recently introduced frameworks, namely the Life Framework of Values and the Three Horizons framework, in an innovative value-based participatory scenario building process to explore the relationships between (1) multiple types of values, (2) actions taken by different types of stakeholders, and (3) their potential impacts on nature, nature's contributions to people (including ecosystem services) and good quality of life. The resulting local-scale value-based pathways show the

complex relationship between multiple types of values for nature and potential future trajectories, as well as potential gaps between stakeholders' actions and their perceived impacts. Specifically, the results illustrate how the approach of value-based participatory futures exploration helps surface diversions among stakeholders key for sustainable landscape governance, including the issues of community engagement, landscape management, education, protected landscape area conservation, water management and tourism. Furthermore, the resulting pathways highlight the role of power relations and inequality in deciding which types of values get realized in the form of tangible actions, influencing the future of nature, nature's contributions to people and good quality of life. Finally, we reflect on the utility of value-based participatory scenario planning as a means to strengthen sustainable governance. We highlight that if participatory deliberation of values is to support decision-making processes, its design needs to carefully reflect local context and institutional set-up.

### Panel ID 403

## Sustainability Transformations: The Role of Anticipation and Imagination

Parallel Panel Session 6,  
Wednesday 8<sup>th</sup> September 2021,  
17:00-18:30 CEST

Chair: Manjana Milkoreit

**ID128.**

## Anticipating disappearance? A conceptual exploration of how anticipating the future shapes the unmaking of the present.

Bregje van Veelen

*Durham University, Durham, United Kingdom*

It is now well-accepted in anticipatory governance research and affiliated fields that the future is not an open space, but is deeply intertwined with the past and present. However, what is less clear is the multiple forms this process of intertwining can take. In this paper I therefore offer an exploration of the ways in which future, present and past tangle and untangle.

I do so in particular through consideration of the question of how anticipation of a low-carbon future gives shape to what must disappear. There has been a growing interest both within and beyond the ESG community in what needs to emerge in order to tackle society's most complex problems: new technologies, new decision-making processes, new economic and social relations. There is, however, a dearth of research that addresses the question of what happens with the old, and how processes of 'unmaking' what already exists are given shape in anticipation of a lower-carbon future.

By shifting the focus from new to old, I seek to explore how future, past and present become entangled in this process of unmaking. In such a view moments of flux are those where high-carbon materials infrastructures pivot from being deemed desirable to undesirable; and where social, economic, political and material relations pivot from maintaining such infrastructures, to seeking to enact their unmaking. My starting point is thus that the anticipated phase out of high-carbon

infrastructures is not a passive process of loss or disappearance, but requires an active, and contested, process of ‘unmaking’ the sociomaterial relations sustained through them. This raises a number of questions around how this shift from maintenance to unmaking is given form; by whom; and to what effect. Of particular interest here is how this shift is given form through acts of anticipating the future.

In exploring these shifts, this paper thus offers new insights into the ‘anticipation of disappearance’: the connections between temporal entanglement (of future, present and past) and acts of unmaking, and how these connections shape how opportunities for change are opened up or foreclosed.

**ID293.**

### **Imagining Transformation – End states, pathways and obstacles**

Michele-Lee Moore<sup>1</sup>, Manjana Milkoreit<sup>2</sup>

<sup>1</sup>*Stockholm Resilience Centre, Stockholm University, Stockholm, Sweden.* <sup>2</sup>*Purdue University, West Lafayette, USA*

The ability of individuals and groups to generate, explore, assess, and pursue alternative possible futures is an essential component of being able to deliberately and collectively move towards a sustainable and just path into the future. Therefore, transformation processes inevitably require imagination and we contend that the existence (or lack) and development of imagination capacity within current systems of governance and power will play a crucial role in shaping societies’ responses to their current sustainability challenges. In the specific context of transformation, we refer to imagination as linked cognitive and social processes that create representations of possible future states

of the world that can inform and guide public deliberation, policy, decision making and behavior from the individual to the global scale. For both concepts - imagination and transformation - diverse but disconnected insights have been generated across multiple disciplines ranging from cognitive science to futures studies, political science, modern literature, and ecology. In this paper, we explore these two concepts and scope the terrain of current research at their intersection. Our findings show that existing scholarship has: i) characterized and tested a diverse range of processes that are meaningful for building imagination capacity to support transformations, ii) demonstrated the inseparability of power and participation from acts of imagining alternative futures, and iii) begun to highlight the challenges of expressing and communicating that which is imagined for the future. Based on this effort to synthesize existing knowledge across diverse disciplines, our aspiration is to develop an interdisciplinary research agenda that is able to inform and support ongoing efforts to contribute to transformations to sustainability, especially with a view to developing collective imaginative capacities, and thus, we conclude with this agenda.

**ID441.**

### **Toward a theory of discursive isomorphism: examining the failure of imagination in the design of pathways to sustainability**

Sarah Burch

*University of Waterloo, Waterloo, Canada*

Escalating social movements, civil disobedience, and global treaty-making processes might convey the impression that the challenges presented by climate change and sustainability are being met with ambitious action. Evidence of continuous growth in global greenhouse gas emissions, paired with fragmented and piecemeal sustainability experiments, however, suggest otherwise. We find ourselves in need of a radical and collective reimagining: how should power be distributed, resources shared, and costs divided in our communities and economies in light of the sustainability imperative?

Widely held and frequently perpetuated storylines, however, reinforce the palatability and prudence of incremental shifts, such as narratives in support of “green consumption”, the unbearable costs associated with decarbonization, and the loss of identities linked to resource extraction. These discourses hold power: the ways that we make sense of the environment, and ascribe social meaning to it, will ultimately shape the universe of sustainability solutions that are perceived to be feasible, desirable, and equitable.

This paper takes the first steps toward building a new theory, discursive isomorphism, that elucidates the process by which sustainability discourses evolve, or are actively manipulated, to mimic *status quo* power dynamics and slow the process of deep decarbonization. Drawing inspiration from early insights into institutional isomorphism, in which coercive, mimetic, and normative processes result in institutions that are increasingly similar, this paper explores the implications of discursive isomorphism for imaginative, anticipatory governance in a rapidly changing climate. This paper is purely conceptual, aiming to lay the theoretical foundations for future empirical work that employs visioning processes, transdisciplinary

knowledge co-production, and other tools to spark transformative thinking on sustainability at the community scale.

**ID640.**

### **Sustainability as a new global rationality? A systems-theoretical and concept-historical analysis**

Marco Billi<sup>1</sup>, Gonzalo Bustamante<sup>2</sup>, Germán Marchant<sup>3</sup>

<sup>1</sup>*Center for Climate and Resilience Research, Santiago, Chile.* <sup>2</sup>*Universidad Adolfo Ibáñez, Peñalolén, Chile.* <sup>3</sup>*Universidad de Chile, Santiago, Chile*

The notion of ‘transformation’ has been gaining strength as one of the key concepts to think about sustainability. However, when inquiring about the ‘transformation’ of society, there immediately appears the problem of how to articulate the facticity of the transformation (understood as a profound mutation in the mechanisms of production and reproduction of the social) and the semantics of transformation (the use of concepts linked to the idea of transformation either for descriptive or prescriptive purposes). This presentation starts from the premise that there is a dialectical relationship between both dimensions of transformation, in the sense that where a mutation in societal structures will tend to produce changes in the semantics used to describe society itself and its environment, semantic innovations can in turn catalyze changes at the structural level of society, by making possible the communicative processing of what would otherwise be an inaccessible communicative paradox. To study this dialectical relationship, the historical emergence of the concept of sustainability is explored in order to reveal the paradox that underlies its genesis and the semantic

innovation that allows it to make this paradox communicable. By this means, the paper will elucidate the horizon of meaning that makes possible the conceptualization of the concept of sustainability, and that defines and conditions its possible communicative uses. The success of this concept will be explained on the grounds of its ability to constantly oscillate between cognitive and normative manifestations, and between indicative and reflective modalities. On this basis, we will unfold the performative effects of the emergence of the concept of sustainability in the reproduction of scientific and political communication, as well as in its interface, and the possibility that the semantics of sustainability can promote the emergence of a 'regime of sustainability', an emerging structural order focused on the coordination of processes and institutions that operate at multiple scales and domains with a view to governing the present and future of the world at the planetary level. Final reflections will concern the possible derivations of such a regime as well as the political and ethical challenges it entails.

**ID531.**

### **Deciding whether it's too late: Competing visions in the climate movement**

Joost de Moor, *Jens Marquardt*

*Stockholm University, Stockholm, Sweden*

Despite a widespread consensus among climate scientists on manmade climate change, climate science is still a highly contested field. The discipline provides evidence to argue that there is still time to meaningfully mitigate climate change. At the same time, climate science offers support for scenarios in which we are already locked in to a 'runaway climate change' scenario. Anyone eager to engage in climate action faces a fundamental yet seemingly unanswerable question: is it already too late to mitigate climate change, and should action therefore focus on dealing with its consequences, or is there still room to prevent this lock-in, thus meriting a continued focus on climate mitigation? How actors deal with this question illuminates a necessary but overlooked step in turning climate change from an abstract scientific reality into political action.

This paper therefore examines how climate movement activists try to answer this question. To do so, the paper introduces insights from science and technology studies (STS) into social movements studies (SMS). The paper explores, firstly, how climate activists *select* information to develop their notion of the climate crisis and the responses this merits from the dizzying mountain of climate science available. What sources and selection criteria do they use, and how do they deal with contradictory information? Secondly, it explores how selected information is *used* to develop particular visions. In particular, it examines this process in relation to movements' other vital tasks, such as the setting of goals and strategizing. Are visions developed based on their scientific credentials, or rather to support pre-existing goals and strategies? How are scientific arguments mobilized or neglected to advance a desirable vision of society?

Empirically, the paper draws on an in-depth investigation of climate activism in four European cities: Malmö, Hamburg, Antwerp and Bristol. It shows that climate movements have the difficult task of selecting, assessing and integrating contradictory climate scenarios. Movements adopt multiple imaginaries across different movement spaces and functions, and engage in the co-production of sociotechnical imaginaries that do not necessarily align with personal beliefs about *likely* scenarios, but rather support the advancement of *desirable* scenarios. Desirability is not only based on a desire to be able imagine just and sustainable futures, but also to paint social movements as actors with agency.

## Panel ID 405

### Anticipatory governance: climate futures

Parallel Panel Session 7,  
Thursday 9<sup>th</sup> September 2021,  
8:30-10:00 CEST

Chair: Jeroen Oomen

## ID156.

### Constructing Climate Futures in Global Negotiations

Miriam Prys-Hansen

*GIGA German Institute of Global and Area Studies, Hamburg, Germany*

This paper introduces a hermeneutic framework (and its application) to assess across scales the climate futures actors within the global climate regime, and beyond, imagine. These imaginations, including perceptions, predictions, scenarios and decisions, are important as they define the

scope within which action is plausible and within which responsibilities for action are ascribed. The paper is part of a larger project that aims to assess empirically how different actors imagine climate futures and to develop more general ideas about how these actors and ideas are connected to form (or not to form) a global network of discourses. We argue that, however different, aspects of these visions can be compared if we follow a joint hermeneutic scheme. This paper deals with visions for global governance formulated as part of foreign-policy making, while other team members look at, from an anthropological point of view at local actors and structures, at media or imaginations within the scientific community.

We ask: Under which conditions do different visions of the future emerge and break down this question into two phases of coding. First, the particular visions will be assessed by looking at agency (who influences the future and the what degree), time (“when” is this future that is envisioned), scope (is the future of local, national, or global extent), the particular reference to climate change (water, biodiversity, human survival etc.), and the normative evaluation of this future. In a second phase, the responsibilities associated with the imagination will be assessed, again along a set of pre-determined categories, namely who is held responsibility to take action, when this action is due, what the particular scope of the action is, how the attribution of responsibility is justified, and which particular solutions are advocated. As said, above, in this paper we analyse the foreign policy discourses of selected state actors, assuming that without state action, no sufficient global climate policy can be developed. We introduce two in-depth country studies, India and Germany, for which we initially coded UNFCCC statements, submissions, and foreign policy statements and other documents relating to climate change

since 1990. In the latter part of the paper we will link our results to those of other researchers within our group that study local, media and scientific discourses on the same subject in the same two countries and see how ideas travel or not across scales and place.

#### **ID408.**

### **Anticipating low carbon futures: a comparison of modeling ecosystems' contribution to national long-term climate strategy**

*Christophe Cassen, Franck Lecocq, Alain Nadai*

*CNRS-CIRED, Paris, France*

Countries are increasingly committing to deep decarbonisation objectives (such as “factor four” or increasingly “net zero” or “carbon neutrality”), beyond international obligations (e.g the regular update of National Determined Contributions). To do so, countries prepare deep-decarbonization strategies (DDS).

Preparing these documents constitutes a challenge for two reasons. First, these low carbon objectives require major changes in production and consumption patterns across all economic sectors at very rapid pace. Second, 2030, let alone 2050, is an unusually long time horizon for policy-making, where the “long term” is no farther than a few years ahead.

Numerical models are increasingly used to inform the construction of DDS, in particular to check that DDS are a credible way to reach the stated mitigation objective. The objective of this paper is to explore how models currently meet this challenge, and to draw insights on how they might be improved to this regard. The question touches not only the technical structure of individual models, but also the way

different models exchange with each other, and how models and modelers interact with stakeholders and with policymakers. The policy-making process of which models and modelers are part is thus as important to our study as the technical structure of these tools.

To meet this objective, we analyze by combining document analysis and semi-directive interviews (with modelers, independent consultants, public agencies and administrations) four national case studies in which models have been used to support the development of low carbon strategies: France (Second National Low Carbon Strategy, 2018), Sweden (Climate Act, 2017), Brazil (NDC, 2015), and the USA (Mid-century Strategy for Deep Decarbonization, 2016).

The comparison of the case studies (chronology, organization, process, outcomes) allows highlighting a set of valuable lessons for the modeling of NDC and low carbon strategies on different scales, horizon, settings and with different objectives. We find that each country adopted specific institutions and modalities of interactions between modelers and stakeholders in the definition of scenarios and their evaluation. These modeling ecosystems are dependent upon a range of factors (habits and practices to use these models by public administrations, dedicated fora gathering stakeholders and modelers etc). The type of insights the array of models provide to the policy process is critical especially for the mid-century strategies. Analyzing the functioning of these ecosystems allows for not only capturing the adequacy between the use models and the institutional context, but also envisaging improvements in those fields.

#### **ID656.**

## Persuasive Pathways: How IAM projections become performative

Lisette van Beek, Jeroen Oomen

*Utrecht University, Utrecht, Netherlands*

The climate crisis necessitates a transformation towards a post-carbon society. As such, there is increasing demand for projected and imagined pathways that can help steer this transformation. Currently, some of the most prominent and influential explorations are conducted through Integrated Assessment Models (IAMs). Such IAMs are computer simulations that simulate complex interactions between societal processes and the climate system, used to project pathways into the future. A growing field of IAMs are used in the construction of scenarios compatible with the politically agreed-upon 1.5°C and 2°C temperature goals. Recent scholarship indicates that such scenarios have a ‘world-making power’ (Beck & Mahony, 2018): they don’t just *describe* possible futures, but actively *shape* the deliberation and decision-making of political actors. However, the sequential social processes through which IAM pathways become persuasive – and hence socially *performative* – remain poorly understood. Drawing on the ‘Techniques of Futuring’ (ToF) concept, defined as “practices bringing together actors around one or more imagined futures and through which actors come to share particular orientations for action” (Hajer & Pelzer, 2018, p. 225), we zoom in on precisely this question: the capacity of the IAM community to render their models’ projections of the future persuasive, and hence socially performative. Reconstructing science-policy interactions around the Special Report on 1.5°C (IPCC, 2018), we focus on how one particular set of mitigation alternatives, negative emissions technologies (NETs), gains traction in policy circles despite being largely

speculative and projective. Our preliminary findings suggest a sequence of mutually legitimizing interactions between modelling and policy around the feasibility of the 1.5°C. Importantly, this sequential legitimization relied on the material and organizational capacities of the IAM community as well as reinforcing dynamics between modelling and global climate politics. In short, IAM projections play a critical role in the perception of the 1.5°C goal as feasible, and the 1.5°C goal legitimized the increasing reliance on speculative IAM modelers projections. We critically reflect on the persuasiveness of IAM pathways in shaping the range of possible futures that are imagined in global climate politics.

### ID323.

## The anticipatory steering of climate futures: an analysis of how processes of anticipation inform climate policy making in West Africa

Karlijn Muiderman

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Wageningen University, Wageningen, Netherlands*

This paper analyses how processes and practices of anticipation (such as modelling or scenario-building) inform climate policy making in West Africa, one of the world’s most climate vulnerable regions. The West African region is faced with extreme climatic changes, high uncertainty concerning the direction of change, and weak socio-economic and governance conditions that limit adaptation. Policy makers and other stakeholders in these regions are increasingly looking to engage with anticipatory approaches to support policy formulation in the face of future climate uncertainty and complexity. There is,

however, a major research gap regarding the steering effects of these anticipation processes on the policy and governance processes they are meant to guide. ‘Anticipatory governance’ is a concept that can be used to understand how anticipation processes relate to governance and policy making. A research agenda has been put forward recently by the authors of this paper, within which an analytical framework is developed to examine the ways in which anticipation processes influence policy action in the present. This framework identifies four distinct ideal-typical approaches to anticipation and anticipatory governance, which differ in their conception of the future and implications for actions to be taken in the present. This paper offers the first empirical application of this analytical framework to a specific case. First, we apply the framework to analyse how anticipatory processes influence policy formulation in West Africa. Next, we examine how conceptualizations of the future, as they are embedded in anticipation processes, are seen to impact policy choices in the present. We conclude that while many anticipation processes aim to engage with policy makers in a new mode, namely ‘navigating plausible futures’, ultimately such processes are primarily integrated with policy in a pre-existing mode of ‘assessing probable futures’. Such integration limits full engagement with future uncertainties in policy processes, and points to the need to move beyond single anticipation interventions and examine how fundamental perspectives on the future among policy makers might be opened up. This paper contributes to the conference stream ‘anticipation and imagination’ and the Task Force on Conceptual Foundations of Earth System Governance.

**ID646.**

## **Not just playing: Designing simulation game processes for impact on anticipatory climate governance**

*Joost M. Vervoort<sup>1</sup>, Manjana Milkoreit<sup>2</sup>, Lisette van Beek<sup>1</sup>, Astrid Mangnus<sup>1</sup>, David Farrell<sup>3</sup>, Steven R McGreevy<sup>4</sup>, Kazuhiko Ota<sup>4</sup>, Christoph Rupprecht<sup>4</sup>, Jason Reed<sup>5</sup>, Matthew Huber<sup>5</sup>*

<sup>1</sup>*Utrecht University, Utrecht, Netherlands.* <sup>2</sup>*University of Oslo, Oslo, Norway.* <sup>3</sup>*Glasgow Caledonian University, Glasgow, United Kingdom.* <sup>4</sup>*Research Institute for Humanity and Nature, Kyoto, Japan.* <sup>5</sup>*Purdue University, West Lafayette, USA*

Simulation games are increasingly popular tools for opening up future imaginaries, especially in the arena of sustainability policy-making and decision support. However, there is a lack of understanding regarding the potential power of games in anticipatory governance. We argue that the utility of simulation games in support of anticipatory sustainability governance can be greatly increased when game processes are consciously designed to impact present day planning and action. At the same time, game designers with the intention to support or intervene in governance and policy-making inevitably enter political arenas and bear responsibility for understanding and managing their influence at the science-policy interface. We develop principles for the design and evaluation of simulation games that seek to impact anticipatory climate governance, paying particular attention to (1) the enablers and constraints of game design processes and ultimately the imaginaries co-created between game designers and players, and (2) the political implications and sensitivities of design choices and game play. We present two case studies as illustrations: a game focused on the

exploration and imagination of the global impacts of climate tipping points aimed at participants of the global climate negotiation community and a game simulating a sustainable food policy council with food system actors in Kyoto, Japan. Each case study represents a specific logic for translating game play into real-world impacts at different governance scales with distinct political implications.

## Panel ID 406

### Governing Socio-Ecological Systems: Roles for Foresight, Games and Scenarios

Parallel Panel Session 6,  
Wednesday 8<sup>th</sup> September 2021,  
17:00-18:30 CEST

Chair: Joost Vervoort

#### **ID382.**

### **Tell me what you want, what you really, really want: comparing practitioner-identified strategies before, during, and after scenario workshops**

Marta Berbes-Blazquez<sup>1</sup>, Yeowon Kim<sup>1</sup>,  
Elizabeth Cook<sup>2</sup>, Paul Coseo<sup>1</sup>, Nancy B Grimm<sup>1</sup>,  
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<sup>1</sup>Arizona State University, Tempe, USA.

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Scenarios reveal the visions, hopes and desires of citizens. We conducted scenario workshops in South Phoenix (AZ, USA) to envision positive futures for this traditionally underserved area of the city. During the participatory scenario workshop, participants built five distinct visions

for the future of their community around the themes of transportation, heat resilience, flood resilience, equity district, and green gentrification. As part of this process, participants identified dozens of specific strategies to build a more desirable future that might go from increasing greenspace to changing governance structures. The strategies that were incorporated into the scenario visions came from different sources and were modified and recombined through the scenario process. First, the workshop took inspiration from strategies identified in the city's governance documents. Second, we surveyed practitioners prior to the workshop. Third, during the scenario workshops, participants selected favorites, added new ones, and discarded other ones. Finally, participants ranked strategies in a follow-up workshop using a Q-sort methodology. This article compares how the prioritization of strategies changed before, during, and after the scenarios workshop and explores what participants felt was more doable, transformative, and suitable to fulfill their visions for a better future.

#### **ID585.**

### **Mobilizing Post-Paris Climate Action through the Nationally Determined Contribution (NDC): Logics and Practices of Government**

Maria Jernnäs

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The Paris Agreement places states' Nationally Determined Contributions (NDCs) at the center of global climate politics. Based on notions of complementarity (adding pledges together will result in positive sum) and pragmatism (all parties do what they deem feasible), the NDC

design epitomizes the idea of a world in flux where networked solutions based on partnerships and voluntary commitments prevail. Scholars have engaged with the NDCs in multiple ways: aggregating emissions reductions, assessing their fairness and equity, and studying the discursive delineation of climate change as a political problem. While suggesting, for instance, how monitoring can be made more efficient and legitimacy can be enhanced indeed provide important contributions to the global government of climate change, these lines of inquiry largely stay within the confines of the institutionalized regime. In contrast, this study aims to bring analytical clarity to the logic(s) that inform governing under the Paris Agreement. Taking a step back, the NDC is examined not in terms of its content on sectoral coverage, quantified emission reduction targets, or problem-descriptions, but as an instrument for governing climate conduct in the post-Paris regime. While the NDC design converges quite clearly with the previously identified turn toward soft and networked modes of governing inspired by a neo-liberal market logic, what is interesting here are the seemingly paradoxical narratives and practices all made to fit under the Paris regime: national determination is countered with international review; encouragements of diverse and disperse initiatives are accompanied by an apparent need to quantify, calculate, and aggregate; and stories of a worldwide momentum of climate action are contrasted by reports on the alarming ‘emissions gap.’ Engaging with these puzzling narratives of our climate present, this study examines the rationalities that inform governing through the NDC and how this mode of governing spatially orders global climate politics. Drawing on Foucauldian governmentality studies, the paper analyses the discourses through which governing through the NDC is justified and the

infrastructures that aim to facilitate the functioning of the NDC. The empirical material includes state submissions to the negotiations on the NDC design under the Ad Hoc Working Group on the Paris Agreement (APA agenda item 3), COP decisions, and UNFCCC reports, as well as an examination of the NDC ‘infrastructure,’ including the NDC registry, events aiming to facilitate greater NDC ambition (e.g., the 2020 Climate Ambition Summit), and public online tracking tools, such as the Climate Action Tracker.

### **ID375.**

#### **From ‘gamergate’ to ‘streaming for Bernie’: investigating the influence of game-based media on the politics of sustainability futures**

Joost Vervoort

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University of Oxford, Oxford, United Kingdom.  
Research Institute for Humanity and Nature,  
Kyoto, Japan*

This paper presents an analysis, based on a number of international cases, of how digital game-based media shape the politics of sustainability futures. Digital games have long eclipsed other media in terms of public engagement, with the biggest games seeing on-going engagement by hundreds of millions of players. In addition, many such games have spawned entire ecosystems of secondary media, including live players (‘streamers’), YouTube celebrities, and many forms of online communication among game players. Games and their support ecosystems have become key platforms for the development of political networks and the shaping of political discourse – with reactionary or far-right examples being more prominent, including anti-inclusivity and climate denial movements. On the other hand,

more pro-sustainability, progressive movements are also forming around game media. Such movements have demonstrable links to political activities and voter groups and can therefore be seen as an influence on sustainability politics. Civil society groups have sought to harness this political potential, sometimes with notable national and international political success.

However, little is understood about how the features of games and their communities and media ecosystems work to shape political engagement across the spectrum – what sustainability-relevant futures are imagined in these game worlds, and in what ways are these worlds relevant to the shaping of political resources and attractiveness to different types of publics? How do their rules of interaction engage and foster online communities? What are the pathways to political action? And what are future directions for such links between games and political movements? This paper presents novel research spanning 30 international case studies with specific relevance to the politics of sustainability futures. It offers a novel, integrated framework that complements recent work in the Earth System Governance community around the Anticipation and Imagination theme, specifically anticipatory governance, with political resource theory, media-public influence theory, and agenda-setting theory. We conclude that the affordances and structuring of game-based media play an important role in creating the modes in which key global demographics engage with the politics of sustainability futures. Understanding these new, dominant media ecosystems offers key insights for tackling the challenges and harnessing the opportunities that they offer for public engagement.

## Panel ID 17

### Anticipatory Governance and Knowledge Systems for Urban Resilience

Parallel Panel Session 8,  
Thursday 9<sup>th</sup> September 2021,  
15:30-17:00 CEST

Chair: Robert Hobbins

## ID360.

### Beyond Bouncing Back? Comparing and Contesting Urban Resilience in US and Latin American Contexts

*Tischa A. Muñoz-Erickson<sup>1</sup>, Sara Meerow<sup>2</sup>, Robert Hobbins<sup>3</sup>, Allain Barnett<sup>4</sup>, Marta Berbés-Blázquez<sup>5</sup>, Elizabeth Cook<sup>6</sup>, Jan Cordero<sup>5</sup>, Changdeok Gim<sup>7</sup>, Nancy Grimm<sup>8</sup>, David Iwaniec<sup>9</sup>, Thaddeus R. Miller<sup>5</sup>, Agustín Robles<sup>10</sup>, Fernando Tandazo-Bustamante<sup>10</sup>*

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Urban resilience has gained popularity in planning and policy to develop capacity to cope with climate change. Yet, while many studies address academic definitions of resilience, little

attention has been given to how resilience is conceptualized across different urban contexts and actors that engage in building resilience ‘on the ground’. Given the implications that resilience framings can have on governance and the solutions that are pursued (and on who benefits from them), it is important to examine the degree to which urban resilience framings promote transformative change in practice. In this paper, we use data from a survey of nine US and Latin American cities to explore how resilience is framed across multiple governance sectors, including government, civic, business, research, and hybrid organizations. We examine these framings with respect to recent conceptual developments and tensions found in the resilience literature, including resilience as a system property, outcome, or process; resilience as response to shocks and stresses; different pathways of change (resistance, “bouncing back”, coping, “bouncing forward”, transformation); the relationship between resilience and sustainability; and social-ecological-technological systems (SETS); and equity perspectives in resilience. The results highlight that, in general, resilience framings converge more with traditional, engineering-based definitions of resilience as a system property enabling a city’s ability to resist, cope with, or “bounce back” to previous conditions. Sustainability, equity, and SETS perspectives remain weakly associated with resilience. Noticeable differences across cities and governance actors suggest geographic and political variations in the way resilience is conceptualized. We unpack these differences and discuss their implications for improving resilience research and practice. We argue that if resilience is going to remain a major goal for urban planning and policy into the future, it needs to be conceived in a more transformative, anticipatory, and equitable way, acknowledging interconnected SETS.

**ID370.**

### **Anticipatory and smart knowledge systems for coastal resilience**

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Faced with the increased severity and frequency of extreme weather events, coastal cities are challenged with making decisions now to prepare for an uncertain future, including pressures from rising seas, more intense storms, and riverine flooding. Addressing these pressures likely entails comprehensive and well-coordinated urban resilience strategies across different areas of expertise—from resilient infrastructure to disaster preparation and response, and from finance to social equity. To help cities respond in innovative ways to the complexity of this situation, we developed an approach to engage with coastal communities in Miami, San Juan, and Baltimore in a deliberative planning process to understand how a virtual knowledge platform might meet needs for greater coastal flood resilience. In each city, we assembled an interdisciplinary team of scholars to engage data experts, municipal officials, civic actors, and not-for-profit community leaders in a series of online and face-to-face Innovation Dialogues and Labs, to strengthen local knowledge systems through explorations of different types of data and tools while strengthening community-municipality social networks and creating conditions for cross-city dialogue, support, and learning. Based on principles of knowledge co-production and building from existing assets, practices and

relations, our planning process has led to a new prototype for integrating data visualization tools with a wide range of actors and use cases for urban resilience work in each of the three cities. Not only do we re-situate the role of visualization, smart systems, and data communication tools within urban resilience planning and transition management, but we also identify key gaps and opportunities in the literature in how (1) little attention is paid to co-producing knowledge systems as a resilience and adaptation strategy; (2) there is a need to examine existing knowledge systems functioning and capacities for anticipatory and transitions governance; and (3) there is a need to better understand coastal flood risks and potential solutions in terms of changing the social-technical conditions that would allow such data to be meaningful, widely-used, and effective.

**ID385.**

### **Usable and Anticipatory Knowledge for Urban Climate Adaptation**

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Cities across the world are making large investments in new infrastructure projects, engaging in community adaptive capacity building, and crafting new policies to adapt to future climate impacts. Demand for usable knowledge to anticipate and guide these climate adaptation initiatives is growing rapidly in tandem. Despite significant theoretical and empirical scholarship on what makes

knowledge usable for environmental decision-making, a persistent gap still remains in understanding the interactions and trade-offs between drivers of usability – especially for the highly political decision-making context of urban climate adaptation. This paper helps to bridge this gap by developing a conceptual framework for usable knowledge for anticipatory urban climate adaptation decision-making while offering practical strategies that professionals can employ to increase knowledge uptake. Our study goes beyond identifying drivers of usability by additionally asking how knowledge usability is affected by the trade-offs and dynamics between drivers. Our Climate Knowledge Usability model builds off of previous conceptual frameworks of knowledge usability developed in the literature including notions of salience, credibility, legitimacy, interaction of distinct knowledge systems, and knowledge co-production. In this paper we present a synthesis of findings from a mix-method approach that includes stakeholder surveys, participatory workshops, and interviews with key informants in the Miami area – an area prone to extreme coastal and urban floods. Representatives from both civic and governmental organizations were invited to participate. Our new conceptual model is largely consistent with prior research with a few notable modifications. Among these, we find that *accessibility* (e.g. multilingual, multiple formats, user-friendly, open-source, inclusive) and *economic/political implications* play important roles in affecting knowledge usability. We then discuss the trade-offs and dynamics between the various components of our Climate Knowledge Usability model and offer practical strategies for improving the uptake of knowledge to anticipate and guide urban climate adaptation decisions.

**ID432.****Imagining the Unprecedented:  
Developing Climate Risk Storylines***Liese Coulter, [Suraj Dessai](#)**University of Leeds, Leeds, United Kingdom*

Climate risk storylines are emerging as a scientific method to explore what plausible chain of climate conditions and weather events would lead to significant climate hazards, including those that have not yet been observed. Risks associated with climate impacts are increasingly being realised through unprecedented events that disrupt every-day functions of social and natural systems. Therefore, storylines that focus on the sequence of causes and consequences underpinning climate related droughts, wildfires and floods are having greater salience for decision-makers in policy and planning. A better understanding of how severe weather events will unfold is needed to offer realistic visions of the future affected by climate change, which challenges the imagination. Without personal memory of experience or cultural narratives as a foundation, guidance is needed to even imagine significant climate events that are now plausible. Climate risk storylines are being developed to address that need, based on causal chains founded in physics and backed up by simulations and models. Storyline research design can link analytic modes such as global climate models, localised hydrological models and simulations. With a focus on causal links, rather than on how likely something is to occur, these climate risk storylines consider social and economic drivers and vulnerabilities as well as climatic drivers and physical landscape processes. The resulting storyline narratives are communicated through words and visualisations to help decision-makers to

better envision emerging climate risks. This paper discusses the development of climate risk storylines as a method for the evidence-based construction of plausible future events, aiming to describe rather than quantify climate hazards. The paper reviews literature underpinning the storyline approach and explores the research design process used in the H2020 funded RECEIPT project which is developing storylines across five sectors significant for the EU. Each sector involves scientific leaders and societal partners to ensure stakeholder insights influence the research design through an element of co-production. Storylines can complement approaches that frame uncertainty in terms of likelihood and quantities of change, which, on their own are difficult to interpret. Storylines develop multiple event chains to address uncertainty, showing possible evolutions of extreme weather events. Climate risk storylines can be useful to inform immediate decisions that affect adaptive planning, preparations for emergency response, and future outlooks requiring transformational change.

## Panel ID 408

### Place attachment and climate displacement

Parallel Panel Session 9,  
Thursday 9<sup>th</sup> September 2021,  
17:15-19:00 CEST

Chair: Zuzana Harmackova

## ID138.

### Territorial Instability, Climate Displacement, and the Right to Exclude

Simona M Capisani

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With the onset of ecological instability, by the middle of this century many people will be at risk of displacement due to anthropogenic climate change. People may be compelled to migrate internally as well as across international borders. Low-lying islands are not the only territories at risk of becoming uninhabitable. Notably, high temperatures, coupled with increased air pollution due to desert dust, as well as prolonged duration of heat waves will make it difficult to sustain the populations that currently occupy territories in the Middle East, North Africa, and Latin America. Currently, seventeen American communities, mostly Indigenous communities, are already displaced due to climate change-related impacts.

These circumstances raise significant moral questions in addition to a range of political and legal challenges for the international community. Should international law protect people who are forced to leave their country of birth and citizenship due to the effects of climate change? Who has a responsibility to aid

communities and individuals displaced by climate change? If we have obligations, what do we owe to them? What is the moral foundation for such obligations?

In response to these questions I argue that moral obligations to the displaced arise from normative presuppositions of the international state system understood as a social practice. A significant obstacle to addressing the challenges that arise in the context of territory loss and uninhabitability is a failure to recognize how a shift in these empirical background conditions has normative implications for the state system. In particular, assumptions of territorial stability underlie shared understanding of certain normative concepts which are foundational to the state system.

In this paper, I assume the empirical condition of territorial *instability*. In doing so, I identify a basic right that has otherwise been overlooked in conventional philosophical and political theoretical arguments about immigration and sovereignty. I argue that in light of its structure, every person affected by the territorial state system has the *moral right to be somewhere liveable*. My view contends that climate-based displacement is a consequence of the way the territorial state system is structured under conditions of climate change. As such, I show that the occurrence of displacement due to climate change places a moral constraint on how states exercise certain rights, such as the right to exclude, that are afforded by jurisdictional authority.

## ID371.

### Multiscalar Environmentalism and Place Attachment in Contesting a Local Shale Gas Proposal: The Case of Great Altcar, UK

Stacia S Ryder, Patrick Devine-Wright

*University of Exeter, Exeter, United Kingdom*

There is a growing body of literature that focuses on the relationship between sense of place, place attachment and community acceptance of energy projects and technologies, particularly in the context of renewable energy. As this literature has developed, it has worked to problematize previous literature on NIMBYism (Not In My Backyard) as a sufficient explanation for public opposition to planned energy development. Less research has been done on understanding public resistance and opposition to shale gas proposals, particularly in the UK. What literature does exist has been primarily the result of quantitative studies which have glossed over the complex and intricate ways that local communities object to shale gas proposals at least in part as a result of their relationship with a particular place, fears of disruptions or disturbances to that place, and connections to their environment. Here, we draw from semi-structured interviews with over 30 residents across neighbouring villages in Great Altcar and Formby (UK) to demonstrate the relationship between place attachment, environmental connection and public perceptions of and resistance to shale gas. We also rely on other ethnographic data collection efforts including participant observation, walking interviews and photo elicitation. Our findings highlight ways that the industry operator attempted to legitimise their proposals by characterising the local area as having a long history of oil extraction, which their proposals for shale gas were congruent with. By contrast, residents' put forward alternative constructions of the place as rural, undeveloped countryside. Residents also expressed connections and concerns beyond their immediate backyard of a multiscale nature—both in terms of geographic and

governance scales. This builds upon existing literature which is beginning to explore the relationship between multiscale place attachment and energy projects and has implications for how government and energy industry stakeholders might engage with communities where future energy projects are proposed. Furthermore, the research has implications for whose visions and imaginations are given life and the role that power plays in what dominant visions of a future win out in certain spaces and places.

### **ID380.**

#### **Towards a critical localisation of sustainability and resilience monitoring. An empirical call to action from Medellín.**

Philipp A Ulbrich<sup>1,2</sup>, Jon Coaffee<sup>3,1</sup>, João Porto de Albuquerque<sup>2,1</sup>

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Tracking progress is a key requirement for the implementation of goal-setting governance frameworks such as the Sustainable Development Goals, which are characterised by their global and non-binding nature, their weak institutional arrangements and need for localisation. Conventionally, measurement of societal goals (e.g. related to development and risk) has been, and largely still is, perceived as mostly technical exercise related to enhancing data veracity, quality, and availability as well as the harmonised operationalisation of a set of clearly (pre)-defined variables. However, the

conceptual move towards combining sustainability with development, as well as risk management with resilience, has led to contestation of the transformative potential of goal-setting governance and calls for critical approaches to monitoring that ask what they do on the ground in relation to socio-spatial equity and inclusion. Residents of marginalised urban neighbourhoods deal with multiple spatial intersecting inequalities, which may not be considered in the implementation of monitoring frameworks, resulting in the socio-spatially determined interlinkages remaining invisible. In this paper, underpinned by the link between disaster risk reduction and development, we compare the national and municipal sustainability and resilience monitoring frameworks to community views in four marginalised neighbourhoods in Medellín. Specifically, we draw on the communities' and other local stakeholders' narratives and field visits to illustrate the relation between thematic factors that affect *their* neighbourhood in relation to urban service provision and risk. This guides the focus of the analysis of the monitoring frameworks applied for the policy sectors, in which we apply a critical data studies lens. This allows us to understand the methodological and normative context of the datasets used to measure the policy themes identified by the communities and draw conclusions regarding the transformative potential of the development indicator frameworks as currently implemented in Medellín. We find out that this bottom-up conceptualisation of the interlinkages between spatial inequalities, urban service provision and risk is not captured by the existing measurement framework (e.g. based on measuring risk via historical exposure, or the assessing the efficiency of service operations). While this top-down conceptualisation and approach might reflect the reality of wealthier neighbourhoods, the

use of such indicator sets, without contextualisation, may perpetuate intra-urban inequalities and reduce the opportunities for community-led risk mitigation, adaptation and empowerment. This paper thus serves as an empirical example illustrating the need to go beyond uncritical measurement approaches, exclusively driven by technical feasibility and outlines requirements for a dialogical approach to SDG monitoring.

**ID564.**

### **Salvaging sovereignty: constructing territory in the face of climate change**

Diana K Elhard

*Northwestern University, Chicago, USA*

How can we make sense of sovereignty when territory ceases to be habitable? In the Pacific and Indian Oceans several small island developing states (SIDS) are building or buying land as a response to increased sea-level rise and other climatic effects. The prevalence of certain international norms around sovereignty shapes the choices SIDS are making as they face challenges from climate change. Yet in many cases these new areas, built or bought initially as a means for safe habitation or increased food production, remain vulnerable to climate change or will require mass migration and fundamentally alter the life of the community. In other words, these areas will not be able to support SIDS' communities in the same way as their current lands. Why are SIDS pursuing territorial notions of sovereignty even as the lands that currently sustain their peoples are rapidly disappearing? Understanding this apparent paradox requires unpacking current conceptions of sovereignty and its relationship to territory. I argue that some SIDS are attempting to maintain their

sovereignty by adhering to common conceptions of sovereignty as authority within a territory, whereas others are contesting these notions by expanding sovereign claims over large ocean areas. To illustrate three different approaches being taken by SIDS I analyze official government statements, reports, and interview excerpts with current and former government officials from the Maldives, Palau, and Kiribati between 1990 and 2020. Focusing on the Maldives and Palau, I examine statements related to Hulhumale, an artificial island, and claims to a large ocean statehood, respectively. Kiribati is a hybrid case, having purchased land in Fiji and asserted itself as a large ocean state. SIDS adapting to climate change are attempting to salvage sovereignty, but international norms constrain the range of viable options. The choices SIDS are making will impact which paths others will follow in the future and may influence international sovereignty norms as climate change becomes increasingly dire.

### Panel ID 409

## Sustainability Transformations: Private Actors, Scientists and International Organizations

Parallel Panel Session 9,  
Thursday 9<sup>th</sup> September 2021,  
17:15-19:00 CEST

Chair: Christian Schleyer

### ID365.

## Co-designing scenarios and pathways for the SDGs: lessons learned from three multi-stakeholders workshops in France

*François Mancebo<sup>4</sup>, Cosma Cazé<sup>2</sup>, David Giron<sup>3</sup>, Nathalie Hervé-Fournereau<sup>3</sup>, Olivier Mora<sup>5</sup>, Sandrine Paillard<sup>2</sup>, Eric Sauquet<sup>6</sup>*

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Achieving the Sustainable Development Goals urges the implementation of innovative sustainability pathways, involving a large range of stakeholders and their knowledge. This has prompted Future Earth to launch the Science-Based Pathways for Sustainability initiative. The initiative aims to promote integrated approaches to the SDGs to further our understanding of socio-ecological systems, identify knowledge gaps, especially at the interface between disciplines, and inform public debate and policy. A series of workshops organized by Future Earth provide an opportunity to explore options for advancing transformations towards sustainability taking into account the synergies and trade-offs among sustainability objectives. These workshops also aim to identify the main uncertainties surrounding these options, and to analyse the social transformations that they entail.

This paper presents the main outcomes of three of these workshops, which were held in France in 2019 and 2020. Key stakeholders from academia, policy arenas, civil society and the private sector engaged in the development of pathways for respectively biodiversity,

water and land in France by 2030. Each pathway was grounded in the participants' expertise but also in their values and their visions for a sustainable future. First, the methodology for developing the workshops is presented. Then, we analyze how exploring the systemic interdependencies between the SDGs demonstrate the variety of co-benefits and tensions associated with transitions and help to grasp the systemic nature of our modes of development. We present an analysis of the participants' aggregated discussions regarding the nature of the obstacles to transformation and levers of change. We discuss how the problems, the solutions and the trade-offs are highly context-dependent, with illustrations from each workshop. Finally, we argue that engaging researchers from diverse disciplines with societal actors is key to developing the knowledge needed to address complex and pressing challenges.

### ID373.

#### **How do global financial organizations engage with transformative futures?**

Joost M Vervoort<sup>1,2,3</sup>, Aarti Gupta<sup>4</sup>

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In the face of climate change interacting with global political, economic and technological upheaval, all imaginable global futures will, in one way or another, be transformative. The successful navigation of such transformation requires action along many pathways; but current actors in global systems of finance and investment, such as public donors, development banks, commercial banks and

private foundations, could play a major role in making significant resources available for sustainability transformations. However, it is not yet understood whether and to what degree transformation logic is becoming a part of the ways in which global financial organizations operate – and what leverage points and challenges might be.

In this paper, we investigate to what degree major finance and investment actors engage with transformational futures. As cases, we investigated a diverse set of global actors with different public and private incentives and mandates: the International Fund for Agricultural Development (IFAD), the BNP Paribas Group (a commercial bank), and the Dutch public pension fund ABP (a major investor in Royal Dutch Shell). Drawing on a conceptual model based on state of the art literature on systems transformation, we examine which elements of transformation logic and concepts are part of future projections and theories of change utilized by these global organizations. To do this, we have conducted interviews with key individuals in each organization; examined transformation discourse in different forms of public reporting and strategy documents; and connected organizational priorities to investment decisions. Using anticipatory governance theory developed in the ESG community, and the concept of 'de facto governance', we discuss how different global organizations filter and adapt transformation concepts to fit their overarching theories of change and existing concepts that strongly diverge between organizations, such as risk assessment (in finance) and mainstreaming (in development). Building on this, the paper identifies key leverage points for more reflexive engagement with transformation concepts in global organizations, and how this could lead to resources being made available for efforts

toward sustainability transformation at the global level. This paper contributes to the ‘anticipation and imagination’ and ‘justice and allocation’ streams of the conference.

## ID619.

### **Business models for the Anthropocene: Accelerating sustainability transformations in the private sector**

*Sarah Burch, Jose Di Bella*

*University of Waterloo, Waterloo, Canada*

The rapid pace and escalating severity of climate change impacts has made clear that current incremental approaches to pressing global socio-ecological challenges are insufficient to address the root causes of unsustainable development. This has spurred increasing interest in the dynamics of transformation: the actors, capacities and resources needed to fundamentally shift development paths.

The private sector is at the core of essential transformative processes necessary to build a future premised on environmental integrity, social inclusivity, and resilience. The activities of the private sector are structured and driven by the underlying business model, which is at its core a set of assumptions about how a business creates, extracts and delivers value. While socially and environmentally oriented business models have begun to emerge, bringing new types of enterprises into the organizational landscape, and offering novel ways to attain and deliver value compatible with sustainability targets, they are relatively rare. These types of initiatives have led to a renewed interest in the concept of the business model beyond a purely managerial term, but also as the entry point for research and global

policy circles to leverage the resources of the private sector in support of progress toward, for instance, the Sustainable Development Goals, the Sendai Framework for Disaster Risk Reduction and the Paris Agreement.

The conceptualizations of the business model remain a narrow imagining of how business interacts with societal processes, shaping development patterns. In this article we call for the conceptualization and design of business models anchored in societal purpose, apt for the Anthropocene. We identify five building blocks for business models where transdisciplinary sustainability research can accelerate entrepreneurial activity that fosters desirable sustainable pathways by enabling the creation of new capabilities in support of broader transformational processes. These are: learning from and contributing to the local context; institutionalizing co-production, experimentation with community partners and openness to failure; establishing new hierarchies, and nourishing imagination and play. Ultimately, we explore these building blocks with a particular focus on the capabilities required to build business models that are responsive to the place-based demands the Anthropocene.

## Stream 5

### Adaptiveness and Reflexivity

#### Panel ID 1

#### Transformations in water governance

Parallel Panel Session 1,  
Tuesday 7<sup>th</sup> September 2021,  
8:30-10:00 CEST

Chair: Carel Diepernik

#### ID32.

#### Achieving water efficiency in the public sector through social norms

Kevin Grecksch

*University of Oxford, Oxford, United Kingdom*

Water efficiency is a cornerstone of water resources management and public water supply. Current water efficiency campaigns and strategies in England & Wales focus on individual households and private businesses. Water efficiency in public sector and large organisations, with a more ‘public’ dimension than private individual households, such as workplaces is only discussed in a handful of studies. And, the main tools currently used in England & Wales by water companies are water saving devices and messages to reduce bills. But water saving behaviour is influenced not just by individual decisions, but social and psychological drivers such as social norms, values, group behaviour and external factors (culture, family behaviour, infrastructure and regulations).

We present findings from academic and grey literature and previous case studies about the potential of water efficiency campaigns to contribute to water saving in the public sector and large organisations - universities, schools,

hospitals and council buildings. These organisations provide significant untapped potential for water saving by virtue of their size and/or their nature as public organisations. We focus on the role of social norms, i.e. community standards, to promote the uptake and effectiveness of water efficiency campaigns.

By social norms we mean value commitments that shape water use behaviour. Social norms have become the tool of choice for today’s behavioural policy-makers. The inclusion of a social norm in a message can be a way to encourage citizens to carry out a wide range of socially desirable acts. Social norms serve as cues and they motivate action by providing information about what is likely to be effective and adaptive.

The public sector in the UK employs six million people. We suggest, that there is an opportunity for the public sector to act as a role model for other sectors, such as the third sector and private households. A large majority of the workforce spends their days at workplaces where they use water for washing hands, in the office kitchen, in the canteen, and for showering, the latter in particular if there is an increase in cycling to work. Public sector organisations are well placed to start water saving behaviour initiatives themselves, for example as a competition among departments or in the context of staff engagement weeks, or by including water efficient appliances in their procurement activities.

ID92.

### **Enhancing urban water governance by using web based tools: Lessons from four case study areas**

Carel Dieperink

*Utrecht University, Utrecht, Netherlands*

With the spread of information and communication technologies urban water governance may undergo prominent changes, especially in terms of knowledge exchange and processes and outcomes of public participation. Some authors even argue that web-based tools have great potential to improve democracy. It is however unclear under which socio-technical and political conditions web-based tools may enhance participatory initiatives in urban water governance. This paper addresses this knowledge gap by systematically comparing the experiences with web-based tools in Leicester, Milton Keynes, Sabadell and Jerusalem. We first compare the characteristics of the tools using a typology developed by Mukhtarov et al (2018) and next reflect on their potential to raise awareness, provide useful knowledge, contribute to continuous learning processes and stakeholder engagement. The paper is based on an analysis of policy documents and 72 in-depth interviews with the major stakeholders in the four case study areas. Our preliminary findings indicate that web based tools do have potential in awareness raising and knowledge exchange. The tools may allow a large number of citizens to be better informed and co-produce water services with a government. They have a potential to help in efficiency and effectiveness of urban water service provision, provided that they are well embedded in the local governance context and address specific water governance issues at hand. However, we found that web based tools provide few

opportunities for higher modes of discussion and deliberation, and grant limited authority to participants to influence decision-making processes. We therefore conclude that web based tools should mainly have a supplementary role in urban water governance. They can't replace existing formal decision-making procedures.

ID94.

### **Towards synergy in multi-modal water governance; lessons from the implementation of the Water framework Directive in the Netherlands**

Carel Dieperink

*Utrecht University, Utrecht, Netherlands*

In governance studies several analytical distinctions in modes of governance modes can be found. Often a distinction is made between centralized governance, decentralized governance, public-private governance, interactive governance and self-governance. These modes of governance can also be identified in European water governance practices. Performance of a single mode ideally reinforces performance of other modes, but this topic so far has not been addressed in the available scientific literature. In order to address this knowledge gap we have developed an empirically grounded model of conditions under which synergy between different governance modes is likely to take place in water quality governance. Our model is based on an in-depth text analysis of the Water framework directive, related guidance documents and in-depth interviews with experts involved with the implementation of the Water framework Directive in the Netherlands. We present several examples of cases in which synergies between the different modes occur in the Netherlands. Based on this

we discuss the conditions that enable the occurrence of these synergies. We conclude the paper with some suggestions for a good meta-governance of water systems in Europe and beyond.

## ID512.

### Priority of Uses in International Water Law

Otto Spijkers

*Wuhan University, Wuhan, China*

The *raison d'être* of international water law is that it provides States with a toolkit to equip them to deal with complex problems relating to the joint use and sustainable management of transboundary freshwater resources. The principle of equitable and reasonable utilization is one such tool in this toolkit. When applying the equitable and reasonable utilization principle to a specific transboundary watercourse, States sharing that watercourse must decide which water uses are more important than others. But the general rule is that no water use takes a priori priority over others (this is the so-called no-inherent-priority rule). This paper examines three ways in which this no-inherent-priority rule can be relativized, by recognizing a certain degree of priority to certain categories of water uses. Based on an assessment of previous State practice, it is suggested that (1) existing uses enjoy a certain degree of priority over new uses; that water uses that are (2) more beneficial to a greater number of people and are less damaging to other uses and the freshwater ecosystems, enjoy priority; and that water uses that (3) immediately satisfy vital human water needs enjoy priority. States need some general guidance in identifying which water uses normally take priority in defined

circumstances, and this paper provides such guidance, thereby making the tool more effective. States can decide to derogate from these general rules if the circumstances so require; they are, of course, not legally binding on them.

## ID519.

### Improving flood resilience through governance strategies – gauging the state of the art

Piotr Matczak<sup>1</sup>, Dries Hegger<sup>2</sup>

<sup>1</sup>*Adam Mickiewicz University, Poznan, Poland.*

<sup>2</sup>*Utrecht University, Utrecht, Netherlands*

There has been an upsurge in studies of flood risk governance: steering and decision-making by public and private actors as a complement to risk assessments and technical management options. The scholarly debate is, however, highly fragmented, complicating the production of cumulative insights. To address this knowledge gap, we used six governance strategies for achieving flood resilience - that previously have been put forward as a conceptual framework - to review 141 papers from between 2016-2019 to gauge the state-of-the-art in flood risk governance literature: to (i) diversify flood risk management strategies; (ii) align the strategies; (iii) adequately involve private actors, including citizens; (iv) put an adequate rule system in place; (v) cater for sufficient monetary and non-monetary resources; (vi) inspire an open and inclusive normative debate. We found, first, that literature is producing insights on increasingly technically advanced risk assessments and agent-based models but societal debate on justice in flood risk governance is getting more limited attention. A clearly emerging topic is that of citizen engagement in flood risk

governance. Second, the geographical focus of the studies is still skewed towards the Global North. To make progress in understanding flood risk governance for better resilience more systematic and comparative empirical assessments of flood risk governance are needed in order to derive generalisable lessons while better taking into account the context-specificity of FRG. Testing flood risk governance solutions against comparative cases, by balancing the geographical scope of research efforts, and enhancing inter-and transdisciplinary working is a way to more resilience.

## Panel ID 5

### Lost in Transformation: Earth System Governance between adaptiveness and lock-in (ii): empirical insights

Parallel Panel Session 4,  
Wednesday 8<sup>th</sup> September 2021,  
9:00-10:30 CEST

Chair: Dave Huitema  
Discussant: Klaus Eisenack

#### ID37.

### The role of lock-in mechanisms in explaining variation in climate change adaptation policy in Germany, the Netherlands and the United Kingdom

*Lisanne Groen<sup>1</sup>, Meghan Alexander<sup>2</sup>, Torsten Grothmann<sup>3</sup>, Dave Huitema<sup>1</sup>, Nicolas Jager<sup>3</sup>, Julie King<sup>3</sup>, Tim Rayner<sup>2</sup>, Bernd Siebenhüner<sup>3</sup>, John Turnpenny<sup>2</sup>*

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Adapting to the worsening impacts of climate change is one of the biggest global challenges of our time. However, limited policy action prevails. Institutions, infrastructures, technologies and societal behaviours can resist change in many, sometimes mutually-reinforcing, ways. When faced with emerging climate change knowledge, or significant threats posed by climate change, policymakers may decide to either maintain ‘business as usual’ or pursue alternative courses of action – these may span across a spectrum, from somewhat limited and selective action, through to transformative change.

In this paper, we explore the varying climate change adaptation (CCA) policies adopted across different country and sectoral contexts. Special attention is paid to those cases where only limited policy action can be observed and understanding the reasons for prevailing inertia. Hence, it is the aim of this contribution to identify underlying governance dynamics and understand how certain barriers coalesce into self-reinforcing mechanism of path dependency. Such constellations may be understood as ‘lock-ins’, where change and innovation in CCA policy are essentially blocked. In doing so, we move beyond the descriptive or diagnostic literature on barriers to CCA, which are often considered in isolation rather than as potential symptoms of systemic mechanisms.

Empirically, the paper adopts a 3x3 approach, analysing CCA policy across three Western European countries, namely Germany, the Netherlands, and the United Kingdom (England), and three policy systems therein (public health, water management and nature conservation). The geographical proximity of these three countries means similar climate change impacts are experienced. Moreover, while each has put in place adaptation policies, progress continues to vary. In this paper, we

present preliminary findings from selected case studies, varied in terms of CCA policy. Data stems from a number of interviews with policymakers and practitioners working at national to local scales, as well as in-depth document analysis. Our preliminary findings highlight how specific constellations of reinforcing factors related to institutions, infrastructure, technologies and societal behaviour form complex, self-reinforcing mechanisms, leaving adaptation policy alternatives systemically disadvantaged vis-à-vis incumbent paradigms and policies. Moreover, cross-country and cross-sectoral comparisons reveal both shared and unique 'lock-in' mechanisms at play. Based on this preliminary analysis, we discern potential entry points for dissolving policy lock-ins and leveraging change to enable transformative adaptation in the future.

**ID528.**

### **Vulnerability locked in. Reflecting upon political-epistemological lock-ins to explain climate adaptation deficits in China and the United States**

Julia Teebken

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Vulnerability to climate change is unevenly distributed across society. Against the background of more rapidly intensifying climate change and growing global inequality, this problem is likely to exacerbate. As a result, certain parts of the population are more likely to be affected and need specific attention. Addressing social vulnerability in public climate adaptation and/or resilience policy is often considered a formidable policy challenge. To date, most public adaptation efforts continue to focus on technology, infrastructure and

urban planning. Aside from big infrastructural adjustments, common adaptation efforts continue to be incremental and do not readily address the root causes of people's vulnerability.

Against the framework of Earth Systems Governance, this article reflects upon the two aspects of allocation and access as important elements for transformative climate adaptation. The discussion is based upon the findings of a five-year research project, which sought to understand what motivates and hinders local governments in two different political systems from pursuing climate adaptation that aim to protect vulnerable populations from climate related extreme events (e.g. flooding, heat waves). The analysis is based upon an empirical, qualitative comparison of Atlanta, Southeastern Georgia state, United States and Jinhua, Eastern Zhejiang province, China. The municipalities were chosen because they represent high geographic, climatological and social vulnerability. The main sources of data are semi-structured expert interviews conducted in both countries, a literature review and document analyses.

In the first part, the article reflects upon the distinctive forms that adaptation deficits take in both cities. Among other things, deficits are signified by low problem recognition about the urgency to adapt to a changing climate, largely accidental adaptation measures - some of which have furthered population exposure - and different forms of protracted vulnerability, signified by limited access to public goods (which can enable resilience), select vulnerability acknowledgement and the social stigmatization of certain groups.

These adaptation deficits are examined through the concept of adaptation lock-ins. The study detects lock-ins especially at the

level of political epistemology. These lock-ins relate to path-dependent politics of information, how political ideas and knowledge affect action and are products of political behavior and institutions. In this study (access to) education, knowledge and information appear as fundamental preconditions for achieving adaptation and addressing some of the core aspects related to social vulnerability.

## **ID529.**

### **Patterns of coordination in the European Commission around climate change adaptation policy**

*Jeroen Candel<sup>1</sup>, Sebastiaan Princen<sup>2</sup>, Robbert Biesbroek<sup>1</sup>*

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Climate change adaptation has become an increasingly important topic for the European Commission (EC). Since adopting the European Green Paper in 2007, the EC gradually increased its efforts to strengthen the European wide response to climate change impacts. The cross-cutting nature of climate change adaptation requires active policy coordination to ensure coherent and consistent responses between the EC and the EU Member States, but also within the Commission. The latter has been hardly explored.

In this paper we describe how the EC has progressed on climate change adaptation policy, and analyze specifically the patterns of cooperation and conflict within and outside the Commission. We therefore analyze the 179 formal responses submitted by different Directorate Generals during the Interservice Consultation (ISCs) process of four EC documents: EU Green Paper (2007), EU White Paper (2009), EU Adaptation Strategy package

(2013), and the EU Evaluation report (2018). ISC have become an important instrument for fostering coordination but have been hardly used in study of policy coordination. The document analysis is supplemented with expert interviews (n=5).

Our analysis shows that the ISCs strongly reflects the dynamics of other policy cycles that are affected by climate change adaptation policies. This suggests that patterns of cooperation and conflict within the Commission are mediated by institutional factors that shape the temporal dynamics of policy processes. We found little support for an impact of policy maturation and the creation of new DGs, while the evidence regarding the status of the policy proposal is mixed. Compared to many other EC policy issues, adaptation has been hardly politicized which could explain part of our observations.

## **ID534.**

### **Evolution of polycentric governance systems and complexity: Institutional Complexity Trap and coherence in the water sector**

*Thomas Bolognesi*

*University of Geneva, Geneva, Switzerland*

This communication addresses a paradox of environmental governance systems. They regulate more and more environmental uses with rather well-design policies if taken individually, but governance falls short in expectations as environmental problems persist. To explain it, I focus on governance scope, i.e., the number of regulated uses, and coherence, i.e., the clarity and fit of each policy. The two dimensions set the degree of governance integration, which is assumed to favors effective coordination (ref 1). I argue that a non-linear joint evolution between

scope and coherence prevents reaching integration in the long run. This pattern of change results from Transversal Transaction Costs (TTCs) at the policy level, generating an Institutional Complexity Trap (ICT) at the governance level (ref 2). They are a critical source of environmental governance failures. TTCs are transaction costs induced by interlinkages between public policies and property rights. Drawing on institutional complementary, I show they are a negative side effect of each new policy on the governance coherence (ref 3). TTCs increased significantly over the years shaping an Institutional Complexity Trap (ICT) which prevents improvement in coordination capacity and explains the persistence of environmental governance failures. In sum, there is a turning point in governance evolution from which the positive marginal effect of each policy on the governance effectiveness is decreasing. This turning-point explains the preliminary paradox.

Three empirical investigations will be presented to support this explanation. The first considers the evolution of water governance scope and integration in six European countries from 1750 to 2004. It substantiates the emergence of an Institutional Complexity Trap. The second focuses on the policy interlinkages in the Swiss flood policy regime from 1847 to 2015. It measures the non-linearity of TTCs multiplication over the years. The third investigation characterizes policy coherence using a survey conducted with water suppliers in French-speaking Switzerland. It enables to build a typology of policy coherence(s) and to measure it.

The communication closes on a reflection of the impact of TTCs and ICT on the policy process and the structure of decision-making in polycentric governance systems.

**ID550.**

### **Swedish municipalities in between lock-ins and adaptiveness: Civil servants' strategies to circumvent institutional, technical and normative lock-ins**

Åsa Knaggård<sup>1</sup>, Kerstin Eriksson<sup>2</sup>

<sup>1</sup>*Dept of Political Science, Lund University, Lund, Sweden.* <sup>2</sup>*RISE, Lund, Sweden*

Over recent years, major climate-related events, such as flooding, have vividly displayed the need for climate change adaptation. Despite an increased sense of urgency, adaptation processes seem to move slowly, if at all, in many places. In Sweden, adaptation has risen on the political agenda, but adaptive action is still rare and there is no nationally shared understanding of what needs to be done or who should do it. Municipalities, responsible for urban and land planning, sense the urgency, but have difficulties to act.

This paper argues that the lack of adaptation policies and action can be understood as caused by processes of different kinds of lock-ins. Institutional, technical and normative lock-ins interact with the result that municipal civil servants, tasked with adaptation issues, struggle to implement lofty political adaptation goals. Institutional lock-ins, including legislation that partly contradicts adaptiveness, a sectoral municipal administration and multilevel governance arrangements with diffused responsibilities contribute to the difficulties the civil servants encounter. Technical lock-ins, in terms of buildings and infrastructure already in place, including storm-water drainage systems, also contribute. Finally, normative lock-ins like persisting values and norms, for example, of who is responsible for problems and solutions interact with the

institutional and technical lock-ins to create strong tendency to path dependency and a situation of ambiguity and uncertainty for civil servants working with adaptation.

The paper focuses on understanding both lock-ins that prevent adaptive municipal action in a Swedish context, and the strategies that civil servants tasked with adaptation use to try to circumvent these lock-ins. We study six municipalities that are at risk for negative climate change impacts, like flooding and cloud bursts. The municipalities are selected to cover different locations (two regions) and sizes (from large to small) and vary in their experiences of major disruptive flooding events. The analysis is based on interviews with civil servants directly or indirectly working with adaptation, as well as with civil servants at two County Administrative Boards.

The analysis shows that there are strong lock-ins of foremost institutional and normative kinds, reinforcing one another. Technical lock-ins seem to be somewhat weaker, despite the longevity of built structures, and civil servants to some degree have been able to circumvent these by trying to mainstream concerns for adaptation into planning processes. The institutional and normative lock-ins have proved more difficult to surpass, despite civil servants using a number of strategies.

## Panel ID 6

### Lost in Transformation: Earth System Governance between adaptiveness and lock-in (i): concepts and discourse

Parallel Panel Session 7,  
Thursday 9<sup>th</sup> September 2021,  
8:30-10:00 CEST

Chair: Bernd Siebenhüner  
Discussant: James Patterson

## ID36.

### Beyond barriers: understanding climate adaptation policy lock-ins

*Nicolas W. Jager<sup>1</sup>, Meghan Alexander<sup>2</sup>, Lisanne Groen<sup>3</sup>, Torsten Grothmann<sup>1</sup>, Dave Huitema<sup>3,4</sup>, Julie P. King<sup>1</sup>, Tim Rayner<sup>2</sup>, John Turnpenny<sup>2</sup>, Bernd Siebenhüner<sup>1</sup>*

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Immediate action is required to prepare for and adapt to current and future climate change. Yet, despite increasing calls for action, certain policy sectors remain slow or even resistant to change, and limited action on the part of public authorities prevails. Efforts to embed climate change adaptation into sectoral policy-making face strong counteracting forces of path-dependency and system rigidity, through established institutional norms, infrastructures, values, practices, and power dynamics. However, research to date has arguably tended to identify static ‘barriers’ to adaptation and fails to capture the underlying dynamics that create and sustain what we term policy ‘lock-ins’.

Deepening the analysis, this contribution establishes a research agenda for conceptualising and analysing policy ‘lock-ins’, paying particular attention to their influence on willingness and capacities to adapt. Drawing from disparate literatures in political science, public administration, economics, law, and systems science, we distinguish between isolated, singular barriers to policy change and more dynamic constellations of interlinked barriers. The latter may culminate into self-reinforcing mechanisms of path-dependency, narrowing down the opportunity space for

alternative action, thereby ultimately ‘locking-in’ policy subsystems on a specific pathway. In line with the current debate surrounding ‘carbon lock-ins’, we identify different manifestations of lock-ins, i.e. infrastructural, institutional and behavioural lock-ins, each comprising of various mechanisms of reinforcing feedback and path-dependency. In addition, we stress that these different dimensions and mechanisms may coalesce into context-specific configurations, stabilising incumbent paradigms and policies, and thus blocking concerted climate adaptation efforts.

We argue that improved understanding of policy lock-ins has the potential to ‘un-lock’ new pathways and levers for policy change, through which adaptation may become better embedded in key climate-sensitive policy sectors. Therefore, this contribution provides an important stepping-stone for future theoretical and practical advancement.

**ID539.**

### **An interpretative perspective on sustainability transitions: conceptualizing discursive lock-in**

*Machteld Simoens<sup>1</sup>, Lea Fünfschilling<sup>2</sup>, Sina Leipold<sup>1</sup>*

*<sup>1</sup>Albert Ludwig University of Freiburg, Freiburg, Germany. <sup>2</sup>Lund University, Lund, Sweden*

To accelerate sustainability transitions, understanding processes of stability and change is key. The theoretical exercise of this paper aims to advance and inspire transition research by collecting insights on this matter from interpretative environmental policy and discourse literature. We identify and describe core discursive elements that affect stability and change from this literature and build on these insights to conceptualize various discursive dynamics of a socio-technical

system. To do so, we align the various discursive elements identified to the prominently used analytical dimensions used in transition studies (i.e. landscape, regime and niche), based on their degree of structuration. By adding this interpretative perspective, we show how the interplay of meta-discourses, institutionalized discourses, dominant and marginal narratives as well as discursive agency determine stability and change in a socio-technical system. Our results suggest three main discursive lock-ins reinforce the stabilization of (unsustainable) socio-technical systems, being unchallenged values and assumptions, narrative cooptation and incumbents’ discursive agency. Building on these insights, the paper puts forward a discursive perspective on sustainability transitions that informs theoretical conceptualizations and practical governance questions alike. First, our analysis brings additional insights and tools for discursive studies in transition research and enhance the current conceptualization and analysis of agency. Second, this crossover of interpretative discourse approaches to transition research allows for additional perspectives and new questions on the concepts of scale and time in empirical transition research and stresses the importance of the notion of structuration as a manner to conceptualize the interaction between various analytical dimensions. Third, we illuminate the role of discursive dynamics in processes of stability and change and offer a conceptualization that allows for the analysis of discursive lock-in, next to its institutional and material counterparts.

ID566.

### **Resistance Shines a Light on Power: Global review of popular resistance to climate change adaptation**

Ebba Brink<sup>1</sup>, Ana Maria Vargas<sup>2</sup>, Emily Boyd<sup>1</sup>

<sup>1</sup>*LUCSUS, Lund, Sweden.* <sup>2</sup>*Swedish International Centre for Local Democracy, Visby, Sweden*

Climate adaptation is in no way a neutral or apolitical process, as recognized in the emerging fields of ‘critical’ or ‘politics of’ adaptation, and government responses to risks of floods, droughts or hurricanes can serve the interests of elites. Little attention has however been paid to how people defy or resist such top-down adaptation processes, overtly or covertly, in particular cultural, historical or legal contexts. Drawing on sociological thought on popular resistance, this paper systematically reviews and problematises research on people’s resistance to climate change adaptation by scrutinising the framing, targets, repertoires, motives and consequences of such resistance. Our review identified 56 scientific articles that report explicitly or implicitly on empirical cases of resistance to climate adaptation. We found that a majority of the studies focus on resistance to relocations while a few point to the more discursive power of narratives. We illustrate how multiple forms of adaptation power sometimes exerted within a single adaptation intervention, translate into different forms of resistance lock-ins. We conclude that resistance is an inherent part of adaptation processes, also those of participatory nature; however, it is often downplayed by more dominant research framings (including ‘participation’ and ‘collaboration’). Just like Foucault saw resistance as a ‘chemical catalyst’ that brings power relations and their methods into light, resistance can help researchers to better understand issues of participation, control,

regulation and adaptation. We suggest a conceptual foundation and direction for the continued study of the multiple resistances that occur in climate adaptation, and on how these adaptation resistances may contribute to unlocking new transformational pathways.

ID574.

### **The role of discourses in understanding institutional stability and change – An analysis of Dutch flood risk governance**

Maria Kaufmann, Mark Wiering

*Institute for Management Research, Radboud University, Nijmegen, Netherlands*

Societies are faced with aggravating environmental challenges. To respond to these challenges with desired institutional changes, we need to understand the processes of institutional stability and change. This paper adds to the literature on institutional dynamics and the literature on governance arrangements by focusing particularly on the various roles of discourses in institutional dynamics, both as factors of change and factors of stability. It examines the interaction of discourses and pre-existing governance arrangements and their outcomes not by anecdotal or incidental illustrations but by scrutinising a longer development of a policy domain in one country, namely flood risk governance in the Netherlands. Based on an inductive analysis, we created a typology that maps the outcomes of discursive-institutional interaction in terms of stability and change across a continuum. At the one end of the ideal-typical continuum the pre-existing arrangement remains relatively unchanged or is even strengthened. At the other end of the continuum, little remains of the pre-existing arrangement, i.e. emerging discourses are institutionalised gradually, substituting existing

institutions with new rules, guidelines, principles, organisations etc. Between these two extremes, several hybrid types can be identified (e.g. absorbing, merging, layering, weakening). The order of discourse influences these dynamics as it is sometimes (temporarily) broadened, i.e. supporting emerging discourses, or narrowed, i.e. hindering emerging discourses. All in all, fundamental changes of the strategic approach to Dutch flood risk management (FRM) are missing due to the path dependency of the strong hydro-engineering governance arrangement.

## Panel ID 7

### Doubling Down on Climate Action during COVID-19 and Economic Downturn?

Parallel Panel Session 8,  
Thursday 9<sup>th</sup> September 2021,  
15:30-17:00 CEST

Chairs: Sander Chan, Marjanneke Vijge  
Discussant: Matthew Hoffman

#### ID630.

### Financing Sustainable Development in the age of pandemic: Multilateral Development Banks' COVID 19 responses and their impacts on the Sustainable Development Goals

Sven Borghart<sup>1</sup>, Marjanneke Vijge<sup>2</sup>, Yixian Sun<sup>3</sup>

<sup>1</sup>Central European University, Vienna, Australia. <sup>2</sup>Utrecht University, Utrecht, Netherlands. <sup>3</sup>University of Bath, Bath, United Kingdom

As one of the largest public health crises in over a century, COVID-

19 has caused significant impacts on societies and economies around the world. The outbreak of the pandemic and subsequent economic downturn have stimulated massive investments from both public and private sectors across the globe to support health sectors and boost economies. The ways in which these investments are designed and allocated are likely to have long-lasting impact on the development trajectory of many countries. While some observers see the possibilities to promote green or sustainable recovery in the post-COVID era as manifested by the campaign of Build Back Better, others are more pessimistic about the role of sustainability in the recovery agenda of many governments and multilateral institutions as economic concerns are likely to trump social and environmental goals. Focusing on the responses of multilateral development banks (MDBs), this paper investigates the type of (sustainable) development that these MDBs promote with their COVID-19 emergency funding. We use Sustainable Development Goals (SDGs) as metrics to study the issue areas that are considered in development finance in the current pandemic. Since the inception of the Agenda 2030 for Sustainable Development in 2015, the SDGs have become increasingly important on the agendas of most national governments and multilateral institutions. However, how the COVID-19 pandemic may affect this remains uncertain. Our study therefore aims to provide a timely contribution to the debate on the impact of COVID-19 on sustainable development finance.

Empirically, we build a novel dataset of funding disbursed by the 25 largest global and regional MDBs between March and December 2020 and use qualitative coding to identify the prioritized SDGs in each disbursement. We compare financing strategies across different MDBs

during the pandemic as well as each bank's COVID-19 responses with its general strategy in the pre-COVID-19 area. Our preliminary findings show that public health and economic growth have gained a lot of traction in the era of COVID-19; in comparison, climate and environmental issues have generally received less attention, despite some MDBs' strong intention to promote green recovery. In addition, marginalised groups such as poor and vulnerable and small and medium-sized enterprises seem to be prioritised, thus indicating that MDBs chiefly promote social and economic sustainability. Using the text of funding announcements, we also analyze each MDB's framing of the pandemic and find that, unlike some optimists expect, many MDBs are ambivalent about COVID-19 as an opportunity to promote their sustainability agenda. While showing rapid responses of MDBs in the COVID-19 crisis, our study provides caveats on the promise of COVID-19 as a trigger for green recovery.

#### **ID524.**

### **City climate action and COVID-19: A global analysis of factors that influence whether cities commit to a climate-resilient recovery**

Christopher Orr<sup>1</sup>, Tanya O'Garra<sup>2</sup>, Sander Chan<sup>3</sup>, Mariya Aleksandrova<sup>4</sup>

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Development Institute, Bonn, Germany

Cities are critical actors for reducing greenhouse gas emissions and adapting to climate change. Although COVID-19 has disrupted short-term economic development and carbon emissions, it is less clear whether it represents a critical juncture beyond which

cities will shift towards enduring low-carbon and climate-resilient pathways. This research investigates cities as potential drivers of green and climate-resilient recovery, identifying factors that influence whether cities embark on low-carbon pathways, return to previously unsustainable pathways, or backtrack on climate commitments. By comparing climate commitments of cities in developed and developing countries, this study sheds light on the factors that can be harnessed and actions that can be taken by cities and networks of cities to support a climate-resilient recovery.

A global dataset of cities and factors hypothesized to influence whether cities adopt or renew their climate commitments and actions during and beyond COVID-19 was compiled. Internal factors were collected at the city level (i.e. climate risks, demographics, main economic sectors, governance indicators) and at the national level (i.e. fossil fuel dependence, state fragility, regime type, national COVID-19 policies). External factors (i.e. international network affiliation, external funding for climate projects) were also included. In addition, national data on GDP per-capita, unemployment rates, and government responses to COVID-19 were included.

Cities were analyzed using panel logistic regressions and/or generalized linear mixed models to identify which factors most significantly account for whether cities sustain, strengthen or retreat from their climate commitments. Since the type of climate policy being implemented may also determine adoption rates, the uptake of different types of actions was also modelled according to whether cities focus on mitigation or adaptation. Further analyses will combine matching and structural equation modeling to identify the effects of public health and economic impacts associated with COVID-19 on climate commitments.

This research reveals important insights that can be used to sustain and strengthen city climate commitments and actions. Preliminary panel regressions suggest that the main factors influencing the likelihood that cities renew their climate commitments beyond COVID-19 are: civic engagement, recent climatic/weather events and level of economic activity. Network membership also played a crucial role. These insights can be used to improve learning between cities, as well as to scale and replicate ambitious city climate commitments.

**ID579.**

### **Deprioritization or strengthening? Transnational climate action at a crossroads during the COVID-19 pandemic**

*Sander Chan<sup>1</sup>, Andrew Deneault<sup>2</sup>*

<sup>1</sup>*Global Center on Adaptation, Groningen, Netherlands.* <sup>2</sup>*German Development Institute (DIE), Bonn, Germany*

Adaptation- and mitigation-focused international cooperative initiatives (ICI) are voluntary collaborative arrangements between transnational actors such as businesses, investors, civil society organizations, cities and regions. ICIs have emerged as an important feature of the post-Paris climate governance architecture. As governments fall short of meeting the Paris climate goals, recent studies demonstrate the enormous potential of ICIs to narrow the global mitigation gap and to leverage much needed additional resources to help communities adapt to climate change.

The outbreak of the COVID-19 pandemic and the ensuing economic and public health crises, however, may result in the deprioritization and even the abandonment of climate efforts. This paper provides early evidence on how the

COVID-19 crisis has affected ICIs. In particular, it demonstrates the impact of the crisis on the performance of ICIs and analyzes how initiatives have been impacted.

This research uses the Climate Cooperative Initiatives Database (C-CID), a unique data-set that gathers performance data on 300 ICIs between 2013 and 2020. Performance was measured through a simplified log-framing methodology which combines tangible outputs (e.g. ‘infrastructure’, ‘research publications’, ‘seminars’, etc.) of ICIs, with their functions (e.g. ‘training’, ‘fund raising’, ‘building infrastructure’, ‘awareness raising’, etc.). Data was collected from publicly available channels and through a survey targeting ICI focal points, conducted in cooperation with the secretariat of the United Nations Framework Convention on Climate Change.

Preliminary results indicate a significant decrease in performance in 2020, in part due to COVID-19. Survey results indicate that ICIs have generally strengthened knowledge dissemination activities during the COVID-19 pandemic by switching from physical to virtual meetings, enabling a broader audience reach. However, capacity building, training, and ‘on-the-ground’ implementation activities were generally negatively affected, and specifically among initiatives targeting developing countries and having an adaptation focus. This may be due to the localized nature of adaptation solutions, which often requires travel and physical interaction.

Despite much emphasis on the potential of ICIs in recent years, the COVID-19 pandemic has revealed weaknesses, particularly among initiatives implementing in developing countries and focusing on adaptation. As climate impacts continue to worsen, attention should be given to strengthening financial support for transnational cooperation, focused

on adaptation and targeted to communities in developing countries.

**ID591.**

**What role for social scientists in the recovery from the pandemic? – Tracking national research funding calls in response to COVID-19**

*Clara Brandi<sup>1</sup>, Johannes Brehm<sup>2</sup>, Sander Chan<sup>3</sup>, Diarmuid Torney<sup>4</sup>*

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The impact of COVID-19 on countries, businesses, communities, families and individual relationships is far-reaching and varied, complex and ever evolving. While the pandemic has immediate impacts on health, the medium and long-term fallout of the pandemic will largely be social – calling for extensive and integrated economic, environmental, psychological and behavioral responses. Social scientists have a key role to play in understanding and mitigating the effects of the pandemic in both the short and long term. In particular, social science research is of paramount importance in devising long-term responses to the pandemic that are consistent with a sustainable and green recovery. In the past, however, social sciences were typically recognized only late in global environmental change research. Recent evidence has documented a ‘striking imbalance’ between social and natural sciences, with the latter receiving 770% more funding on issues related to climate change between 1990 and 2018 than the social sciences (Overland & Sovacool, 2020). Such bias comes at considerable cost as many

fundamental questions posed by global challenges fall into the realm of social sciences and humanities as they require, for instance, a swift transformation of norms, incentives and politics.

In this paper, we investigate the role of social scientists and research funding in context of the COVID-19 pandemic. We particularly look at national research councils, which are of strategic importance as they provide a majority of funding for social sciences in many countries. We have identified 74 national research councils from 37 countries, including most member states of the Organization of Economic Cooperation and Development (OECD) as well as Brazil, China, India, and Russia, and have collected and analyzed publicly available data on funding calls issued between 1 February 2020 and 15 November 2020. Using this new and unique data set of funding calls from major national research councils worldwide, we analyze whether and to which extent social scientists have been engaged at an early stage and allocated funds in research responses to the pandemic.

Our preliminary finding is that the majority of funding calls were open to social scientists, but that a different picture emerges when looking at research funding at the level of project grants. In addition, few calls make reference to longer term green or sustainable recovery. Some social science disciplines remain vastly underrepresented which could shape the research landscape and the role of social scientists in policy responses in the years to come.

## Panel ID 12

### Global Adaptation Governance: New actors, transnational risks, and legitimacy

Parallel Panel Session 3,  
Tuesday 7<sup>th</sup> September 2021,  
16:30-18:00 CEST

Chairs: Maria-Therese Gustafsson, Todd  
Eisenstadt  
Discussant: Åsa Persson

## ID139.

### Corporate adaptation in the mining sector: Private authority, regulation, and implications for societal resilience

Maria-Therese Gustafsson<sup>1</sup>, Jorge Ernesto  
Rodriguez Morales<sup>2</sup>, Lisa Maria Dellmuth<sup>2</sup>

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Sweden*

This paper maps the attempts of the ten largest mining companies in the world to adapt to a changing climate. The mining sector plays a critical role in the low-carbon transition and the fulfillment of the UN 2030 Agenda. The demands on minerals and metals are expected to grow significantly in the coming years. At the same time, mining operations are associated with a range of sustainability challenges. As mining requires large amount of water, it is vulnerable to climate-related risks. In mining regions where water scarcity is already high and likely to increase with climate change, mining operations will not only become more difficult, but conflicts are also likely to arise between local communities over access to water resources. The manifold corporate-led adaptation initiatives that have emerged in

recent years could, therefore, potentially have positive impacts on societal resilience, but if left unregulated, such responses may further disadvantage vulnerable populations and led to maladaptation.

While the Paris Agreement has opened up for an unprecedented participation of non-state actors in global climate governance, we know little about corporate adaptation. Academic research on non-state actors in climate governance has largely focused on mitigation, civil society organizations, and to some extent on the adaptation activities of local governments.

This paper draws on the literature on private authority to develop an innovative framework to identify how corporations exercise authority in adaptation governance and when private adaptation governance strategies align with national adaptation governance efforts. The article findings are based on the systematic analysis of three complementary sources of data: corporate documents (reports, risks assessments and statements), semi-structured interviews (with representatives of mining companies, state authorities), and public policies and laws (development plans, NDCs, NAPs, climate laws).

The paper contributes to debates on non-state actors and climate adaptation by conceptualizing how corporations exercise authority in adaptation governance, by identifying the mechanisms through which corporations align with national adaptation governance, and by discussing when corporate adaptation contributes to societal resilience. Moreover, it contributes with a better understanding of how potentially dangerous impacts of the transition to a low-carbon future can be limited or avoided.

**ID269.**

### **Procedural Fairness and Decision Acceptance in Climate Change and Health Programs**

Ece Kural, Lisa Maria Dellmuth

*Stockholm University, Stockholm, Sweden*

How and under what conditions does perceived procedural fairness in global climate adaptation programs lead to decision acceptance? While the study of procedural fairness and decision acceptance has a long-standing research tradition in social psychology, this link has not yet been examined in the context of adaptation. However, this is an important task, as individual decision acceptance is of crucial importance for individual compliance with global climate adaptation programs. This article draws on social psychology to contribute knowledge about the viability of global adaptation programs at the local level. It develops a novel theoretical framework for examining when perceived procedural fairness leads to decision acceptance in climate adaptation. It examines the framework using individual-level data from semi-structured and standardized interviews in the context of two climate-health programs of the World Health Organization (WHO) that are important for adaptation in Kenya. We will study the implementation of these two adaptation programs in the same country to hold the context relatively constant. This study promises a twofold contribution. First, we contribute to the climate adaptation literature by exploring the role of procedural fairness, such as inclusion of relevant actors, for decision acceptance. Second, we contribute knowledge about the factors contributing to successful global adaptation governance.

**ID499.**

### **Citizen Uncertainty Regarding Which Levels of Government Should Address Climate Change in Bangladesh**

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Analysts of climate change policy emphasize the importance of “polycentric” governance, or the integration of local, national, and international public agencies to adapt to climate change. Yet, it seems that citizens on the ground do not differentiate between levels of government and instead mostly hold “government in general” responsible for the climate-related problems they face. This article uses responses to a national survey in Bangladesh, one of the world’s most climate-vulnerable nations, to show the relatively undifferentiated nature of responsibility attribution by respondents to different levels of government. While responsibility attribution is largely undifferentiated in terms of level of government, citizens do identify the importance of local government efficacy and trust in diminishing their attribution of blame against the “black box” of government. This creates challenges for policymakers and analysts, who do seek more involvement by the climate vulnerable at different levels of government.

An important function of local and national governments is to protect citizens. This includes the prospective harms caused by ongoing climate change, as those risks have become more fully recognized and tangible. Over the past 15 years, helping developing

countries better adapt to threats of climate change has become an increasingly important focus of international development institutions, including development banks and bilateral donor agencies in developed countries. This reflects a growing understanding of the threats climate change risks pose to economic progress, and a growing interest on the part of international development institutions in providing technical and financial support to adaptation initiatives in developing countries.

This paper explores how people on the ground attribute responsibility for taking action to ameliorate the adverse impacts of climate change. To do so, we use a nationally representative 2019 survey of over 3,000 climate vulnerable citizens in Bangladesh, one of the world's most vulnerable nations. Considering local and national levels of government as well as international governance partners, we sought to understand two aspects of the attribution of responsibility: "who caused" problems of vulnerability to climate change, and "who must fix that." Our findings show that in addressing both these aspects of responsibility attribution, respondents did not differentiate between local and national governments and international organizations. Peoples' previous experience with government does affect the extent to which they think a largely undifferentiated "black box" of government should act on climate change problems. In particular, greater trust in local government can diminish the interest in seeing government take action.

**ID 516.**

### **Climate finance, green aid or climate adaptation aid? Mapping existing data on the climate adaptation component of multilateral aid**

Lisa Dellmuth

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The global development agenda now includes several goals specifically concerning climate change and the environment, and the 2015-launch of the Paris Agreement, the Sendai Framework for Disaster Risk Reduction and the 2030 Agenda for Sustainable Development illustrate that climate and development are intrinsically linked. While the scholarly literature on climate adaptation aid traditionally has focused on in-depth case studies, expanding availability of data sources have spurred an increase also of cross-country and large-n studies (ref 1). However, a clear definition of what separates adaptation aid from general development aid is still lacking (ref 2), making it a central challenge to better understand the multitude of different aid flows and funding structures that could be defined as climate adaptation aid. This paper addresses this lacuna by providing an extensive overview of available data sources that contain climate adaptation aid, green aid, climate finance and other comparable aid flows. In addition to providing a tangible overview for scholars and practitioners who wish to assess climate adaptation-related aid, the mapping enables new conceptualizations of adaptation aid that go beyond specific donor or multilateral finance structures.

## Panel ID 501

### Climate adaptation across diverse global contexts

Parallel Panel Session 4,  
Wednesday 8<sup>th</sup> September 2021,  
9:00-10:30 CEST

Chair: Wendy Conway-Lamb

#### ID259.

### Adaptive governance of deltas under threat: Addressing environmental and policy limits to ecosystem-based adaptation

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Worldwide, coastal river deltas are increasingly under threat due to anthropogenic changes to the environment. Sea level rise, land subsidence, dam construction, and land use pressures increase delta vulnerability to floods, salinization, waterlogging, and coastal erosion. Adapting to these threats is a pressing and unavoidable necessity, as currently around half a billion people live in and depend on deltas.

Deltas are naturally dynamic, but conventional adaptation approaches are often rigid. Paradoxically, they can cause, exacerbate or facilitate land subsidence and result in the deterioration of natural ecosystems. A robust, flexible and adaptive alternative is ecosystem-

based adaptation (EbA), which aims to preserve natural ecosystems and biodiversity, manage the resilience of ecosystems and their services to be able to provide cost-effective protection against threats and to support community livelihoods. The flexibility of EbA is an advantage when faced with uncertain future scenarios due to climate change. However, limits exist to the feasibility and capacity of EbA measures in deltas, and these limits vary with delta context.

Here we assess and compare environmental and policy constraints to EbA in two highly contrasting contexts: the Rhine delta in the Netherlands and the Mekong delta in Vietnam. Environmental limits to EbA are quantitatively assessed using scenarios of sea level rise, land subsidence, sediment availability, and land use provided by existing geophysical and integrated assessment models. Policy constraints are assessed by analysing the overarching management plans for each delta against the institutional and legal design principles of adaptive governance.

We argue that adaptive governance—with its reflexivity, flexibility, decentralisation, and responsiveness—is required for successful EbA. This governance system should fit within the ecological constraints of each delta and the characteristics of existing governance modes and regimes to respond to real ‘on the ground’ issues. We discuss the limits to EbA in these two contrasting deltas and propose governance principles that should be incorporated into future management plans of these and other deltas to increase the likelihood of successful EbA given a set of environmental constraints.

ID430.

### **“Avoiding lock-in: Co-creation in adapting to climate change in the North Sea Region”**

*Erwin Nugraha, Gül Özerol*

*University of Twente, Enschede, Netherlands*

What does “global” partnership mean when the actions towards sustainability involve “local” and/or “trans-local” partnerships and/or collaboration? The Goal 17 of the Sustainable Development Goals (SDGs) clearly emphasizes an aim to strengthen and revitalize the global partnership towards sustainable development, however, implementing sustainable development pose a governing problem where it expands across different spatial scales from global, national, regional, and local level within different responsibilities, jurisdictions, and hierarchical level. One of the key critiques of governing through goals is how a network of implementation will contribute towards the effectiveness and legitimacy of achieving the global goals. Arguably, could we consider governing global sustainability means a scale in motion?

This paper focuses on understanding the scalar geographies of partnerships and/or collaboration as fields of operation towards sustainable development become (re-)configured and constituted in climate change adaptation. This paper aims to analyse and examine co-creation as adaptive learning and reflexive ways in which social agents navigate change towards global sustainability in order to develop a whole-of-system approach to flood risk management. Using seven case studies from six countries in the North Sea Region, this paper employs comparative evaluation to bring in into account the similarity and difference across different case studies and also to

examine the patterns of reality for understanding connection and causality. This paper will contribute towards the critical appraisal of the politics of adaptiveness under climate crisis in the context of the North Sea Region.

Keywords: climate change adaptation, scale, co-creation, sustainability, North Sea Region

ID575.

### **Why do local actors take or not take responsibility for the mainstreaming of climate adaptation in planned urban renewal projects? Mechanisms identified in three Dutch municipalities**

*Mandy A. van den Ende, Dries L.T. Hegger, Heleen L.P. Mees, Peter P.J. Driessen*

*Copernicus Institute of Sustainable Development, Utrecht, Netherlands*

Adapting to the consequences of climate change at the local level constitutes prominent governance challenges. Various public and private actors have to play a role in this, which in international literature is referred to as mainstreaming of climate adaptation. An increasing number of cities is trying to apply such a mainstreaming approach, but recent literature shows that only in a minority of cases this translates into observable policy outcomes. A crucial element of effective mainstreaming is the necessity to implement measures in on-the-ground operations, projects or programs, also called ‘programmatic mainstreaming’. This programmatic mainstreaming raises important issues as regards responsibility divisions and problem ownership, which scholarly literature has addressed only to a limited extent hitherto.

The current paper addresses this knowledge gap by empirically assessing experiences with the implementation of spatial climate adaptation measures in five municipalities in the Netherlands. The findings of this paper consist of an analysis of responsibility-related drivers and barriers that these municipalities experienced in their attempt to mainstream climate adaptation in spatial planning. Furthermore, the analysis includes explanations for the underlying roots of these perceived drivers and barriers. The paper concludes with six lessons learned, among which the need to develop a policy framework specifically for climate adaptation, and to install a committed project leader. All in all, the study suggests that the implementation of climate adaptation lags behind policy-making and that there is much room for improvement, even in a country like the Netherlands which is internationally regarded as a frontrunner in climate adaptation. To that end, the paper finalizes by proposing specific strategies that improve the mainstreaming of climate adaptation across multiple governmental levels, sectors and actors, in order to be able to responsabilize the integration of climate adaptation in on-the-ground operations, projects and programs.

**ID644.**

### **What are the imaginaries shaping the governance of low-carbon public transport in India?**

Hema Vaishnavi Ale, Karthikeyan Kuppu

*Transitions Research*

Social and cultural imaginaries of ‘zero carbon cities’, often universal in their framing, are beginning to be enrolled to represent cities in the global south. Low carbon trajectories, however, often privilege carbon targets over

more local issues of sustainability and inclusion. For example, the push for building new metrorail infrastructure is becoming a dominant feature of the pathways to low carbon public transportation in the global South. In India, the success of Delhi Metro has prompted the adoption of the metro rail in more than 30 cities where the dominant visions of high-tech and modern solutions present metrorail systems as a default and desirable solution for low carbon public transport. However, the idea of building new metrorail infrastructure solely for the larger goal of low-carbon futures is antithetical to attaining sustainability in cities since they fail to accommodate alternate, more accessible and inclusive modes of transport that are less resource intensive, and build upon existing public transport infrastructure. The governance structures, planning processes and institutions driving public transportation inherently fail to address the possibility of achieving low-carbon objectives by sustainable methods such as increasing the modal share of riders using existing public transport infrastructure.

The paper aims to employ a qualitative discourse method to study the dominant storylines and visions guiding the metro project implementation in three cities that are building their metrorail networks – Bengaluru, Chennai and Mumbai. First, the paper employs textual analysis of frameworks and policies to map and contrast the embedded imaginaries, the governance mechanisms and the actors across different scales and sectors related to public transport. Second, the paper examines metropolitan level mobility frameworks to understand how metro rail projects are embedded within national and city sustainability goals and how governance structures, agency, planning processes and institutions are helping rationalize low-carbon transportation futures through sustainable

pathways. Finally, the paper suggests best practices to create and implement governance structures, planning processes and institutional architectures that balance visions for a low-carbon future and sustainable mobility in public transportation.

The technological visions for low carbon futures influence emerging plans and best practices for transportation systems and have implicit lessons for its current day governance. These visions and plans inform governance which seeks to change social, political, and economic norms and values associated with existing practices around transportation plans. Deconstructing implicit lessons for governance will provide strategies to reimagine low-carbon futures of public transit in cities of the global South.

## Panel ID 502

### When disaster strikes: governance reflexivity and responses

Parallel Panel Session 6,  
Wednesday 8<sup>th</sup> September 2021,  
17:00-18:30 CEST

Chair: Devon Cantwell

#### ID602.

### Social media and crowdsourcing use in disaster governance: Examining interactions between public authorities and citizens for improved disaster risk management

Anne B Nielsen, *Emmanuel Raju*

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With the severity and variety of disasters increasing, the latest incidents such as forest fires in Portugal in 2017, the earthquakes in Greece and Turkey in 2020 and the ongoing COVID-19 pandemic have shown that disasters are not individual isolated events but a problem of interconnected systemic risk. Simultaneously, in a changing technological landscape, new actors increasingly take part in disaster management processes and coordinate their efforts to reduce such interconnected risk through social media and crowdsourcing platforms (SMCS).

This paper looks at how these platforms bring citizens to the heart of disaster decision-making processes and essentially change the relationship between public authorities and civil society in disaster management. It argues that SMCS change how citizens and other civil society actors get information, organise and coordinate disaster management activities and that this empowerment of citizens both challenge and support the authorities traditionally in charge of governing disasters.

With this specific focus on the use and application of SMCS, we map the current ways in which citizens partake in disaster management by relying on these platforms. Through an extensive and systematic literature review of academic literature, policies, guidelines, evaluations and reports, we identify two distinct governance mechanisms that together alter the relationship between authorities and citizens creating new pathways for decision-making before, during and after a disaster strikes.

First, it identifies how SMCS support *a shifting mechanism*, which characterises a general shift from hierarchal command-and-control processes to more horizontal governance processes that are both multi-levelled and inclusive. Second, it identifies *a bridging*

*mechanism* characterised by the ability of SMCS to connect actors that were formerly working in silos. In contrast to understanding these changes as a move of power from government to multiple non-state actors (the shifting mechanism), the bridging mechanism connects voluntary efforts which were always essential to disaster management processes. Here SMCS have the potential to provide a space for coordination of disaster management processes that otherwise exist and unfold independently.

#### **ID634.**

### **Learning from the Past: Pandemics and Transnational Health Governance**

D.G. Webster<sup>1</sup>, Mark Axelrod<sup>2</sup>, Semra A. Aytur<sup>3</sup>, Robyn S. Wilson<sup>4</sup>, Joseph A. Hamm<sup>2</sup>, Linda Sayed<sup>2</sup>, Amber L. Pearson<sup>2</sup>, Pedro Henrique C. Torres<sup>5</sup>, Alero Akporiaye<sup>6</sup>

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Governments respond differently to global human security threats such as the ongoing COVID-19 pandemic. Epidemiology and public health experts recognize that effective crisis prevention or mitigation requires addressing factors beyond basic health care services, particularly social and economic disparities that prevent people from accessing resources needed to remain healthy and stop disease spread. Drawing on research across multiple disciplines, the concept of the governance treadmill demonstrates cross-level dynamics

that either help or hinder the alignment of capacities toward prevention of health threats like epidemics. We find that variation in capacities and responses across local, national, and international levels contributes to the complex evolution of global and local health governance. Where capacities are far out of alignment, effective prevention of global pandemic impacts tends to be elusive in the short term, and multiple cycles of crisis and response may be required before capacities align toward healthy governance for a particular pandemic disease. We demonstrate that this transition requires broader societal adaptation, particularly for social justice and participatory democracy. Throughout, we illustrate these factors through London and New York's repeated experiences with 19th Century pandemic cholera.

#### **ID654.**

### **Interconnected opportunities for sustainability: social responses to extreme weather events in South Korea between 2018-2020**

Yi hyun Kang

*Technical University of Munich, Munich, Germany*

This study compares how the media in South Korea has covered extreme weather events such as heatwaves, heavy precipitation, and cold spells between 2018 and 2020 to understand social responses to climate change and adaptation options. This analysis is based on the theoretical assumption that media framing affects social discourses, and consequently policy-making process (Reference 1). Public acceptance of different policy options could also be influenced by how the cause of extreme weather events, responsible actors, and possible solutions to the phenomena are framed. Thematic and

content analysis methods were used for investigating media coverage. Six mainstream newspapers and broadcasting media were selected for the analysis, and keywords related to climate and solutions were used for selecting and categorizing news articles. The keywords include ‘heatwave,’ ‘flood,’ ‘cold spell,’ ‘crisis,’ ‘climate change,’ ‘environment,’ ‘electricity,’ ‘shade,’ ‘dam,’ ‘cause,’ ‘solution,’ ‘prevention,’ ‘measures,’ and ‘policy.’ The framing of problems and solutions were differentiated by political stance of media. When narrowed down to the comparison of solutions suggested by the media, electricity charges and actions at the individual level were highlighted as heatwave and cold spell solutions. For flood risk reduction, hard engineering solutions were emphasized, whereas green infrastructure, nature-based solutions, and systematic measures were less dealt with. However, incremental changes in media coverage narratives were observed over time. Notably, the comparison of year-on-year data shows that other environmental issues (e.g., COVID-19 crisis) were discussed together with climate-related phenomena.

This finding implies that the windows of opportunity for global sustainability are interconnected. This study addresses the change and stasis of societal responses to global environmental change, and it can possibly contribute to the discussion on the factors that enhance adaptiveness and reflexivity in different cultures. Thus, this study corresponds to one of the conference streams: Adaptiveness and Reflexivity.

**ID241.**

### **Adaptation within the Climate Emergency: The Case of Disaster Waste**

Kate O'Neill

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Climate change and waste, as global issues, are more interconnected than many realize. This paper examines how climate change and associated catastrophes *cause* waste, specifically a category of waste that is relatively newly recognized, at least on a large scale: disaster waste. It is an adaptation issue that must be addressed across governance scales but is an uneasy fit for existing institutional forms.

Disasters – from wars and terrorist attacks to hurricanes, wildfires and earthquakes - leave in their wake thousands of tons of debris, including rubble, solid waste, biological waste, hazardous waste, dead animals, and human remains. Yet dealing with this debris often falls into the gap between emergency response and longer-term rebuilding as priorities for recovery and for aid. Still, as fires in Australia and California and hurricanes and typhoons in the coastal US and in Asia, such waste poses huge logistical, moral and ongoing problems. Disaster waste is worsened by forms of global capitalist production. Hurricane Florence in the Carolinas in 2018 flattened pig farms, aka factories, leaving a toxic soup of animal carcasses, sewage and antibiotics and other additives. Fire events can last for months. In California and Australia waste companies struggle to maintain regular collection for unaffected communities, while collecting flammables hastily raked up ahead of the blaze, and venturing into the fire zones themselves. These collections exhaust over-stretched workforces. Disaster waste is made all the more poignant (and political) when it contains human remains. But it is a trove of reusable materials, for rebuilding communities or to be sold in local or global markets.

This paper is first of all empirical. Where is disaster waste recognized as a governance

problem? At what scale? Is it an adaptation issue, or one of emergency response? The UN's Disaster Management Office has published guidelines, in collaboration with UNEP and humanitarian agencies. Yet how can global agencies address the escalating scale of the problem, more often than not left to local agencies without much back-up or planning, as California waste agencies attest. This paper highlights disaster waste as an under-addressed multi-scalar governance and adaptation issue. This paper also tells a story of the multifaceted and deeply political forms disaster wastes take on – and what they reveal about “necro-capitalism” (a form of capitalism linked to and dependent directly or indirectly on death and the profits accruing from it) and its multiple impacts as the climate emergency unfolds.

### Panel ID 503

#### Interrogating knowledge and practice in urban governance

Parallel Panel Session 2,  
Tuesday 7<sup>th</sup> September 2021,  
10:30-12:00 CEST

Chair: Elisa Kochskämper

### ID319.

#### The promise of urban climate change governance: Do the 100 Resilient Cities strategies foster sustainable adaptation?

Elisa Kochskämper<sup>1</sup>, Lisa-Maria Glass<sup>2</sup>

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Cities are central for defining climate futures and governance. With producing an estimated two-third of total global greenhouse gas emissions, cities are major contributors to

climate change and at the same time vulnerable hot spots where most severe damages due to climate change impacts are expected. In response to these challenges, many cities have developed climate change adaptation (CCA) strategies, frequently in the context of transnational municipal networks, such as the *100 Resilient Cities (RS)*.

Current evidence on CCA planning shows that little multi-level coordination between cities and higher levels of government occurs, and proposed actions predominantly target defensive infrastructure. These findings indicate a rather reductionist understanding of adaptation as purposeful adjustments to hazards to maintain key system functions frequently adopted in the resilience theory literature. Scholars criticize this approach for giving insufficient attention to power, equity, and scale as well as for its focus on the mere preservation of the status quo without tackling the causes of vulnerabilities. The emerging concept of sustainable adaptation seeks to address these alleged shortcomings by integrating specific capacities needed to anticipate and respond to climatic threats and generic capacities in response to system-level deficiencies. As such, actions can be ad-hoc adjustments, or reformist and transformative to an urban system. However, up to date comprehensive evaluations of CCA strategies at an international scale are largely missing, for example of the complete set of RS strategies.

In this article, we analyze and map the 74 CCA strategies published between 2015-2019 by cities voluntarily participating in the RS network. Based on a shared framework of resilience and adaptation, these strategies outline the cities' most urgent challenges and stressors as well as respective adaptation actions, timeframes and actors involved. We create a first comprehensive dataset on RS strategies by coding relevant process- and

content-related factors. In terms of process, we trace the collaborative approach in strategy design and planned implementation (top-down/ bottom-up; inclusion of public, private, civil society actors at different scales). For the content, we identify the matching of actions with perceived and actual stressors, specific (ad-hoc) and generic (reformist, transformative) actions, and types of actions (governance/ infrastructure). We thereby seek to contribute to the knowledge on urban CCA planning and provide the basis for future explorations and comparisons of the relation between CCA planning approaches and effective implementation targeting resilient and sustainable adaptation.

#### **ID501.**

### **Case-study insights on the systemic relevance of climate change for cascading effects in critical infrastructure networks of urban areas**

Markus Groth<sup>1</sup>, Steffen Bender<sup>1</sup>, Peer Seipold<sup>1</sup>, Elisabeth Viktor<sup>2</sup>

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Addressing climate change adaptation in urban areas is increasingly urgent and requires fundamental transformations of supply infrastructures such as transport and mobility, electricity and water supply or telecommunication as well as an improved understanding of the interactions of these critical infrastructures. Practical experiences show, that in general there is an awareness of these interconnections, but for example emergency plans often fall short regarding the growing indirect influences of climate change on infrastructural failures expected in the

future. Therefore, there is also a growing need for research and systemic approaches to overcome this isolated sectoral view of climate change impacts on critical infrastructures. An additional challenge are the large number of interests from key players such as administration (from local to regional), politics, and companies as well as state of the art scientific knowledge to be considered in the development of strategies and measures.

Against this background and in order to systematically capture the complex interlinkages of different infrastructure sectors in practice as well as the impacts of future climatic conditions for potential cascading effects, a system dynamics approach has been applied within a case-study for the metropolitan area of Hamburg, Germany. This approach is based on transdisciplinary research methods, connecting the realms of scientific knowledge about regional climate change with real-world experiences. Thereby specifically a participatory approach – e.g. using a stakeholder mapping process, interviews, group model building techniques, workshops and impact matrices – has been carried with key stakeholders from different sectors to identify climate-related drivers causing the most severe failures and losses in the system – either directly in the same sector or indirectly due to breakdowns in other sectors.

By this hands-on deep dive into the topic – also addressing key aspects of the “Agenda 2030” and the “New Leipzig Charter” – the paper presents valuable practical insights regarding the specific relevance of cascading effects for the sectors energy, water and transport. Thereby it introduces the topic of adaptation to climate change as a starting point for a better understanding and management of systemic risks in order to build and maintain a resilient mobility infrastructure and to make

cities and settlements safe, resilient and sustainable.

**ID650.**

### **Exploratory analysis of the impact of governance transformation on localization of Sustainable Development Goal 11 in India**

Richa Kandpal

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The Agenda for Sustainable Development 2030 and the New Urban Agenda recognize the importance of addressing urbanization for achieving sustainable development. They also stress upon policy attention to the capacities of, and the roles played by subnational governments in realizing the Sustainable Development Goals (SDGs). This study focuses on the localization of SDG 11 (Sustainable Cities and Communities) through transformational changes in the governance at national and subnational levels in India. The Indian government is in the process of reforming the existing development mechanisms towards an integrated and sustainable human settlement planning and management system across the national, state and district levels. There are efforts to improve collaboration and consensus building for cooperation across multiple levels, and also improve data generation and accounting for comparing state-wise progress on SDGs and creating healthy competition. The 'National Indicator Framework' and the 'SDG India Index' have been developed by the government as a part of this contextualization. The composite 'SDG India Index' is based on indicators selected according to data

availability and governmental priorities. It measures the performance for SDG 11 with five indicators, that capture two out of the ten outlined targets for SDG 11. Substantial variations are observed in the state-wise scores, and these variations are used to analyse the drivers and barriers towards successful SDG governance for sustainable urbanization. A systematic review of the government policies and mission documents is done for the successful and the aspirant states, to qualitatively assess the changes in development mechanisms. It is done under the categories of strategic changes, tactical changes, operational changes and reflexive changes. Qualitative and quantitative comparisons are made between these changes on one hand, and the scores on the other. The results show that the contextualization is still ongoing and some of the main challenges to localization of SDG 11 in India are in terms of data adequacy and quality, research and assessment, institutional factors and fiscal decentralization. This study provides valuable insight on the opportunities and challenges of such a model of cooperative and competitive federalism for effective SDG localization. It also helps in clarifying the current status of transition of urban planning institutions in India towards a model of governance for achieving the SDG framework.

## Panel ID 504

### Reflexivity in governance practices

Parallel Panel Session 1,  
Tuesday 7<sup>th</sup> September 2021,  
8:30-10:00 CEST

Chair: Maricela de la Torre Castro

#### **ID243.**

### **The global goals and the national goal-setting process: How can we understand the adaptive and reflexive capacity of national governance?**

Mahesti Okitasari, *Tarek Katramiz*

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The complexity and broad scope of the Sustainable Development Goals (SDGs) entails a new governance challenge for national policymaking. As the government is expected to mainstream the global goals into the national policies, the SDGs play a role in driving the momentum to produce a new national development plan through the national goal-setting process. Its successes are determined by the governing capacity within and across organizations to carry holistic and integrated approaches in balancing national objectives and achieving the SDGs. Existing research points to needs to strengthen the capacity of government to govern the global goals and organizational transformation discourse holds much relevance to governance transformative

capacity. However, it remains to be seen to what extent this capacity could be attributed to governance adaptiveness and reflexiveness. Further, how can insights from theories of transformative capacity help us understand processes of governance change in the national goal-setting process?

This paper aims to identify adaptive and reflexivity characteristics of the existing governance attributes that could potentially influence changes in the national goal-setting process. Using a set of reflexivity components from the evaluative framework of transformative capacity developed by Wolfram (2016), this paper thereby seeks to determine the extent to which adaptiveness and reflexivity are both the product of and contribute to the government's transformative capacity that linked to national goal-setting process. This paper analyzes multiple national goal-setting processes for the global goals resulting in new national development plans taking place between 2015 and 2017 in Asia-Pacific region with consideration of sub-regional location, levels of development and types of planning system. This allows recognizing how the diverse factors enhance or hinder adaptiveness and reflexivity in different economic, social and cultural contexts.

#### **ID301.**

### **Toward Social-Ecological Peace? Reflexivity of Governance within the Extractive Industries Transparency Initiative-Indonesia**

Yanuardi Yanuardi<sup>1,2</sup>, *Marjanneke J Vijge*<sup>1</sup>, *Frank Biermann*<sup>1</sup>

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The Extractive Industries Transparency Initiative (EITI) sets standards to improve global governance through transparency in the extractive industries sector. Globally, EITI country members implement those standards through a multi-stakeholder group (MSG), trying to ensure the process of governance reflexivity -the ability to reconfigure itself in response to reflection on its performance. This paper assesses the effectiveness and reflexivity of the EITI network in Indonesia, a country strongly dominated by extractive regimes. Extractive governance in Indonesia is still poorly governed with numerous adverse social-ecological impacts. This article explains the reflexivity process of EITI-Indonesia and analyses whether and how it contributes to fostering social-ecological peace, that is, a situation in which violence against nature and humans is absent and where humans and nature can realise their potential. The reflexivity analysis in this paper is conducted by revealing the core values of extractive industry actors by observing their core arguments in debating the EITI in Indonesia. Data are taken from EITI-Indonesia multi-stakeholder group's meeting minutes from 2012-2018; EITI-Indonesia reports; and interviews with both EITI MSG members and non-MSG members. The results show that social-economic orientation is a core value in the EITI MSG. All actors in EITI-Indonesia believe that transparency in extractive industries governance can simultaneously increase investment inflow and state revenue in Indonesia. However, fierce debates occur when defining the degree of transparency in implementing the standard. For the initial report, the MSG members agreed to limit transparency only to a small number of companies with the largest contributions to state revenue by imposing a threshold due to time and technical constraints. Further fierce debates among MSG members have occurred as the updated EITI standard stipulates higher

degrees of transparency. These show resistance against a higher degree of reflexivity in the new standard. However, the debate within the MSG remains far from pursuing social-ecological peace because it is heavily oriented toward the social-economic dimension and likely disregards ecosystem values. By explaining the different degrees of reflexivity in EITI implementation in Indonesia, the article provides key insights into the conditions under which reflexivity occurs in governance processes.

**ID328.**

### **Assessing the Reflexive Potential of the Paris Agreement's Global Stocktake**

Sylvia Karlsson-Vinkhuyzen

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The Paris Agreement (PA) has set ambitious goals on climate change, but what is less clear is whether its mechanisms for reviewing progress towards those goals are sufficiently robust. International cooperation in general is less apt at properly evaluating the (lack of) progress towards reaching adopted goals. This paper starts from the assumption that the value of such evaluation processes would benefit *ecological reflexivity*. We develop a framework for assessing the potential of intergovernmental review processes to foster reflexivity and apply this to the 2015 Paris Agreement on Climate Change.

Pickering (2019) defines ecological reflexivity as the capability to recognise impacts on social-ecological systems leading to rethinking core values and practices, and an appropriate response. We argue that looking at the review process analytically as an accountability mechanism is helpful for assessing its reflexive

potential. The accountability literature provides guidance on how accountability mechanisms can enable all three components of reflexivity by scrutinizing (lack of) actions and their implications, requiring actors to justify their performance, and including some judgement of and consequences for underperformance that incorporates incentives for improvement.

The PA regime, as several other global environmental regimes, provides a particularly challenging context for applying traditional accountability approaches. National sovereignty creates primarily horizontal rather than vertical accountability relationships. Furthermore, the climate change ‘problem’ has been characterized as a ‘superwicked’ policy problem which presents further challenges for accountability. Our assessment framework therefore draws on literature that explicitly considers design features of approaches to accountability for wicked or complex problems summarized as: *shared accountability* (beyond formal, based on ethical concern), *broad accountability* focusing on inputs (efforts), processes and outcomes, and *dynamic accountability* that has learning as a major outcome.

When applying this assessment framework to the Paris Agreement we focus on its collective evaluation process: the global stocktake. We draw on three sources: the text of the Paris Agreement; the Katowice ‘rulebook’ for how the global stocktake will be operationalised; and commentaries on the stocktake in academic literature and civil society discourse. This allows us to identify the weak elements of this process and potential avenues to address them inside and outside the formal global regime. With the first global stocktake taking place in 2023 it is important to build a solid knowledge foundation that can support the

academic and societal discussions on its implementation at national and global level.

## ID565.

### **Transition to Sustainability and Reflexivity: Implications for Governance in Central and Eastern Europe**

Aneliya Simeonova Paneva

*Carl von Ossietzky University of Oldenburg, Oldenburg, Germany*

Reflexivity has been highlighted as a key research theme within the Earth System Governance Science and Implementation Plan in 2018. Building on reflexive governance debates, the notion of reflexivity generally relates to the ability of actors and institutions to critically reassess their (environmental) performance and accordingly change established values, goals and adverse operating practices. Since existing governance systems appear ill-suited to address pressing challenges in the Anthropocene, the ability to act in a reflexive way has been recognized as crucial in driving change processes towards sustainability. Much of the current literature on reflexive governance pays particular attention to the role of knowledge and learning in decision-making processes. The conditions necessary for generating knowledge and using this knowledge in political processes have important direct implications for the capacities of domestic systems. In this respect, certain institutional, human and financing capacities

are required, which in turn presupposes that capacity building (capacity development) processes need to take place at a country level. Such efforts are critical in particular for the region of Central and Eastern Europe (CEE), given that these countries are young democracies undergoing unprecedented transformation of their political and economic systems over the past three decades. This paper explores to what extent the concept of reflexivity and its governance implications have been reflected in capacity building programmes in CEE. Pertinent questions are: Do capacity building debates in this context refer to reflexivity? What empirical evidence from CEE countries exists on the capacity building programmes in the field of environment and sustainable development? Information will be collected based on a state-of-the-art review, secondary and primary data. Drawing specifically on the case of Bulgaria and qualitative data collected over a 4-year period, preliminary findings indicate that the available capacities are insufficient to enable reflexive governance processes. Meanwhile, capacity building efforts undertaken by national and international organizations have failed to address this deficit. Thus, the lack of capacities and adequate capacity building processes can partly explain the weak performance of the country in the field of environment and sustainable development. Consequently, fostering reflexivity in the society calls for reconsideration and redesign of capacity building programmes.

## Panel ID 506

### Interrogating knowledge and practice in water governance

Parallel Panel Session 3,  
Tuesday 7<sup>th</sup> September 2021,  
16:30-18:00 CEST

Chair: DG Webster

## ID400.

### Dealing with complexities: finding best practices to go beyond panaceas?

Leandra R Goncalves<sup>1</sup>, Luciana Y Xavier<sup>1</sup>, DG Webster<sup>2</sup>, Oran Young<sup>3</sup>, Alexander Turra<sup>1</sup>

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Coastal management is a complex process and it addresses diverse drivers and pressures, coming from different scales, processes, and levels. Human settlement is one of the most intensive drivers of environmental degradation in the coastal zone. Recent estimates suggest that in more than half of the world's coastal countries, at least 80% of the national population currently lives within 100 km of the coastline creating coastal megacities. Hence, urbanization and megacities in the coastal zone have a wide range of intersecting environmental and human impacts within a social-ecological perspective. People have developed many methods for tackling the complex problem of coastal zone management. When a particular approach

appears to be successful in a few cases, people may treat it like a panacea or a simple solution to a wide array of problems. Unfortunately, real panaceas do not exist, so coastal management approaches that are applied without attention to local context and engagement of local stakeholders are bound to fail. To go beyond panaceas we need to understand the different realities and peculiarities of the contexts where the best/avoidable practices were implemented. For this, an institutional diagnostics toolkit that offers vast information on coastal management settings and enables the discussion of available options of architecture and agency that are likely the most effective in different earth system governance settings is a valuable instrument. Thus, through a systematic literature review, this article seeks to examine current policy options used for coastal management around the world focusing on urban coastal development and coastal megacities, with a view to identifying key policy questions, the social-ecological settings they are inserted in and the potential avenues for addressing those issues, highlighting their main diagnostic condition and design elements to improve fit. This alternative would not replace the more comprehensive approaches found in the literature but would rather support managers in developing a better institutional design that steps away from the problem of panaceas. Solving complex socio-environmental problems requires governance among multiple stakeholders and the use of diverse and available knowledge in the pursuit of innovation.

**ID317.**

### **Understanding the performance of a polycentric water governance system in areas of rural to urban transition**

Arvind Lakshmisha, Andreas Thiel

*University of Kassel, Witzenhausen, Germany*

The distinction between urban and rural areas are increasingly blurred in the recent years and characterised by intensifying inter-dependencies of the two areas leading to diverse functional relations, for example due to economic, political, physical and social complementarities in contexts of resource use and sharing. This paper looks at the emerging interplay between urban and rural areas through the lens of polycentric governance developed in (*Anonymized*) (2019) and rooted in the Bloomington School of Economics, and the paper aims to analyse the conditions shaping the performance of a polycentric governance system in contexts of rural-urban inter-dependencies. This concept is empirically applied to the case of water-bodies in and around the metropolitan region of Bangalore. The metropolitan region of Bangalore spread across three administrative districts, comprising of numerous small and medium towns and villages in addition to the metropolis with varied systems of water-body management across the region. Analysis based on the interviews and focus group discussions conducted in the region highlight two important aspects: conservation of water-bodies has been a completely citizen-led initiative and there are different forms of interactions among actors crossing administrative jurisdictions. The research shows that, in the urban areas the three major forms of interactions, namely cooperation, coercion and competition between actors have led to increased social learning and adaptability among the actors, whereas cooperation among actors is seen as the key factor in ensuring adaptability in the rural areas. These interactions are limited by the administrative boundaries and even though there are formal channels of interactions among the governmental actors, there is a lack of

interactions and coordination between water users within the region, leading to locally led uneven conservation initiatives in the study area, which has seemingly contributed to the destruction of water-bodies in the region.

**ID549.**

### **Opportunities and challenges of water reuse in the industrial sector under a Private-Public Partnership (PPP): A critical review**

*Isabella Georgiou<sup>1,2</sup>, Serena Caucci<sup>1</sup>, Jonathan Clive Morris<sup>2</sup>, Peter Krebs<sup>2</sup>*

<sup>1</sup>UNU-FLORES, Dresden, Germany. <sup>2</sup>TU Dresden, Dresden, Germany

Around 20% of the total water abstractions are originated by the industrial sector worldwide, while the demand for water overall will increase by 55% by 2050. Wastewater could provide an alternative source of water for industrial activities. Yet although internal water recycling is gaining prominence, there are not many studies exploring the potential of treated wastewater use under a Private-Public Partnership (PPP). This is despite PPPs having the potential of contributing to an effective integrated water management through the creation of synergies between the private and the public sector. The purpose of this paper is therefore to provide a holistic overview of the main barriers that prevent the effectiveness of PPPs in using publicly treated municipal wastewater in the industrial sector. Through a systematic literature review, the main barriers, drivers as well as industries and different applications of water use are analysed. These initial findings show that costs in capital and infrastructure, conventional water price, the quality of wastewater and a well-formed regulatory framework are the most discussed aspects. Ten different identified applications are analysed in regard to type of application,

water use and characteristics of country or region of application. Through the further analysis of the case studies, the paper aims to highlight common factors leading to a successful scheme, as well as identify aspects that require further attention and research.

**ID453.**

### **Rivers and cities: How are the connected water-risks governed?**

Safa Fanaian

University of Oxford, Oxford, United Kingdom

More than a billion live in urban regions with <1 million population in middle and low-income countries. Many such secondary/medium cities stand on rivers and increasingly pose a host of water-related risks to each other. Some of these risks include urban floods, inadequate drinking water availability, riverbank erosion, and river pollution due to sewage and waste releases. In India alone, its Central Pollution Control Board in 2015 reported that 37,000 million liters per day of untreated sewage water flow into rivers across the country. These same rivers, many times also serve as drinking water sources. Within riverine cities, water-risks are as much shaped by climatic events as by urban growth, and its governance (or lack thereof).

Understanding the mechanisms of how governance unfolds involves understanding both who is involved and the modes through which operations occur. Actors dealing with water management are constantly involved in interpreting information, dealing with interdependencies, influenced by values and relationships (political and personal), and coping with uncertainties when systems are no longer in equilibrium. While the technical complexity of water and risk infrastructure is frequently researched, relational complexity

and social ties within networks involved in addressing urban water-risk of riverine cities is an understudied area.

This research explores the relational functionality of networks governing the risks of urban floods, domestic water supply, and wastewater for Guwahati city and its rivers. Through the method of Social Network Analysis, the research explores aspects that are known to hinder effective cooperation within networks, including the information gaps, cost of collaboration, communication, and role ambiguity challenges.

The case studied is Guwahati city and its rivers in the North-eastern region of India. Data used includes interviews with different actors such as bureaucrats, media, NGOs, private enterprises, academicians and residents.

The results show that key leadership roles, along with diverse polycentric structures within governance networks have a strong influence on the implementation and execution of mitigation strategies. Such a network approach to examine all the parts of the polycentric structures allows for scrutiny of, hierarchies, types of interactions, prevalent perceptions, the flow of knowledge, enablers of cooperation and placement of priorities that give rise to the emergent characteristics of the whole.

## Panel ID 507

### Reflexive governance: sources and barriers

Parallel Panel Session 6,  
Wednesday 8<sup>th</sup> September 2021,  
17:00-18:30 CEST

Chair: Jeremy Bendik-Keymer

## ID671.

### Indigenous knowledge in global biodiversity politics: Epistemic communities, boundary breakers, or normative entrepreneurs

Casey Stevens

*Providence College, Providence, USA*

Indigenous knowledge plays a crucial role in global biodiversity governance with important roles played in discussions around Article 8(j) of the Convention on Biological Diversity (CBD), the Nagoya Protocol, and in the reports of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. How have Indigenous Peoples been able to influence the agenda and what have been the limits on their involvement? This paper conducts a comparative process-tracing method to 9 different negotiations in the CBD in order to discern the specific combinations of causal mechanisms which lead to impact of these groups in negotiations. The argument from the analysis is that indigenous knowledge claims present a unique challenge to theories of how ideas impact governance outcomes. They are more diverse and operate differently than expectations from epistemic communities, boundary work or civic epistemologies, and norm entrepreneurs or advocacy coalition frameworks. Instead, the most relevant mechanisms of impact largely revolve around

their ability to create spaces for transdisciplinary knowledge creation. Indigenous Peoples have the impact on most negotiation spaces when they are able to open spaces for the creation of multifaceted and fractured knowledge claims. This provides specific avenues for them to shape the agenda, but also limits its ability to shape some fundamental features of the governance negotiations.

**ID556.**

### **Civil Disobedience of the Anthropocene: Renewing Reflexivity for Ecological Democracy**

Odin Lysaker

*University of Agder, Kristiansand, Norway*

The environmental movements Fridays for Future and Extinction Rebellion, despite their differences, are willing to use *civil disobedience*. They non-violently protest to protect, e.g., future generations and the planet against what is viewed as climate injustice and ecological emergency. Therefore, I raise the question whether civil disobedience is *democratically legitimate* in the Anthropocene, a theme that seems to have been largely neglected within studies of ecological democracy. Even if environmental movements' civil disobedience can be judged as a legitimate political response to today's planetary ecological crisis, I wish to further reflect on the extent to which societies can recognize climate disobedience and remain democracies. To address this issue, I draw on Jürgen Habermas' approach to civil disobedience as a litmus test for democracy's legitimacy, moral grounding, and maturity level. Recently, building further on this Habermasian idea, Maeve Cooke has articulated a non-anthropocentric ethics. In doing so, in the Anthropocene, Cooke argues that civil disobedience might generate

transformative political action, e.g., activism, protest, and resistance. Such non-violent and direct action may create radical societal change through dialogue and deliberation rather than force or violence. Cooke further portray civil disobedience as bodily and emotional activities which wish to open the eyes, ears, and hearts of those who the environmental movements are resisting as well as other relevant audiences. Unfortunately, Cooke never connects her analysis to the discourse around ecological democracy. In contrast, I argue that climate disobedience may be accounted as an ecological-democratic practice. Here, to be able to open others' hearts, I believe, we should be motivated by what I define as *ecological love* towards all existence instead of ecological sorrow or rage after the degradation and exploitation of limited natural resources. Given that, within the framework of ecological democracy, I claim that climate disobedience and ecological love can be related to what John S. Dryzek and Jonathan Pickering define as ecological or ecosystemic reflexivity. This is the first virtue of democratic institutions and practices of the Anthropocene. In today's dynamic and instable social-ecological systems, such reflexivity is the capacity to more efficiently seeking, receiving, interpreting, and acting based on early warnings concerning the ecological crisis. By exercising ecological reflexivity motivated by ecological love, I guess that climate disobedience can be further democratically legitimated by contributing to what Dryzek and Pickering designate as discourse entrepreneurs or formative agents.

ID659.

### **Social Cohesion as a Crucial System Feature in Social-Ecological Systems: A Conceptual Perspective on Regional Social Tipping Points in the Southwestern Amazon**

Rebecca Froese

*University of Koblenz-Landau, Landau, Germany*

With the introduction of the Anthropocene into the scientific discourse, it became obvious that the Earth System cannot be further investigated without considering human impacts. The diverse dynamics emanating from societal interactions and their environment have been conceptualized in the last decade into a body of literature on social-ecological systems (SES). SES exist on different scales and are sub-systems of larger SES, lastly the Earth System. In this paper we approach human dynamics within the Earths social-ecological system by exploring social cohesion as a crucial system feature of the social component of an SES. Systematizing society as a tipping element with social cohesion on inter-group and group-state levels being its crucial system feature, we aim to contribute to the incorporation of societal dynamics into SES dynamics and more widely also into the discussion on Earth System dynamics. We present our conceptual approach on regional social tipping points and resilience, building on related considerations from systems theory and actor-network theory. Since the social system as a whole is complex and hard to grasp, we focus on dynamics that are relevant for only one tipping dynamic: land use change and related loss of ecosystem services. Further, we approach our analysis on a regional scale, corresponding to the boundaries of the social-ecological sub-system under consideration to depict various

dynamics that are relevant within this SES. At the same time, this regional approach allows us to analyze diversity within each component of the social system on a more detailed and local level while allowing for comparison and transnational contextualization of different local analyses. For test application of our conceptual framework, we use the case of a tropical rainforest ecosystem and a rural Amazonian social system at the tri-national boarder of Peru, Brazil and Bolivia. We argue that understanding social cohesion in relation to its potential to influence developments on a regional scale is important to foster the formation of resilient and life-sustaining future societies.

### **Panel ID 508**

#### **Low-carbon transitions: structural change, knowledge and complexity**

Parallel Panel Session 9,  
Thursday 9<sup>th</sup> September 2021,  
17:15-19:00 CEST

Chair: Rosalind Warner

ID318.

### **Addressing complexity in the electromobility transition pathways of Alberta, Ontario, and Québec**

Nathan Lemphers

University of Ottawa, Ottawa, Canada

The rise of electromobility holds the potential to profoundly impact the electricity sector. Electric vehicle charging, electric vehicle batteries, and associated home-based energy storage devices will unavoidably impact how electricity is managed. Sustainability transition frameworks have been helpful in conceptualizing how these novel technologies can move from niche adoption to widespread

usage. Yet many of these frameworks abstract away important complexities or regional diversity, diminishing the policy relevance of this research. In practice, how an electricity system responds to these new technologies will vary based on many place-based considerations. Electric mobility will create various challenges and opportunities and provoke distinct adaptation dynamics from diverse electricity sectors, resulting in different sustainable transition pathways.

This paper explores the varied transition opportunities and challenges for electromobility in three major regional economies in Canada: Alberta, Ontario, and Québec. Canada's highly decentralized federation and vast distances has resulted in highly fragmented electricity system. As a result, dominant industries in each province have shaped the existing power system and the policy response to electromobility. Canada Québec's highly-regulated electricity sector is dominated by the provincial utility, Hydro-Québec, and has Canada's most advanced electromobility policy frameworks. Ontario's electricity sector is partially deregulated and the province is home to Canada's automotive manufacturing industry and ICT sector. Alberta, has one of the most carbon-intensive and deregulated electricity systems in the country, and is highly dependent on fossil fuel extraction.

Using a conceptual framework that distinguishes between sectoral regimes and service regimes, this paper examines how likely is a transition in each region and what a transition could look like. The comparative insights gathered in this paper will have relevance for policymakers wanting to learn from the experiences of other jurisdictions or for policy actors working across regional boundaries.

**ID480.**

### **Adapting for a low-carbon transition: knowledge brokers and government access to industrial competence in the electricity industry**

Jose Maria Valenzuela

*University of Oxford, Oxford, United Kingdom*

Electricity system authorities have adopted the mandate to pursue low-carbon electricity generation as this is one of the most feasible strategies for decarbonisation in industrial economies. However, these regulators must deal with potential serious imbalances in energy supply, which not only creates a negative financial impact on generators, consumers and/or the government but also undermines the business and political case for the further expansion of renewable energy (RE). The problems posed by RE require regulatory innovations. Regulators require both knowledge and regulatory capability. They require appropriate knowledge to understand the problems of variable generation and identify the innovative means or tools available to overcome them. They also require analytical capacity which is shaped and can be provided by how the regulatory environment is organised: it is not merely an attribute of a specific regulatory institution.

The regulator's capability to successfully coordinate this necessary technological transition, without major disruption to the traditional mandate of supplying electricity affordably and reliably, is critical. A common view is that liberalised energy systems are better at addressing problems of performance on the expansion of RE. This would mean that countries with higher levels of liberalisation

would display lower levels of renewable generation curtailment. However, empirical evidence suggests that higher levels of market liberalisation do not necessarily deliver better performance of RE integration.

The key research hypothesis is: greater access to system operators and transnational regulatory networks lets regulators develop more innovative and effective regulatory solutions, by increasing the provision of specialised knowledge. The research postulates that greater access to knowledge brokers, especially domestic intermediaries and international transnational networks, facilitates regulatory innovation. This is because knowledge brokers increase analytical capability by providing regulators with knowledge from their own operational experience, and from the wider industry.

This research was conducted as a controlled comparison between China, Mexico, Chile and the United Kingdom. This case selection allows to account for high and low levels of liberalisation (Chile and the UK fully liberalised, and China and Mexico as hybrid models), and the presence of independent system operators (Mexico and Chile) and transmission system operators (China and the UK). These four countries have experiences formal and informal institutional changes that have redistributed the capacity to broker knowledge and represent a good frame for hypothesis testing and theory building. The empirical evidence includes extensive documental evidence and more than 70 interviews conducted on field trips during 2019.

**ID157.**

## **How do Energy Transitions Play out in Carbon-intensive Regions? – A Framework for Systematic Analysis of Structural Change from Decarbonization**

Lukas Hermwille

*Wuppertal Institute for Climate, Environment and Energy, Wuppertal, Germany*

Most studies on socio-technical systems or large technical systems start the analysis by identifying the boundaries of the technical infrastructure. However, to understand the dynamics and implications of transitions of carbon-intensive regions, we cannot base our analysis on the boundaries of technical systems. Rather we must conceptualize how subnational regions influence and are influenced by the national and supranational systems within which they are embedded.

We will conceptualize these as two interacting and overlapping open systems. Large technical systems may be best characterized on the national scale or even supranational (European) scale. These systems interact with regional economies and societies, which are complex systems in their own right, through both socio-technical regimes (studied by socio-technical studies), socio-political and governance structures (studied by political science) and market mechanisms (studied by economics). The stronger the overlap and interactions between the two, the larger the structural challenges for the region. On that basis we will develop a coherent research framework specifically spelling out the various ways in which the two systems interact. The understanding of the interlinkages between large technical systems and regional economies and societies will help to design

governance interventions that help regions adapt to the structural changes, reduce and avoid hardship, resolve systemic change resistance by incumbent actors and ultimately facilitate the transformation towards decarbonized energy systems overall.

**ID109.**

### **Escaping the Fractal Carbon Trap**

Steven Bernstein, *Matthew Hoffmann*

*University of Toronto, Toronto, Canada*

This paper reports on key findings from a six-year collaborative project on “Transformative Policy Pathways Towards Decarbonization,” which investigated over two dozen initiatives at multiple levels and scales designed to promote decarbonization. The cases range from attempts to create “smart” cities that encourage shifts in energy use, to national-level energy transition policies (e.g., Germany’s Energiewende), to transnational initiatives to change business practices (e.g., CDP and corporate carbon pricing), to sector specific policies such as to promote electric vehicles. These cases revealed a pattern we observed more broadly: societies’ dependence on fossil energy makes it difficult to change one policy or technology without causing negative feedback in interdependent systems that opposing interests (such as fossil producing or dependent industries) or politicians can leverage to mobilize counter coalitions and societal pushback. These dynamics produce a “fractal carbon trap” where interlinked dynamics lead to initiatives getting “stuck” or being reversed unless they can overcome thresholds of scaling and entrenchment leading to positive feedbacks both within the particular targeted system (e.g., a political jurisdiction or economic sector) *and* interdependent systems. We investigated the political dynamics of coalition building,

normalization and capacity building in each case to see how they combine to reinforce or overcome the carbon trap. Among the key findings the paper will elaborate are the following: 1) The political dynamics for an initiative to gain initial traction differ from those needed for scaling and entrenchment; 2) Many initiatives that generate immediate emission reductions also generate dynamics that get systems stuck in an “improvement” trajectory that prevents further decarbonization, e.g., when they intentionally or unintentionally reinforce use of bridge fuels; 3) Analyses and action must focus beyond single initiatives since scaling and entrenchment depend on interactions and catalyzing action (via the three political dynamics) in related systems, e.g., in the overall sector targeted or at multiple jurisdictional levels.

## Panel ID 509 Inter-/transdisciplinarity and reflexivity in research

Parallel Panel Session 9,  
Thursday 9<sup>th</sup> September 2021,  
17:15-19:00 CEST

Chair: Erwin Nugraha

### ID184.

#### The split ladder of problem politicization

Margot A Hurlbert<sup>1</sup>, Joyeeta Gupta<sup>2</sup>

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There is an ongoing debate about whether complex problems should be addressed technocratically or whether they should be the subject of politicization. While many scholars from the natural science disciplines tend to favour technocratic decision-making, social scientists like to politicize problems. But politicization does not always lead to problem-solving. Nor is it always necessary. This paper addresses the question: Under what circumstances should problems be politicized, and what is the effect of such politicization. It builds on the split ladder of participation to develop a theory on the politicization of complex societal problems.

This paper explores the politicization of earth system problems of climate change, just energy transitions, and disaster risk response to drought and flood through the research lenses of democracy and power, or the deliberative exploration of policy and adaptation/mitigation response. While responding to complex problems through public engagement and politicization is often touted as optimal, this paper explores how

problem-solving is best achieved in relation to each of the three case studies of climate change, just transitions, and disaster response to drought and flood. It argues for a holistic exploration of each of these complex problems, but a targeted politicization coincident with, but developed well in advance of, windows of opportunity.

### ID417.

#### Evidence-orientation in Earth System Governance research

Jens Newig, Michael Rose

Leuphana University, Lüneburg, Germany

Research in earth system governance (ESG) aspires to be both academically sound and policy-relevant. Arguably, both objectives require the production of reliable evidence by cumulating – refining, challenging, complementing and synthesizing – existing research. In line with a growing focus on evidence cumulation in sustainability science, we ask how and to what extent ESG research contributes to evidence production and cumulation.

To this end, we first define what constitutes ESG research. Rather than considering only those publications which explicitly use the phrase “earth system governance”, we also analyse the publications which have emerged from the previous ten ESG conferences. To be precise, we define the body of ESG research as all journal articles published in or before 2019, listed in Scopus, which use the term “earth system governance” in abstract, title or keywords, *or* which can be attributed unequivocally to an abstract accepted for an ESG conference. (For later analyses, articles appearing in the Journal *Earth System Governance* should, too, count as ESG research.) We show descriptive statistics and

network graphs to characterise this body of research.

The resulting set of journal papers are coded for their theoretical, conceptual, normative-prescriptive or empirical orientation. Empirical papers are coded for a qualitative, quantitative, interpretive or meta-analytical research approach, and whether they can generally be regarded as positivist or constructivist. We code in what way papers add to, refine, challenge or synthesise existing research, and in what way they contribute to developing shared frameworks, definitions or datasets.

Overall we find that evidence cumulation is still poorly developed within the ESG community. Like the field of environmental policy and governance more generally, ESG research may be characterised as a “fragmented adhococracy”, explaining the widespread failure to produce robust and cumulative knowledge.

We close by suggesting a number of avenues for stronger production and cumulation of evidence in the ESG community. These include the development and use of more widely shared core terminology, e.g. through broadly accepted dictionaries and common research protocols, allowing to produce shared and compatible datasets, and meta studies that synthesise existing (case-based) research following shared frameworks. Hence contributing to a growing body of – cumulating – evidence on what “works” in ESG will, so we hope, more likely and more lastingly inform policy and governance.

**ID162.**

### **Transdisciplinarity in climate services as a form of governance intervention**

Dragana Bojovic, Asuncion Lera St. Clair

*Barcelona Supercomputing Center, Barcelona, Spain*

Some of the emerging scientific sub-disciplines and branches of climate change science, such as climate services and climate change adaptation, are reopening the way for transdisciplinarity. To achieve transdisciplinarity in earnest, we still need to move beyond consultation with stakeholders and acknowledge that what we need is to treat stakeholders as holders of knowledge and equal partners in the creation of science for action.

In this paper we advance a vision of transdisciplinarity in climate services as a governance tool – a way to govern the production of knowledge by designing and providing an interface between science, society and policy. This bridging is a fundamental prerequisite for behaviour change. Behaviour change requires not only access to scientific information about climate change risks and potential impacts, but also the participation of relevant actors in the process of generating this information. Governing knowledge to ensure the co-design and coproduction of climate services with stake- and knowledge-holders is thus one more aspect of governance interaction for behavioural change to sustainability.

The experience from climate services shows that natural sciences are generally granted more authority than other forms of knowledge. This means that other disciplines, such as social sciences and humanities, although often present in project teams, are not expressed to their full potential. If we want to ensure change in behaviour of people and organisations, we need to assure they understand the risks climate poses to them and the ways in which this information can be used

to adapt or transform. Transdisciplinarity in the design of climate services can help achieve this goal. It however requires the close collaboration between disciplines, with the instrumental role of social scientists in framing collaborative approaches and enabling innovation.

To achieve transdisciplinarity, we should unpack the predetermined hierarchies in science and achieve interdisciplinary teams that have a broadness and capacity to include other types of knowledge, to engage with citizens and relevant actors, and to respect their condition as knowledge holders. An interdisciplinary scientific team would challenge the dominant assumptions and biases of natural sciences and undertake an inclusive and collaborative process of knowledge production. By seizing pluralism and diversity of knowledge with various origins, these scientists will empower stakeholders, who become stake(&knowledge) holders and equal partners in the process. This can finally result in a social transformation and needed behavior change, reflected in robust and evidence-based decision-making.

## Stream 6

### Governance intervention and social actions for behavioral change to sustainability

#### Panel ID 2

#### Governance of Nature and Biodiversity (i): Policy integration and mainstreaming

Parallel Panel Session 4,  
Wednesday 8<sup>th</sup> September 2021,  
9:00-10:30 CEST

Chair: Yves Zinngrebe

#### ID562.

#### Structural conditions behind the barriers that impede the mainstreaming of urban nature based solutions in Europe

*Hade Dorst<sup>1</sup>, Alexander van der Jagt<sup>2</sup>, Helen Toxopeus<sup>3</sup>, Laura Tozer<sup>4</sup>, Rob Raven<sup>5</sup>, Hens Runhaar<sup>1,2</sup>*

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Nature-based solutions (NBS) present a promising and innovative approach to address the multiple sustainability challenges faced by

cities. Yet, NBS are not integrated into mainstream urban development practices. Drawing from sustainability transitions studies and based on a qualitative comparative case study of six European countries, this study shows how barriers to NBS mainstreaming follow from structural conditions embedded in heterogeneous urban development regimes. Our case comparison reveals that seemingly similar barriers to NBS mainstreaming are caused by different structural conditions in different countries. Our findings stress the importance of moving beyond ‘silver bullet’-type approaches to addressing NBS mainstreaming barriers, towards context-sensitive responses that are tailored to specific urban development regimes.

#### ID590.

#### Integrating biodiversity into five political sectors in Germany: How can we make implementation work?

*Fabian Proebstl<sup>1</sup>, Yves Zinngrebe<sup>1,2</sup>*

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The importance of mainstreaming has been increasingly recognized over the past decades since its first outpost in the Convention on Biological Diversity in 1992. Nevertheless, the Global Biodiversity Outlook 5, published in 2020, indicated a strong implementation gap resulting in low effectiveness in meeting most targets defined by the strategic plan for the “Decade on Biodiversity 2011-2020”.

The German Biodiversity Strategy (NBS) was adopted in 2007 with a “whole-of governance approach” holding all political sectors accountable for its implementation. But also on

the national level, a biannual evaluation process has signalled a strong need for transforming current management patterns as key drivers of biodiversity loss.

In this article, we present a study based on 33 interviews and a stakeholder workshop with 90 participants bringing together insights from both primary (political and non-political) users of the NBS, as well as pioneers from academia, business and NGOs. Based on their insights we reflect on possible leverage to level up implementation and to induce ownership by non-environmental sectors. The addressed sectors encompass agriculture, coast & oceans, forests, production & consumption as well as rural & urban development.

Based on the given information by the participants, we identify central challenges, policy options, but also possible synergies, which remain to be explored. Based on the assumption that transformative biodiversity governance needs to be integrative, adaptive, informed and accountable, we critically reflect on current implementation processes to shed light on potential obstacles regarding institutional structures, central agencies and discursive elements. As central challenge we identify the need to carefully position the NBS in national policy, explicitly linking its targets horizontally to other sectoral and national strategies including the national sustainability strategy, but also vertically across levels from the EU to the local level to generate complementarity and ownership by key agents. This clearly highlights the relevance of updating the NBSAP not only to generate a new set of targets, but as a process linking elements in biodiversity governance and beyond.

**ID592.**

## **Mainstreaming revisited: the Role of National Biodiversity Strategies**

*Yves Zinngrebe<sup>1,2</sup>, Nina Büttner<sup>1</sup>*

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Meeting the goals of the Convention for Biological Diversity (CBD) and the 2010-2020 strategic plan with its Aichi targets was hampered by weak implementation on the national level. National Biodiversity Strategies and Action Plans (NBSAPs) are mandatory for each CBD party and are the primary instrument to translate the global plan into national targets and mainstream these into all relevant plans and policies (Convention article 6). While **174** countries have an NBSAP and **146** countries successfully updated them according to the 2010-2020 strategic plan, CBD parties report low levels of implementation and continued biodiversity loss. Particularly agricultural expansion and intensification remains a key threat to biodiversity in both the Global North and the Global South.

In this article we analyse the role of NBSAPs in Rwanda, Peru, Honduras, Indonesia and Germany covering countries from four different continents with a very different level of both institutional and economic development. In each of the countries we have interviewed at least 20 experts representing National Focal Points, representatives from agricultural Ministries and other governmental agencies, Non-Governmental Organisations (NGOs), private business and academia working in areas linked to land-use and biodiversity governance. In a semi-structured interview, we have asked these experts to report on the relevance of NBSAPs, key

biodiversity drivers and policies as well as implementation challenges and finance gaps in order to extract challenges and potentials in national biodiversity governance in each of the countries. In addition, we contrast the finding with the most recent NBSAPs in order to assess to what extent these challenges and potentials are addressed.

Our results indicate that NBSAPs in developing countries (CBD Annex I) are mainly regarded as formal prerequisite to report to CBD, while developed countries (CBD Annex II) show a stronger national orientation and stronger participatory processes. In all countries however, neither agricultural practices as key drivers nor key policies for regulating them are directly addressed. Instead, conflictive relationships between environmental and agricultural actors undermine synergetic implementation. We conclude that NBSAPs need to be accompanied by institutional and financial reconfigurations in order to be able to actively direct, induce and evaluate implementation.

**ID596.**

## **Of headquarters and country offices. Mainstreaming agricultural biodiversity inside the FAO**

Ina Lehmann

*German Development Institute/Deutsches Institut für Entwicklungspolitik (DIE), Bonn, Germany*

Global agricultural policies have traditionally focused on intensified production and output increases to secure the nutrition of a growing world population, especially in countries of the Global South. At the same time, the agricultural sector is particularly vulnerable to biodiversity loss as exemplified by the loss of pollinators.

Yet, prevalent agricultural policies and practices themselves account for around 70% of biodiversity loss globally. Mainstreaming biodiversity into agriculture is thus highly relevant to addressing the interrelated environmental and developmental challenges of long-term global food security.

The UN Food and Agriculture Organization (FAO), traditionally a major promoter of agricultural intensification, has responded to this challenge by integrating norms related to agricultural biodiversity in its key global policies. The FAO is a decentralized organization with highly independent country offices, some of which exercise strong influence on their host countries' agricultural policies and practices. Staff in these offices is said to be particularly oriented towards agricultural intensification as their primary objective. There is hardly any evidence whether and how norms related to biodiverse agriculture adopted at the headquarters translate into country and field-level work. Yet, if we are concerned with mainstreaming biodiversity into the global agricultural system, we need to understand these mechanisms better.

In this paper, I draw on theoretical insights from international norm research and international organizational sociology to identify key factors that might account for the (lack of) uptake of FAO headquarter norms of biodiverse agriculture at its country office level.

To empirically scrutinize such assumptions, in a first step I conduct a qualitative content analysis of FAO's global agricultural policies and planning on the one hand and FAO India country programs on the other hand. A comparison of the similarities and differences of these documents allows identifying the degree of uptake of global norms related to agricultural biodiversity at the country level.

With India being home of the green revolution, with a highly intensified and output-oriented agricultural system, and a country of moderate food security, the FAO India office is a particularly apt case to scrutinize such norm-transmission within the FAO. In a second step, I draw on primary FAO data and secondary literature for an analysis of the factors that might contribute to the consistent or hesitant uptake of FAO headquarter norms in the work of country offices.

The conclusion reflects on the generalizability of these findings and potential further country case studies.

### Panel ID 3

## Governance of Nature and Biodiversity (ii): Novel governance modes and instruments

Parallel Panel Session 7,  
Thursday 9<sup>th</sup> September 2021,  
8:30-10:00 CEST

Chair: Hens Runhaar

### ID594.

## Transformative change: a new approach to governing biodiversity?

*Augustin Berghöfer<sup>1</sup>, Leonie Büttner<sup>1</sup>, Ruchira Chakrabarty<sup>1</sup>, Johannes Förster<sup>1</sup>, Claudia König<sup>2</sup>, Gesche Krause<sup>2</sup>, David Kreuer<sup>1</sup>, Karla Locher<sup>3</sup>, Marcela Munoz<sup>1</sup>, Malte Neumann<sup>1</sup>, Isabel Renner<sup>1</sup>, Julian Rode<sup>1</sup>, Salina Spiering<sup>1</sup>, Dorothea Schwarzer<sup>1</sup>, Ulrike Tröger<sup>1</sup>, Yves Zinngrebe<sup>1,4</sup>, Heidi Wittmer<sup>1</sup>*

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At global scale, we are moving away from the SDG targets 14 “conserving life below water” and 15 “life on land” and from preventing the extinction of threatened species (UN Stats 2019). None of the 20 biodiversity targets to 2020 have been achieved (Global Biodiversity Outlook 5) and a broad agreement is emerging among the biodiversity policy and science communities that more fundamental change processes are required to effectively address the big drivers of biodiversity loss and to “bend the curve”. The IPBES global assessment calls for “Transformative change towards sustainability”, defined as “a fundamental,

system-wide reorganization across technological, economic and social factors, including paradigms, goals and values.”

Building on several strands of transformation literature the present study uses a comprehensive conceptual framework to examine the recommendations from global assessments and reports on the state of nature and the environment with regard to their transformative potential. While there seems to be agreement on the need for transformative change, the ideas outlined in the Global Assessment are only first pointers on how to make this happen. While economic transformations (e.g. in post-Soviet countries) and socio-technical transitions (e.g. towards renewable energy) have been well developed, the called-for socio-ecological transformation at global scale is largely uncharted territory. For the CBD’s next ten-year Global Biodiversity Framework, further efforts are needed to fill this gap. In essence, we argue that governance (specific agents of change using specific instruments in specific ways) can only succeed in driving transformation to sustainability, if embedded within a comprehensive framing of a proposal for transformative change. This framing will have to build on a compelling transformative vision and include knowledge on systemic change, understand the dynamics involved, and open spaces for emancipated agency.

Building on the transformative potential identified in the assessments and complementing identified gaps we derive insights on how transformative change (TC) towards sustainability can improve the management of global commons such as biodiversity and how transformative change can be supported at the international level including CBD COP 15.

## ID520.

### **The role of International Organisations (IOs) in promoting an ecosystem-based approach for coastal areas: The cases of Ca Mau and Ben Tre, Vietnam**

*Annisa Triyanti<sup>1,2</sup>, Carel Dieperink<sup>1</sup>, Dries Hegger<sup>1</sup>, Trang Vu<sup>2</sup>, Hong Quan Nguyen<sup>3,4</sup>, Thi Tang Luu<sup>3</sup>, Duc Canh Nguyen<sup>5</sup>*

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Ecosystem-based climate change adaptation is increasingly put forward – in literature and practice – as an ideal approach. International organizations (IOs) play a role in forwarding this idea to national decision makers. Despite their importance for Vietnam, it is hardly studied how these IOs operate, what challenges they have to face, and what their potential roles are in the future. This paper addresses this knowledge gap. It aims to understand the role IOs play in promoting Ecosystem-based approaches (EbA) in Vietnam by exploring the strategies they use to influence policy makers. In order to meet this aim, we have developed a framework which is inspired by literature on international boundary organizations. The framework particularly focusses on processes of influencing, focusing on sources of motivation, power, and knowledge and explores which outcomes these processes produce in terms of

credibility, salience and legitimacy. The framework has been applied in an analysis of an international project on ecosystem-based adaptation in mangrove areas (i.e. mangrove-shrimp farming) in the provinces of Ca Mau and Ben Tre. Data has been found by interviewing key informants and analyzing policy documents. We found that EbA has been one of the preferred strategies to adapt to climate change as well as to improve local livelihood in Ca Mau and Ben Tre Province. IOs have played an important role in branding and operationalising the EbA concept, providing the funding, technical expertise, bridging and linking multi-governmental actors with markets, scientists and local communities. Furthermore, to some degree, IOs have been successful in influencing national policy making on promoting EbA. We have observed that IOs' roles differ in the two provinces since they have to deal with different problems such as land-use conflicts. The key challenges the IOs have to face, however, concern uncertainties of the biophysical, socio-economic, market, and politics of the systems as well as sustainability issues. Our findings suggest that IOs will be able to promote EbA if they at least: 1) strongly connect with governmental authorities, especially at the provincial and local level; 2) have adequate capacities, including knowledge, financial and management capacity; 3) are legitimate and accepted by the governmental authorities, market and local communities. In addition to their most common role as funders, initiators, and connectors we argue that IOs should take up a role as incubators for the promotion of new knowledge and innovations. By doing this, IOs can better enhance the diffusion of the EbA approach.

## ID676.

### Where the EU's Protected Designations of Origin food products and social-ecological values meet

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The geographic indications quality scheme of the European Union (GI) is spatially explicit by design. However, there is a lack of spatial data for the registered food products, making it difficult to investigate relationships between landscapes and products regarding their social-ecological values. Therefore, we conducted a novel mapping of 638 EU food products, labelled under the strongest geographic indication, the Protected Designation of Origin (PDO). Additionally, we tested spatial correlations between 16 social-ecological indicators and the frequency of registered PDOs. Thus, revealing a widely assumed positive correlation of PDO production and social-ecological valuable landscapes, and further highlighting untouched potentials of PDOs for improving rural livelihoods and supporting less-favoured areas.

We found that PDOs target ecologically valuable landscapes, such as high nature value farming and Natura 2000 areas, as well as regions of cultural value and touristic interest. In general, regions with higher numbers of PDOs are characterised by smaller farm sizes,

less economic output, older populations, negative migration rates, and higher unemployment rates. More than 80% of EU's PDOs are produced in Mediterranean countries indicating a general north-south gradient in PDO distribution. While PDO products from the north-eastern EU states are stronger linked to ecological valuable landscapes and tourism, PDOs of the Mediterranean are stronger linked to remote, rural and less-favoured areas, as well as diverse landscapes. Additionally, predominantly plant-based PDO products are registered more often in areas with lower indicator values for economic development, but higher values in cultural and ecological features, making these PDOs a promising governance instruments for supporting these regions.

From our findings we suggest that geographically mapping all European PDOs can help us to better analyse the role of PDOs as landscape labels. While carefully differentiating between product categories and geographical distribution, we suggest that within suitable settings, PDOs can help to promote diverse and resilient agricultural systems. Thus, they can help producing an additional income for culturally pristine landscapes and support sustainability agendas, such as the EU's green deal.

**ID666.**

## **Design and Management of National Biodiversity Platforms: How Science Authority Shapes Policy Arrangements**

Sabina Jehan Khan<sup>1,2</sup>

<sup>1</sup>*Department of Environmental Politics, Helmholtz Centre for Environmental Research - UFZ, Leipzig, Germany.* <sup>2</sup>*Global Change Ecology, University of Bayreuth, Bayreuth, Germany*

National Biodiversity Platforms have been established to support the work of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) in bridging the knowledge-action gap in biodiversity conservation. To gain influence at the science- policy interface, these platforms make strategic moves to establish their authority (credibility, relevance, legitimacy), which in turn shape the content (policy discourses) and organization (policy coalitions, rules of the game, allocation of resources) of the biodiversity policy domain.

Using semi-structured interviews with 15 platforms across the world and previous studies of these platforms, we analysed rhetorical and realised claims of authority through configurations of their institutional design and outcomes. We then analysed how these social practices trigger policy innovations that stabilise certain (preferred) policy arrangements.

We found that NBPs position themselves as 'neutral knowledge brokers' bringing 'science-based solutions' to address the 'biodiversity crisis' (policy discourses). They dedicate substantial resources towards building credibility through 'governance of expertise'

(e.g., peer review, vetting of expertise). They build legitimacy through formal and informal relationships with national government, intergovernmental actors and development agencies (policy coalitions). They build relevance by providing advisory services and science-based policy tools (e.g., scientific assessments) for government and the private sector (rules of the game). Through this *modus operandi*, scientists gain privileged access to forums which shape decisions about allocations of resources (e.g., national research funding programmes) and stakeholder engagement processes (rules of the game). A circular economy is created in which scientists and policy-makers continually exchange of expertise, funding, data and professional contacts.

These platforms reinforce a techno-managerial landscape in which they have power to navigate. This means that other actors (e.g., Indigenous Peoples and Local Communities, local natural resources managers) necessarily need to work through them to access decision-making forums. However, platforms have made laudable efforts to bring the knowledge, interests and values of other stakeholders to the forefront. A key point of reflection is how to build more upon this ‘reflexive turn’ towards transdisciplinarity by better inclusion of the social sciences and humanities in their work. This underrepresentation was a key finding and also flagged as a chronic and critical issue in IPBES. These disciplines build a richer understanding of conservation issues and a broader range of sophisticated strategies to realise ‘transformative change’. They also facilitate critical examination of the co-production of science and social order: how science authority shapes the space for other actors and solutions in democratic decision-making processes.

## Panel ID 4

### Governance of Nature and Biodiversity (iii): Contestation and collaboration

Parallel Panel Session 5,  
Wednesday 8<sup>th</sup> September 2021,  
13:00-14:30 CEST

Chair: Hens Runhaar

#### ID559.

### Landscape governance - from analysing challenges to capacitating stakeholders

*Cora van Oosten*

*Wageningen University and Research,  
Wageningen, Netherlands*

Within the global debate on accelerated loss of nature and biodiversity, coupled with chronic food insecurity and poverty in the ‘Global South’, the concept of landscape governance is gaining ground. The reason for its momentum is that landscape governance has the premise to reconcile conservation and development objectives within spatially defined landscapes. The concept is increasingly adopted by policy makers worldwide, as a pathway towards conserving and restoring the ecological functions of landscapes, while simultaneously responding to the socio-cultural and productive needs of those living within. However promising, little is known about landscape governance – how it unfolds within different socio-spatial contexts, what are its challenges and how these challenges are tackled by landscape actors involved. In this article, landscape governance is defined as a place-based, multilevel and multi-stakeholder process of negotiation and spatial decision making for sustainable land use, achieved by balancing production, protection, and

consumption needs and aspirations of the actors involved. The article presents the outcomes of a systematic analysis of landscape governance in various geographies, predominantly in the global South. It shows how landscape governance can be successful in addressing competing land use options and conflicting spatial policies, while securing local livelihood needs and market demands. But it also shows that landscape governance is hampered by institutional challenges, as too often, innovative place-based arrangements remain in the shadow of jurisdictional power. Despite these challenges, landscape actors have multiple strategies to advance, based on their productive and institutional behaviour. The strategies related to their productive behaviour tend to lead to more sustainable land use practices that combine production, consumption and protection at field, farm or landscape level. Strategies based on their institutional behaviour tend to lead to new institutional arrangements that better suit their spatial context. The ensemble of strategies may lead to more promising forms of governance for nature and biodiversity, while taking into account the needs and aspirations of actors involved. However, the institutional hurdles should not be underestimated, as the incongruence between jurisdictional and spatial scales are persistent, making it hard to shift from jurisdictional to landscape governance. Much depend on landscape actors, and their capabilities to tackle multi-level policy conflicts, and find alternative sources of legitimacy for their place-based governance arrangements. The development of actors' capabilities, which is frequently proposed by practitioners and policy makers, can only be effective if embedded in wider transformative change.

**ID147.**

### **Competing agendas? The goals of international actors in sub-Saharan African cities and their implications for transforming the governance of urban nature**

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Recent literature and policy discourses emphasize the potential of nature-based solutions for transformative change in preventing, mitigating, and adapting to global and local environmental change. **For cities, nature-based solutions have the potential to provide multiple benefits across a range of sustainability challenges from managing flooding to securing improved health outcomes for different groups of society, while being relatively cost-effective.**

**Most academic** work developed around urban nature-based solutions is of European or North American origin. Given the unprecedented urban growth in the Global South and particular challenges for sustainable development in these contexts, it is necessary to better understand the governance of urban nature in different geographical contexts, based on robust empirical evidence. To contribute to the question of how, in what ways, by whom and with what consequences the governing of nature within earth-system governance is and can be transformed, this paper therefore investigates the governance of urban nature in the Global South, with a focus

on international actors and their agendas in urban sub-Saharan Africa.

We argue that an important difference in many sub-Saharan African cities as compared to Western contexts is the variety of different types of international actors that shape processes and outcomes of urban governance. These dynamics have particular consequences for how and to what end nature is being governed, and the potential for transformative change. Nature is intertwined in the global sustainable development goals (SDGs) and in different agendas of international actors active in urban sub-Saharan Africa, yet it is less known what specific agendas drive transformation in governing nature in these cities.

Using a case study approach of three cities in eastern and southern Africa, we present the different types of initiatives, actor configurations and partnerships developed around urban nature which are generated by the presence of international actors. We analyse the implications of the involvement of international actors and seek to answer the questions: How do international actors include or work with nature, and what specific goals are being pursued? Are there competing agendas of international actors and which ones can serve as entry points to transform the governance of nature in sub-Saharan African cities, in both thinking and practice?

**ID637.**

## **Indigenous Knowledge and Accountability in Multilevel Biodiversity Governance**

*Sylvia Karlsson-Vinkhuyzen<sup>1</sup>, Esther Turnhout<sup>1</sup>, Bas Verschuuren<sup>1</sup>, Lucia Guaita<sup>1</sup>, Ana Maria Ulloa<sup>2</sup>, Eira Carballo Cardenas<sup>1</sup>*

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Formal enforcement measures are mostly absent in international biodiversity agreements. Based on linkages between rights, information, knowledge and, naming-and-shaming, or policy learning, much hope is placed on mechanisms where civil society actors can hold policy-makers accountable for the national implementation of global goals. Such participation has also been linked to strengthening the democratic character of global governance. Many global biodiversity goals will be realised in indigenous territories, and indigenous peoples are strongly interested in engaging through such mechanisms. Indigenous knowledge not only is an asset for biodiversity conservation but also may enable accountability and empower indigenous people to engage in account-holding dynamics. However, such engagement could be challenging because of the contrasting character of scientific knowledge – hegemonic in biodiversity governance – and indigenous knowledge, which comprises distinct values, practices and worldviews. The underlying different ontologies hence can come with unique disjunctures, as well as synergies.

The objective of this paper is to analyze the links between indigenous knowledge and accountability in biodiversity governance

literature, searching for the implications, challenges and opportunities of involving such knowledge across multi-level governance processes. For this purpose, a systematic literature review was performed in Scopus using the search string “biodiversity”, “accountability” and “indigenous knowledge” (and a set of selected synonyms). Manual application of exclusion criteria on the 272 records originally retrieved papers yielded a final selection of 45 papers. These papers were clustered into six themes based on initial screening (Indigenous rights in biodiversity governance; coupling knowledge systems; Indigenous knowledge inclusion; Impact of Indigenous knowledge on biodiversity management and decision-making; Indigenous knowledge as a mean of engagement; others) and systematically coded based on a code book.

Most papers depicted indigenous knowledge as useful, dynamic and context specific, but often not suitable for upscaling. Its distinctiveness from scientific knowledge originates in ontological differences, and yet the tendency for it to be bundled and assimilated in western science is pronounced. The absence of explicit reference to accountability was striking while the role of indigenous knowledge in the agency and activism of indigenous peoples in biodiversity governance was an emerging topic and almost exclusively considered in local contexts. Understanding how indigenous actors and their knowledge can affect multi-level accountability is vital to enhance international biodiversity agreements’ effectiveness. In particular, the role of legal processes and institutions in leveraging power dynamics in favor of indigenous peoples, and identification of factors that hinder their participation in account-holding dynamics, warrants further research.

## ID665.

### **Red Pandas in Nepal: A community-based approach to landscape-level conservation**

*Haris Rai<sup>1</sup>, Damber Bista<sup>1,2</sup>, Ang Puri Sherpa<sup>1</sup>, Saroj Shrestha<sup>1</sup>, Sonam Tashi Lama<sup>1</sup>, Pema Sherpa<sup>1</sup>, Dinesh Ghale<sup>1</sup>, Munmun Tamang<sup>1</sup>, Wangchu Bhutia<sup>1</sup>*

<sup>1</sup>*Red Panda Network, Kathmandu, Nepal.*

<sup>2</sup>*University of Queensland, Brisbane, Australia*

Red pandas are endangered in Bhutan, China, India, Myanmar and Nepal. Despite legal protection in all countries, threats such as habitat loss and degradation, poaching and disease still extensively persist, with impacts compounded by climate change and natural disasters. Since 2010, a sophisticated community-based conservation program has been implemented in the Panchthar-Ilam-Taplejung area in eastern Nepal, which covers half of Nepal’s red panda range. It is an integrated conservation model comprising of education, forest management and restoration, securing sustainable livelihoods, anti-poaching patrolling and population and field research. Harnessing the momentum of decentralization of governance, the program is owned and sustained by local government units and Community Forest User Groups, as the legal institutions responsible for management of local forest resources.

The program cultivated positive perceptions of conservation by local peoples, with communities now taking proactive engagement and regarding the red panda as an indicator of a healthy forest. This has resulted in increasing occupancy and detection rate of red pandas. Lessons learned have informed the development of national-level policy instruments such as a status and trends report

of red population and habitat which triangulates multiple data sources, a field-based monitoring protocol and a conservation action plan. We also successfully demonstrated the feasibility of replicating this model for conservation of red panda and other flagship species in new areas (e.g., western Nepal and Bhutan).

We draw on insights from a decade of data via household surveys, community consultations and community-based monitoring, to show how inclusive, transboundary governance and science-policy mechanisms can be established. We suggest key points for conservation science and practice. First, the livelihoods programs gained the most traction and impact; human well-being outcomes must be included within program design. Secondly, education on the link between biodiversity, ecosystem services and livelihoods builds receptivity towards new approaches to natural resource management. Thirdly, meaningful and early engagement of key decision-makers within a federal structure is challenging but foundational to building legitimacy and continuity of interventions. Fourthly, scientists need to take proactively translate research into insights for decision-makers, otherwise data collects dust. However, we caution that all strategies come with potentially unintended adverse conservation outcomes which can only be detected and understood via a robust monitoring programme and informal communication networks.

Our findings re-assert the central role of community-based conservation within this climate of increasing prominence and complexity of international governance regimes (while not excluding the value of the latter).

## Panel ID 18

### Behavioral change for sustainable ecosystem service provisions

Parallel Panel Session 4,  
Wednesday 8<sup>th</sup> September 2021,  
9:00-10:30 CEST

Chairs: Martin Špaček, Tatiana Kluvánková  
Discussants: Andrej Udovč, Eeva Primmer

## ID45.

### Justice pays: Fair payments increase the effectiveness of environmental conservation

Lasse Loft<sup>1</sup>, Stefan Gehrig<sup>1</sup>, Carl Salk<sup>2</sup>, Jens Rommel<sup>3</sup>

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Limited funding in global efforts for biodiversity protection and land-use based greenhouse-gas mitigation calls for an increase in effectiveness and efficiency of environmental conservation. Incentive-based policy instruments are at the forefront of global efforts to meet these goals, yet their effectiveness can be undermined by factors such as social norms about whether payments are considered fair. We investigated the causal link between equity and conservation effort by means of a randomized real-effort experiment on forest conservation with 443 land users near a tropical forest national park in the Vietnamese Central Annamites, a global biodiversity hotspot. We manipulated fairness by creating unjustified payment inequality, which violated local fairness norms and was perceived as less fair than payment equality. Participants who were disadvantaged by

unequal payments exerted significantly less conservation effort than other participants receiving the same payment under an equal distribution. No effect was observed for participants advantaged by inequality. We thereby provide evidence that distributional equity can increase the effectiveness, and potentially efficiency, of incentive-based conservation instruments by affecting conservation behavior, emphasizing its role as major determinant in their design and implementation. Further, we show that women exerted substantially more conservation effort and that enhancing payment size reduced effort, contrary to enhancing equity. This emphasizes the need to consider social comparisons, local equity norms and gender in environmental policy using monetary incentives to motivate behavioral change.

## ID75.

### **Governance of the commons and their provision of ecosystem services – a case study from Notranjska region**

Nevenka Bogataj

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Ecosystem services (ES) cannot rely only on market or state incentives, thus hybrid regimes and governance across the scale gain weight. Governance of goods is a challenge for public and common goods. Forest provide both and are a fragile reservoir of ecosystem services (ESs) understood here as benefits people obtain from ecosystems.

Depopulation and deagrarization of the rural areas and subsequent socio-political changes characterize not only Slovenia but all the EU,

while a period of undemocratic regime that nationalised land was typical for only part of it. These features impact contexts of actors today but may be country specific.

We analyse one actor only, forest commons (FC), regarded now a new forest owner even if tradition of their land management is centuries long. Reconstitution of FCs in nineties is largely affected by *governance* understood a process of guiding behaviour with rules, norms, traditions and strategies. We focus to Slovenian region of Notranjska. Our research question is: what are the main behavioural features and governance characteristics of FCs in Notranjska region today from the perspective of main ES types provision?

An analysis is based on the qualitative approach. Field findings are supplemented by expert knowledge and literature. Results indicate that not all FCs revived and that generally collective action declines. This is partly attributed to negative footprint of the the past and partly to ongoing marginalization of the local initiatives based in new legislation and activities e.g. establishment of protected areas, military trainings etc. However, large-scale forest damages in 2014 pushed a coordinated action at all levels. FCs were one of the most responsive actors. Collective action is thus possible under certain circumstances. ES provision thus calls for the accent to cooperation and coordination. We argue for the future awareness of interdependency among actors at different scales and support to FCs because of their continuous land management practice that provides ES in sustainable way.

**ID164.**

**Negotiation in upstream-downstream flood protection under different institutional settings: Role played game as a tool for exploring behavioural change**

*Jan Machac<sup>1</sup>, Steven Forrest<sup>1</sup>, Thomas Hartmann<sup>2,1</sup>, Jan Brabec<sup>1</sup>*

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River floods belong among current environmental and societal challenges, which threaten many urban areas across the world. Climate change leads to increase in the risk of floods and therefore to higher expected damage caused by flooding. The damage may be mitigated thanks to regulatory ecosystem services, which may be implemented through a wide range of measures. This topic is very intensively discussed by hydrologists, spatial planners and other experts in a form of designing, planning and implementing flood protection measures or making cities more resilient. From the catchment perspective it is reasonable to analyse various possibilities and to find an agreement on where to store water and where to adapt to floods. Negotiation among key actors at the catchment level within the decision-making process is one of the possible ways of identifying the best solution. In the context of the catchment-oriented approach the water can usually be retained at lower cost in the upstream areas where less damage is caused. On the other hand, a better solution for more vulnerable land (downstream) is adaptation to the flood risk (resilient cities).

This contribution focuses on behavioural aspects of negotiation among actors in the catchment. A role-played game was developed to explore the dynamics of the negotiation process in the fictional catchment. Four players represent four cities, which differ in initial conditions (location in the catchment, number of residents, city development, potential damage in a case of flooding, etc.). The game is played in an initial practice round to make players familiar with rules of the game and later in four other rounds under various institutional setting based on culture theory (such as a system of insurance based on Individualist subculture; responsibility of upstream for flood damage in the whole catchment under the Hierarchism scenario etc.).

The aim of the presentation is to demonstrate the change in behaviour of players based on institutional setting (subculture) and to demonstrate that there is a space for negotiation. Preliminary results from pilot testing of the game show that negotiations lead to distribution of costs related to flood protection among players and to achieving Pareto-improving situation in flood protection management.

The added value of the game is not only in the negotiation results. It can be used as a tool for educating different stakeholders and scholars. The game simulates also one possible type of payment for ecosystem services based on providing the regulating services (flood retention).

**ID597.**

## **What triggers behavioral change towards sustainable forestry in a long term?**

*Tatiana Kluvankova<sup>1</sup>, Martin Spacek<sup>2,3</sup>, Stanislava Brnkalakova<sup>1</sup>, Tomas Szabo<sup>1</sup>, Jiri Louda<sup>4,3</sup>, Carsten Mann<sup>5</sup>, Stefan Sorge<sup>5</sup>, Sara Brogaard<sup>6</sup>*

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Forest ecosystem services (FES) face the traditional social dilemma of individual vs. collective interests. Beneficiaries cannot easily be excluded from utilizing FES, and subtractability of use is very high. FES cope with a situation whereby property rights and traditional regulatory and private approaches fail to adequately address the social dilemma and conflict of individuals' and sectoral short-term interests over society's long-term interests. By building on large sets of empirical data from the H2020 project "Smart information, governance and business innovations for sustainable supply and payment mechanisms for forest ecosystem services" ([www.innoforest.eu](http://www.innoforest.eu)), we argue that hybrid governance is a vital strategy to meet this challenge. This contribution aims to understand how hybrid governance in forest communities can enhance behavioural change to the long-term sustainable management of

FES. We i) determine the institutional maturity and robustness of hybrid forest governance regimes to overcome sectoral approach; ii) identify and test key innovation factors for sustainable transformation applying behavioural experiments in six forest communities across Europe. The combination of incentive payments and robust long-lasting institutions is found to be essential for behavioural change from sectoral to ecosystem service governance (ESG). This in turn poses a challenging option for common pool resource regimes to become central to ESG in transferring and managing long-term sustainability.

## Panel ID 21

### Innovative Approaches for a Sustainable Supply of Forest Ecosystem Services

Parallel Panel Session 1,  
Tuesday 7<sup>th</sup> September 2021,  
8:30-10:00 CEST

Chairs: Carsten Mann, Lasse Loft, Monica Hernandez

#### **ID119.**

### **Assessing forest governance innovations: Inspiration from innovation studies for forest ecosystem service provision**

*Carsten Mann<sup>1</sup>, Lasse Loft<sup>2</sup>, Mónica Hernández-Morcillo<sup>1</sup>, Ewert Aukes<sup>3</sup>, Sara Brogaard<sup>4</sup>, Davide Geneletti<sup>5</sup>, Carol Großmann<sup>6</sup>, Tatiana Klavankova<sup>7</sup>, Torsten Krause<sup>4</sup>, Carolin Maier<sup>6</sup>, Claas Meyer<sup>2</sup>, Francesco Orsi<sup>8</sup>, Eeva Primmer<sup>9</sup>, Claudia Sattler<sup>2</sup>, Christian Schleier<sup>10</sup>, Stefan Sorge<sup>1</sup>, Martin Spacek<sup>7</sup>, Peter Stegmaier<sup>3</sup>, Liisa Varumo<sup>9</sup>*

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This talk presents a conceptual approach and methodological procedure for the development and assessment of forest

governance innovations. We illustrate this with preliminary findings from the analysis of six policy and business innovations across Europe. These so called governance innovations are new actor alliances and payment schemes promoting economically viable forest ecosystem service (FES) provisions. The analysis combines several methodological approaches starting with mapping of biophysical and institutional context conditions, stakeholders and governance analysis, and scenario-based innovation assessment and development. Our preliminary findings highlight the suitability of our conceptual and methodological procedure for forest governance innovation analysis and assessment. One outcome is that most EU forested lands guarantee high supplies of at least one service, often ensuring multiple FES simultaneously, predominantly in mountainous regions. But the institutional analysis of national and subnational forest legislation, bioeconomy and biodiversity policy strategies reveals that these policies only address governance innovations relative to very few FES. Our findings further reflect the diversity of governance innovations that emerge on local levels across Europe. Some innovation regions are attempting to better operationalize payments for ecosystem service provisions, while others tackle the development of new forest-related products, value-chains or cultural ecosystem services. Applying a multi-method and multi-actor visioning and assessment approach has fruitfully orchestrated a constructive debate among stakeholders on the chances and challenges of forest governance innovations to allow for their uptake in forest policy, business and practice.

**ID478.**

### **The development of governance innovations for the sustainable provision of forest ecosystem services in Europe: A comparison of four niche innovations**

*Christian Schleyer<sup>1</sup>, Peter Stegmaier<sup>2</sup>, Ewert Aukes<sup>2</sup>, Carsten Mann<sup>3</sup>, Jutta Kister<sup>1</sup>, Michael Klingler<sup>1</sup>, Felix Zoll<sup>4</sup>, Lasse Loft<sup>4</sup>, Claudia Sattler<sup>4</sup>*

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Governance innovations are required to ensure the sustainable provision of forest ecosystem services. Typically, processes that initiate, promote and / or implement such governance innovations can be conceived as co-creation processes, which usually involve a broad spectrum of stakeholders with different professional backgrounds, interests and resources. According to Van de Ven et al. (1999), in this article, we consider such processes as “innovation journeys”, but incorporate a multi-level perspective on socio-technical transitions, taking into account the broader social, cultural, economic, political developments and trends associated with these innovations as well as the existing forest ecosystem service regimes. We argue that managing innovation can be viewed as orchestrating a highly complex, uncertain and probabilistic process rather than a simple “control problem”.

Based on forest ecosystem services governance innovation processes in six European countries, we provide empirical insights into the respective innovation paths, including governance innovations such as habitat banking, voluntary carbon market compensation, collective forest management, forest education for young people, restoration of a traditional forest management system and the building of a value chain for regional forest and wood products. For each of these innovation processes, we reconstruct the different phases, including their respective histories, but also the associated open ends and uncertainties, the more or less organized social action and the negotiations. In addition, we analyze the interlinkages between the different elements of these innovation processes: the creation of innovation networks, the role of the so-called Constructive Innovation Assessment (CINA) workshops as main events for the exchange and development of scenarios, and the physical and digital platforms that were developed to enable interaction.

**ID155.**

### **A conceptual framework for governance innovation patterns in European Forest Governance**

*Stefan Sorge<sup>1</sup>, Carsten Mann<sup>1</sup>, Martin Spacek<sup>2</sup>, Tatiana Kluvankova<sup>2</sup>*

*<sup>1</sup>University for Sustainable Development, Eberswalde, Germany. <sup>2</sup>CETIP, Bratislava, Slovakia*

European forests provide a variety of ecosystem services. Due to the public goods character of many forest ecosystem services, the appearance of externalities, imperfect property rights and insufficient knowledge and information, markets often fail to efficiently

allocate natural resources. Ensuring the sustainable provision of the range of forest ecosystem services requires new and unconventional approaches in forest management, business, and in the policies and interventions that govern these. In this talk, we present the conceptual foundation and first empirical application of an analysis framework for explaining the emergence, development and spread of governance innovations for the provision of forest ecosystem services (FES). The framework builds on the idea of complex and interlinked social-ecological-technical-forestry-innovation systems in the context of the H2020 InnoForEST Innovation Action. Studying six governance innovations, among them payment schemes for ecosystem services (PES) and network approaches, the objective is to gain a solid understanding of what has influenced the governance innovations emergence and development, and what needs to be changed for innovation upgrading, upscaling and/or replicating. Application of the framework towards identification of the most influencing factors and their weighting is supported as well via experimental approaches (role board games) and constructive innovation assessment workshops (future scenarios development). A wide range of stakeholders are included in the analysis following a multi-actor approach for knowledge co-creation. Through the analysis, interdependencies are revealed, and adjustment possibilities of crucial influencing factors are conjointly elaborated for road mapping strategies, depending on the vision and ideas of participating actors. In addition, it is shown how the analysis results are integrated with other project findings elaborating on forestry innovation system conditions on EU level, down to local stakeholder visions and interactions. As an outlook, we highlight the need for a sound system-based and co-created information basis

that allow for purposeful innovation conditioning.

**ID302.**

### **Securing the future provision and financing of forest ecosystem service through governance innovations – lessons for policy, business and research**

Carolyn Maier<sup>1</sup>, Carol M. Grossmann<sup>1</sup>, *Mónica Hernández-Morcillo*<sup>2</sup>, *Carsten Mann*<sup>2</sup>

<sup>1</sup>*State Forest Research Institute Baden-Wuerttemberg, Freiburg, Germany.*

<sup>2</sup>*Eberswalde University for Sustainable Development, Eberswalde, Germany*

European forests provide numerous benefits to society, ranging from purifying air and water to conserving biodiversity, protection from landslides, floods and avalanches, to scenic beauty and recreational settings, tangible forest products like fuel, timber and other useful plants, and many more. Yet their continued provision is challenged; European forests and the forestry sector are affected by global environmental problems, increasing urbanization, industrialization pressures, and market dynamics that concentrate on timber production. Thus, trade-offs in the provision of different forest ecosystem services exist, with markets favoring private goods such as timber, and being unable to properly account for public goods and services such as carbon storage or biodiversity conservation.

Local level initiatives throughout Europe are working on new ways to align the provision of forest ecosystem services with the increasing and diversified societal demands. InnoForEST - a European Innovation Action research project – accompanies and analyses these experiences in order to identify ways to secure the long

term sustainable provision of forest ecosystem services (FES) and its financing through innovative governance mechanisms.

This paper reflects on insights gained over the course of three years of research and outlines lessons learned for practitioners, entrepreneurs, and policy-makers as well as future research needs in the field of forest ecosystem service governance.

## Panel ID 22

### Governance of Nature and Biodiversity (iv): Incentive systems in biodiversity governance

Parallel Panel Session 9,  
Thursday 9<sup>th</sup> September 2021,  
17:15-19:00 CEST

Chair: Yves Zinngrebe

#### ID468.

### Coherent Financing for Sustainable Agriculture: Integrating complementary governance functions to incentivize agroforestry in tropical developing countries

*Julian Rode, Heidi Wittmer, Yves Zinngrebe*

*Helmholtz Institute for Environmental Research, Leipzig, Germany*

Since the creation of the CBD, donor countries from the Global North (Annex2) are supposed to financially support Southern developing countries (Annex1) to cover management and opportunity costs related to biodiversity conservation. Aichi target 20 of the strategic plan and the resource mobilization strategy (CBD decision IX/11, article 20) calls for “innovative mechanisms” (decision IX/11, article 4) for closing the finance gap in

biodiversity conservation. At the same time, however, threats to biodiversity, such as the expansion and intensification of agriculture, are persisting. What is more, these threats are even supported by adverse incentives, thereby increasing the costs of conservation action (i.e. widening the gap) and counteracting their effectiveness. Hence, efficient and effective financing schemes require a systemic understanding of the wider governance system. Moreover, effective finance strategies need to be complemented with enabling governance functions, particularly related to the legal framework, coherence with existing policy, capacity building as well as monitoring and enforcement (Rode et al. 2019).

In order to identify coherent financing options that support trees on farms in Uganda and Peru, we propose combining two methodologies to analyse the respective socio-ecological system: The Ecosystem Service Opportunities (ESO) approach structures the information on existing governance systems for agricultural landscapes and identifies opportunities for new financing instruments to change farmer behaviour. The Biodiversity Policy Integration (BPI) concept provides a structured process to identify and assess relevant incentive systems in related political sectors and can be used to ensure effective mainstreaming of biodiversity goals (Zinngrebe et al. 2018).

Based on network analyses in the two countries we had identified specific finance flows related to for instance land titles and the commercialisation of timber, carbon credit schemes and agroforestry permits and concessions as central instruments for supporting sustainable agricultural practices (Zinngrebe et al. in review). In addition to finance, we identify and characterise knowledge transfer and regulatory as complementary governance functions in

coherent incentive frameworks. The ESO and BPI methodologies serve to specify the potentials, barriers, and enabling conditions (e.g. accountable agents, coalitions of governmental and non-governmental agents) and design options for these instruments to incentivise a change of agricultural practices, and to characterize their mutual interdependence towards effective implementation of viable governance solutions.

**ID176.**

### **Pathways to effective and equitable zero-deforestation supply chain policies**

*Janina Grabs, Rachael D Garrett, Samuel A Levy, Federico Cammelli*

*ETH Zurich, Zurich, Switzerland*

In response to the continued destruction of tropical forests due to the expansion of commodity agriculture, a novel variant of aspirational private governance has emerged in the form of ‘zero deforestation commitments’ (ZDCs). ZDCs are voluntary sustainability initiatives that signal a company’s intention to eliminate deforestation from its supply chain. They vary in scope and ambition, as well as the degree to which they are implemented and implementable as supply chain policies. While there is growing evidence about the environmental **effectiveness** of prototype commitments and implementation mechanisms (i.e., whether they meet their conservation goals), there has been scant information on *why* such policies are effective in certain contexts and not in others. Additionally, there is little information on whether such commitments are **equitable** (i.e., improve producer livelihoods, particularly for economically marginalized groups). This paper

explores these research gaps and lays out a theoretical framework for future research on these topics by addressing two primary questions:

- What ZDC implementation pathways are likely to lead to both effective and equitable outcomes of ZDCs?
- What contextual attributes (of the regions and supply chains where policies are adopted and implemented) favor synergies between effectiveness and equity?

Our approach connects previous assessments of corporate policy adoption, power, and credibility from political science with more bottom-up focus on policy additionality/impact evaluation from the field of economics. Using existing theory, we reconcile the top-down and bottom-up approaches to analyze the institutional design choices and contexts that are likely to lead to “best case outcomes”, “no outcomes”, and “perverse outcomes” with respect to ZDC effectiveness and equity. We highlight design choices and conditions that are likely to result in the greatest synergies and starkest trade-offs between effectiveness and equity, and how such trade-offs might be overcome. We then apply the theoretical framework to the case studies of the Brazilian Amazon and Indonesian Borneo where fieldwork was conducted between 2017 and 2020. Based on interviews across multiple types of supply chain actors and administrative units spanning a range of ZDC implementation strategies and public governance and land use contexts, we assess how implementation mechanisms, public-private policy interactions, and land use history influence effectiveness and equity. We conclude by discussing potential trade-offs between effectiveness and equity and how they may be navigated when

designing future ZDC implementation mechanisms.

### **ID387.**

## **The EU Common Agricultural Policy fails on the environment because it is not aligned with farmer motivations**

Calum Brown<sup>1</sup>, Eszter Kovacs<sup>2</sup>, Yves Zinngrebe<sup>3</sup>

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The EU's Common Agricultural Policy has failed to achieve its aim of preserving European farmland biodiversity. This is largely because of deliberate choices at European and national levels to tailor policy towards agricultural production and profit, on the basis that this aligns with the motivations of European farmers. However, recent studies of farmer motivations suggest that production and profit are only two among many decision-making criteria that interact and conflict in varied, context-specific ways. We use interviews with representatives of farmers and national governments to identify common assumptions about farmer motivations, and compare these to the motivations revealed in 10 years' worth of scientific literature. We find that policy design has been compromised by misconceptions of farmer motivations, and specifically by a widespread assumption that farmers have homogeneous, economically-driven behaviour that prioritises production levels and disregards environmental damage. This assumption is contradicted by the empirical literature, and is damaging both in its preclusion of more effective, environmentally-beneficial policy designs, and in its emerging corrosion of farmer attitudes to policy and

environmental outcomes themselves. We conclude that a reconsideration of agricultural subsidies is needed to better align them with the economic, social and environmental factors affecting real-world farmer decision-making, and therefore to maximise the environmental benefits they produce.

### **ID485.**

## **Impacts of environmental shock and alternative governance structures for sustainability: The case of certification schemes and coffee production in a forest frontier in Mexico**

Vivian Valencia

*Wageningen University & Research, Wageningen, Netherlands*

Certification schemes generate alternative niche markets and give rise to governance structures that seek to transform incentive systems towards sustainability. Farmers that grow coffee in agroforestry systems often participate in niche certification schemes, such as organic, in which consumers pay a premium which, in principle, rewards producers for applying environmentally friendly practices. However, how robust these alternative governance structures are to shocks is rarely evaluated. In this study, we tracked how an environmental shock (coffee leaf rust, CLR, a coffee pest) reconfigured the governance structure of a forest frontier in a Biosphere Reserve in Chiapas, Mexico. We conducted household surveys and fieldwork before the CLR outbreak in 2011-2012 (n = 59), and after the outbreaks we conducted household surveys (n = 48) in 2016 and 2018, ecological field work (n=45) in 2018, and participatory workshops in 2019. Before CLR outbreak, farmers were cultivating Arabica coffee

varieties in agroforestry systems, without the use of any synthetic input, and were certified organic. The topic of environmental conservation was salient in farmers' narratives, although there was a unanimous dissatisfaction for the low premiums that they were receiving. After CLR outbreak, farmers' main strategy to cope with the devastating damage of CLR was to switch to CLR-resistant hybrid coffee varieties (HCV) and apply synthetic fertilizers and pesticides. Farmers terminated their engagement with niche certification schemes (because they were not longer complying with their guidelines), and new buyers came into town searching for "quantity and not quality." Farmers' narrative switched to one of resignation, persistent anger over many years of not receiving a fair price for their "niche" coffee product, and hope that the new market schemes may better support their livelihoods. This research demonstrates that alternative governance structures that seek to provide incentives to switch agricultural systems towards sustainability (1) do not always operate as intended on the ground, and (2) are vulnerable to socio-ecological shock. In order to create more robust alternative governance structures, they need to be equipped with strategies to deal with socio-ecological shocks.

## Panel ID 23

### Implementing climate and sustainable development goals in an incoherent world

Parallel Panel Session 6,  
Wednesday 8<sup>th</sup> September 2021,  
17:00-18:30 CEST

Chair: Marjanneke Vijge

#### ID170.

### **Policy coherence in climate and SDG implementation: lessons from the comparative politics literature**

Zoha Shawoo<sup>1</sup>, Aaron Maltais<sup>1</sup>, Adis Dzebo<sup>1</sup>,  
Jonathan Pickering<sup>2</sup>

<sup>1</sup>Stockholm Environment Institute, Stockholm, Sweden. <sup>2</sup>University of Canberra, Canberra, Australia

The highly cross-cutting nature of the Paris Agreement and the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda raises the question of how to *coherently* implement these two agendas, particularly at the national level.

A substantial literature on policy coherence in relation to climate change and sustainable development has emerged over the last decade, focusing primarily on intra-governmental policy processes and institutional interactions in dictating coherence between various agendas and policies. In contrast, the comparative politics literature goes beyond intra-governmental politics to look at broader politics, particularly the role of *ideas* and *interests* as complementary explanations to *institutional* factors in policy change. However, at present, no studies exist explicitly linking these two bodies of literature to hypothesise how the so called 3 I's may act

as underlying factors dictating the degree and consequences of policy coherence at different policy stages and at different levels. Bridging these two literatures and developing a theoretical basis for studying the role of ideas and interests in achieving (or not) policy coherence is an important step in policy coherence research. Much of the work to date places a lot of emphasis on institutional factors dictating coherence. As a result, less technocratic and more political explanations for coherence are often side-lined.

This paper aims to fill this gap by linking these two literatures together in the context of the Paris Agreement and the 2030 Agenda. It introduces an analytical framework for studying policy coherence and the role of the 3 I's in dictating the degree of policy coherence observed at different policy stages: policy input, policy process and policy outcome. The framework includes not only technical measures for coherence, but also their application by different actors and institutions, and whose interests are served by (not) pursuing coherence. Such a critical perspective on policy coherence is not often taken within academia, which often focuses on ways to enhance coherence, rather than on the consequences of coherence for the achievement of goals.

This framework is developed specifically for studying the implementation of climate and the SDGs, but can also be applied more widely in policy studies. This work will serve as a basis for comparative empirical studies on policy coherence between the two agendas at the national level.

## ID205.

### **Just energy transition - a synergic solution to achieve the Paris Agreement and the 2030 Agenda in Germany and South Africa?**

*Ramona Haegele<sup>1</sup>, Gabriela Iacobuta<sup>1</sup>, James Tops<sup>2</sup>*

*<sup>1</sup>German Development Institute / Deutsches Institut fuer Entwicklungspolitik, Bonn, Germany. <sup>2</sup>Wageningen University, Wageningen, Netherlands*

Achieving the Paris Agreement and the 2030 Agenda represents an opportunity for governments to implement their climate and sustainability goals more coherently. It requires the coordination of interdependent policies across different policy fields, sectors and actors. This paper explores how governments create and implement synergic solutions to concomitantly achieve both international agendas in a more coherent manner. With the empirical cases of Germany and South Africa, we investigate how the synergic solution of a just energy transition is approached in the two countries to tackle climate change by phasing out coal while also ensuring that the achievement of related Sustainable Development Goals (SDGs) is not hindered. To that end, we analyze relevant policies and (polycentric) institutional arrangements that address the complexities of just transition in both countries. Just transitions are perceived as a way to shift to a low-carbon economy while simultaneously ensuring social justice. However, in our studies we found major complex transition challenges to overcoming environmental, economic and social burdens. Specifically, we draw attention to country-specific challenges in the water-energy-food nexus, as well as in relation to poverty, inequality and job losses, which

hamper just transition efforts. Through the selection of Germany and South Africa as case-study candidates, we illustrate how countries with different political, social and economic backgrounds strive to manage such a transition. Our findings illustrate important considerations for the way just transitions are rationalized and designed and how they play out in practice by taking into account environmental and social justice and the principle of leaving no one behind.

**ID299.**

### **Overcoming Goal Conflicts in Implementing the 2030 Agenda and Climate Goals in the Environmental Welfare State**

*Sara Gottenhuber, Marie Francisco, Björn-Ola Linnér, Victoria Wibeck, Kajsa-Stina Benulic*

*Linköping University, Linköping, Sweden*

Achieving coherence between the 2030 Agenda and the National Determined Contributions (NDCs) under the Paris Agreement has been deemed central to successful national implementation of the two agendas. However, the interconnected nature of the Sustainable Development Goals (SDGs) and the NDCs, have already resulted in concerns and experience of unexpected goal conflicts and the apparent need to prioritise between certain goals and targets in national policies and strategies. The Swedish government has a communicated ambition of being one of the first ‘fossil free welfare states’, and lead by example in implementing the 2030 Agenda. Nevertheless, evidence of an implementation gap is prevalent in the Swedish context; initial evidence show a lack of sectoral objectives to meet emission targets and low levels of consideration of climate and SDG impact in indirect policies. The recently

published Climate Action Plan (2019) show governance efforts to achieve cross-sectoral policy coherence, yet, challenges of achieving sustainable transformation pathways are still evident in some sectors such as the transport sector. Apparent goal conflicts and subsequent need for direction in terms of prioritising and achieving synergies rather than trade-offs have already manifested in concrete policy implementation challenges. Drawing on two recent examples where *socio-environmental conflict has seemingly halted ‘business as usual’ processes with justification of incoherence to national climate targets, this paper concerns the expansion of Sweden’s largest airport and the conflict that surfaced in the wake of such plans, to the point that it has become a ‘symbol in the Swedish climate debate’.* The second example concerns expansion plans of a refinery in southern Sweden which is the first national case ‘*tried due to climate reasons*’. Hence, the two cases are used to analyse and understand (i) how policy incoherence manifests in implementation conflicts; (ii) the role of ideas, institutions and interests in tackling goal conflicts; and, (iii) the role and type of leadership and agency envisioned and exercised by state and non-state actors in achieving coherence, synergies and sustainable transformation. Hence, this paper will provide insight into the impacting factors, including expectations of leadership, and transformative pathways of achieving coherence and synergies in national implementation of the 2030 Agenda and climate goals in the presence of goal conflicts.

## ID347.

### **Coherent climate and sustainable development finance. The role of development assistance in boosting climate action**

Gabriela Iacobuta<sup>1,2</sup>, Clara Brandi<sup>1</sup>, Sofia Elizalde Duron<sup>3</sup>, Adis Dzebo<sup>4</sup>

<sup>1</sup>German Development Institute (DIE), Bonn, Germany. <sup>2</sup>Wageningen University & Research, Wageningen, Netherlands. <sup>3</sup>Institute Mora, Mexico City, Mexico. <sup>4</sup>Stockholm Environment Institute (SEI), Stockholm, Sweden

The Paris Climate Agreement, the 2030 Agenda on sustainable development and the Addis Ababa Action Agenda on finance were all adopted in 2015. To date, countries are still struggling to take the necessary action and set themselves on course for the achievement of these agreements. The Conference of Parties in Madrid 2019 has revealed substantial challenges in raising climate ambition and the necessary finance. Transitioning to a low-carbon and climate resilient world and staying below a maximum temperature increase of 1.5oC and even 2oC, require deep transformations across all economic sectors. As the NDC-SDG Connections tool ([ndc-sdg.info](http://ndc-sdg.info)) indicates, pledged climate activities in countries' Nationally Determined Contributions (NDCs) touch upon all Sustainable Development Goals (2030 Agenda). Moreover, climate change itself will have substantial negative implications for development. In that sense, climate and development are strongly interconnected and an efficient use of financial resources would require coherent climate and development finance.

By means of the NDC-SDG Connections Tool climate activities data, we identify action areas

that countries requested international support for. We place these requests in the context of OECD official (climate-related) development assistance data pre- and post-Paris Agreement to identify coherence, gaps and opportunities for further alignment of climate and development actions. We find that policy coherence of climate and development finance can be substantially improved. Through a closer look at countries stated needs, barriers and gaps and drawing upon literature on climate-development interlinkages, we discuss potential ways forward to make official development assistance more climate proof for both mitigation and adaptation.

## ID427.

### **Does policy coherence leave no one behind? A comparative analysis of the governance of Sustainable Development Goals in Indian states**

Marjanneke J. Vijge, Nikki Theeuwes

*Copernicus Institute of Sustainable Development, Utrecht University, Utrecht, Netherlands*

The UN Sustainable Development Goals (SDGs) are a set of “integrated and indivisible” goals with which countries pledge to “leave no one behind”. Key in realising such a vision of global justice is pursuing policy coherence, which is widely believed to encourage mutually reinforcing and thus more effective policy actions that benefit all. Research shows, however, that interactions between and unavoidable prioritisation of (sometimes contradicting) SDGs have important consequences for inequality. It is therefore crucial to understand the often-overlooked political processes of pursuing policy coherence and the consequences for who wins and who loses, especially in countries with

rapid—but often unequal and sometimes unsustainable—economic and social developments. This article focuses on the often-overlooked politics of policy coherence through a comparative analysis of the governance of SDGs in Indian states. India’s approach to SDG implementation is one of “cooperative” or “competitive federalism”, with every state having the mandate to coordinate SDG implementation at the state (and sometimes district and village) level. While some states assigned nodal departments for each SDG (Kerala), others have established an SDG coordination centre (Haryana and Punjab). States also show differences in ‘ownership’ over SDG coordination, with different degrees of collaboration with international organisations, in particular the UN Development Programme. Besides a comparative analysis across states, the research also draws on insights from an in-depth case study of Haryana. This shows that despite political commitment for policy coherence and alignment of the SDGs with the state budget, the siloed institutional and political structures based on which the SDGs are clustered prevent historically less prioritised goals such as gender equality from being fully integrated into Haryana’s SDG vision and budget allocation. Our comparative analysis across the Indian states reveals the conditions under which policy coherence processes succeed or fail to leave no one behind. The article contributes theoretical insights into the consequences of policy coherence for social inequality. With India often being considered a global example of localising the SDGs, empirical insights are generated into whether and how SDGs succeed in leaving no one behind and in making the global goals meaningful at subnational levels.

## Panel ID 602

### Climate policy (i): the politics of decarbonisation

Parallel Panel Session 8,  
Thursday 9<sup>th</sup> September 2021,  
15:30-17:00 CEST

Chair: James Patterson

## ID653.

### Net-zero governance: from the risk of multivocality to the fruits of pragmatism

*Jose Maria Valenzuela, Javier Lezaun*

*University of Oxford, InSIS, Oxford, United Kingdom*

The rapid growth of net-zero commitment by national and subnational government, as well as private corporation, highlights the wide diversity of understanding of what a commitment to net-zero implies. In particular, there is wide use of offsets as a common component of net-zero targets. The lack of an international standard or protocols on the use of offsets as part of net-zero or has open a multitude of pledges not associated with any specific form of accountability. Actors define the building blocks of net-zero pledge discordantly. The multivocality of net-zero seems paradoxical as its users bestow the term with the legitimacy of the climate modelling work of the IPCC and other research organizations. However, despite the risks, multivocality is a constituent part of a bottom-up approach to governance, contributing to the expansion of the public to climate action, and enabling multi-level experimentation. This article discusses how a new pledge creates new opportunities for deliberation and learning internationally and nationally.

The article utilises the conceptual platform built by (reference 1) (1) to define a public as a form of political association defined by the recognition and anticipation of collective challenges, and (2) the autonomy of the public deliberation from the expert bureaucratic knowledge. It follows the work of contemporary pragmatist scholars to dissect a process of collective evolution learning.

The research will showcase the multivocality in "net-zero" pledges, showing the political evolution of a concept and its materialisation in diverging projects. This review will highlight the fundamental sources of conflict, and how these can in productive outcomes, for example, the expansion of the space for an international agreement, the revision of long-held assumptions, or the creation of a new active public. We critically review the role of science-based climate target setting, and review the use of scenario-making as a tool for creating, expanding and engaging a public.

The research will provide a general overview of the global diffusion of net-zero pledges, but it will utilise specific comparative instances at the international, national, and transnational levels. The purpose is to show divergence in and critically discuss the risks and opportunities of net-zero as a focus of climate action. It will define the conditions or principles that underpin the productive use of multivocality as a pragmatic strategy to enhance coordination and the expansion of active publics and offer advice on how to increase accountability by the new "global net-zero public".

## ID103.

### **Precipitating INDC commitments for fossil fuel subsidy reform: The Global Subsidies Initiative model**

Christian M. Elliott

*University of Toronto, Toronto, Canada*

Across the world, countries continue to maintain "negative carbon taxes" in the billions of dollars through consumer and producer subsidies of fossil fuels. New governance initiatives and transparency regimes have been launched in order to correct this by the IMF, the OECD, and others for macro-economic and environmental justifications. Some progress has been made as the issue has risen in prominence in global policy circles: in anticipation of the Paris Agreement, thirteen countries integrated fossil fuel subsidy reform (FFSR) in their Intended Nationally Determined Contributions (INDCs). Yet the members of multi-lateral organizations (G20, APEC, Friends of Fossil Fuel Subsidy Reform) that had publicized FFSR as a priority largely were not among these countries. What then contributed to materializing these commitments in INDCs? A non-profit organization focused on the reform of fossil fuel subsidies, the Global Subsidies Initiative, has been deeply engaged in country-level policy reform since 2010, and its engagements correspond at a much higher rate to countries that integrated FFSR into their INDCs. Using propensity score matching methods and semi-structured interviews, I argue that the GSI's model of political neutrality, domestic research partnerships, and incremental and sustained capacity building with policymakers illustrates a resilient model for normative reform. The analysis identifies the significance of ideational and governance-driven processes alongside structural variables like fuel price, fossil fuel

export dependence, and other factors that the existing literature tends to attribute reform success to. Arguably this analysis is suggestive of pathways for decarbonization in other arenas defined by path dependency and powerful incumbency.

### **ID321.**

#### **Irreconcilable differences?: The politics of fossil fuel supply and climate policies in Australia, Canada, and Norway**

Nathan Lemphers

*University of Ottawa, Ottawa, Canada*

After three decades of climate policy, greenhouse gas emissions in Australia, Canada and Norway have not declined. Norway's emissions have increased 3 percent since 1990, Canada's emissions have increased 17 percent, and Australia's emissions have increased 31 percent.

Why have all of these countries struggled to reduce emissions? Why is there such variation between Australia and Norway? How does this lack of decarbonization impact their ability to thrive in a low-carbon economy? This study employs process tracing, based on 120 interviews and primary document analysis, to examine the climate policy development of these three countries from 1988 to 2018.

This paper argues that this failure to reduce emissions is, in part, due to a disconnect between fossil fuel supply policies from climate policies. Climate policies have not threatened—and sometimes reinforced—business-as-usual production. The largest source of emissions increase in all three countries has been from fossil fuel extraction. Partly by legacy, partly by design, this gulf has

meant that these states are now hostage to the fossil fuel industry and its expansionary desires.

Norway has failed the least because of its relatively strong state. It has a better resourced bureaucracy, greater reach into society, and more autonomy from major industrial emitters. Yet Norway, like Australia and Canada, still plans to increase fossil fuel production and achieve transformative emission reductions.

The track record of these three countries indicate the need for states to build institutions that can extricate and embolden its broad public interest mandate from the narrow interests of the fossil fuel industry. For example, rather than pursuing short-term economic gain these states need to be managing the decline of fossil fuel production, including the downside risks for communities, workers, and capital markets, and positioning the country to thrive in a global, low-carbon economy. This analysis provides insights into how to build the institutional foundations for decarbonizing fossil fuel-producing countries in the Global North.

### **ID533.**

#### **Coping with decarbonisation: a global inventory of coping strategies, and lessons on how to support decarbonisation efforts**

Marie Claire Brisbois, *Benjamin Sovacool*,  
*Roberto Cantoni*, *Paul Upham*, *Laur Kanger*

*University of Sussex, Brighton, United Kingdom*

Meeting both Paris and the EU's climate change mitigation objectives requires fossil fuel phase out. Regions that depend on carbon-based industries for jobs in sectors such as coal

mining or oil and gas extraction (i.e. carbon-intensive regions) are experiencing significant social and economic disruption. In the face of this disruption, actors are responding to decarbonisation efforts through a myriad of “coping strategies”. These actions (or non-actions) can be intended to adapt to, resist or transform their situation. Strategies can be functional or symbolic (i.e. things people “do” or “say”, respectively), and be targeted publicly or privately. They can be undertaken by individuals, groups or organisations, in the public, private or third-sector. They can occur at different scales, over different time periods, and with intended impacts in different domains (e.g. social, technical, economic, political). Significantly, strategies vary in their ability to help or hinder decarbonisation efforts. However, it is unclear what strategies are most effective in advancing decarbonisation, and what governance approaches and policies encourage and support productive coping strategies.

This paper offers select findings from the (Project Reference 1) project. We present the results of an online “coping strategies inventory” that collects, categorises and offers insights into the ways that different agents are responding to decarbonisation efforts in carbon-intensive regions. The inventory is populated by strategies revealed through: a) interviews and focus groups in Western Macedonia (Greece), Silesia (Poland), Ida-Virumaa (Estonia), and the Rhenish mining area (Germany); b) desk-based research into an additional 10-20 highly vulnerable regions, identified through modelling work for the larger (Project Reference 2) project; and, c) open global data collection through an online form in partnership with the [coaltransitions.org](http://coaltransitions.org) website. The inventory offers a comprehensive database of coping strategies classified according to the variables

listed in the opening paragraph. Our analysis further explores what governance conditions support the development of strategies most likely to foster participation in, and contributions to, global decarbonisation efforts.

This paper fits very well with the general theme of the conference and the focus on governance in turbulent times. It probably fits best within “Governance intervention and social actions for behavioral change to sustainability”. However, the focus on agency of actors who are “coping”, and their responses means that it also aligns well with the Architecture and Agency Stream.

**ID622.**

### **Climate Backlash: Contentious Politics of Ambitious Policy Action**

*James Patterson*

*Copernicus Institute of Sustainable Development, Utrecht University, Utrecht, Netherlands*

Contemporary climate change governance is both high-stakes and turbulent; the need for ambitious action has never been more urgent. However, recent experience of climate policy enactment across a range of contexts reveals that ambitious action can trigger backlash. Examples include the acrimonious removal of a national carbon pricing scheme in 2014 in Australia, the repeal of subnational climate policy elements in Alberta and Ontario in Canada in 2018-2019, and the Yellow Vests protests in France in 2018-19 linked to the introduction of a fuel tax. With growing attention on Green Deals (e.g. Europe, United States), mitigating the potential for backlash is crucial to securing transformative climate action. Yet, the potential for backlash may only

grow as climate action becomes more demanding, particularly in response to hard/coercive (cf. soft/voluntary) policies (e.g. regulation, taxes, pricing, industry phase-outs), which are typically seen as necessary to achieve climate targets.

Backlash to policy remains under-conceptualised, despite being widely invoked metaphorically. ‘Climate backlash’ refers to an abrupt and impactful reaction that seeks to counter or reverse climate policy, going beyond ordinary forms of disagreement to challenge both policy substance and underlying political authority. This paper aims to provide an initial approach to conceptualising and analysing climate backlash which can support detailed comparative analysis. I argue that climate backlash emerges from conflicts over legitimacy, specifically processes of delegitimation (i.e. concerning existing rules, normative justifications, and actions of dissent). Two cases illustrate the potential utility of this approach (i.e. removal of a national carbon pricing scheme in Australia in 2012-14, and emergence of the Yellow Vests protests in France in 2018-2019).

Findings suggest that climate backlash can occur in different ways and for different reasons. The case of policy removal in Australia shows strategic mobilization of hostile public sentiment, which has hallmarks of being a reactionary response against a progressive development to deny policy-making opportunity. The case of the Yellow Vests in France shows a spontaneous eruption of discontent seemingly disproportionate to the policy trigger, linked to much wider grievances (e.g. social inequity, anti-elite sentiment) and calling for a different approach to policymaking. Both cases suggest that slow-moving forces created conditions for the occurrence of backlash to a specific policy, and

the potential for enduring effects to stall climate action. This contributes to a new research agenda on turbulent policy-society relations, and to finding ways to advance collective responses in fractious contemporary climate and environmental governance.

## Panel ID 605

### Agriculture and governance (i)

Parallel Panel Session 7,  
Thursday 9<sup>th</sup> September 2021,  
8:30-10:00 CEST

Chair: Petri Uusikyla

## ID67.

### Farmers’ preferences towards introducing the payment-by-results schemes in Slovenia

*Tanja Šumrada, Emil Erjavec, Andrej Udovč*

*University of Ljubljana, Biotechnical faculty, Ljubljana, Slovenia*

Within the forthcoming CAP, in order to improve the efficiency of agri-environmental policy, various new scheme designs are being tested that either supplement or alter the basic concept of measures with set management practices. In recent years, several researchers focused on the opportunities and drawbacks as well as suitable institutional support for the implementation of outcome-based schemes. However, little is still known about their cost-effectiveness compared to the more widely spread management-based measures as well as how to develop a practical methodology to calculate payments for rewarding the achievement of actual results.

This contribution analyses the farmers’ response to the improved result orientation

and spatial coordination of agri-environmental schemes (AES). A choice experiment approach was used to test farmers' willingness-to-accept a payment-by-results scheme to conserve extensive management of two dry grassland types, protected under the EU Habitat Directive. Additionally, the preferences for agglomeration bonus were tested in order to discern the potential for a more collective approach to conservation. As knowledge transfer is often identified as one of the important success factors, different types of training were included. To the best of our knowledge, this is one of the first research using a choice experiment approach to test farmers' preferences for payment-by-results schemes, making it relevant for designing future AES.

The survey included 510 farmers in the Natura 2000 sites of Haloze and Karst, located in Eastern and Western part of Slovenia, respectively. The selected research areas have comparable developmental problems that include unfavourable age and education structure of the farmer population, fragmented land ownership and natural limitations, which prevent agricultural intensification. In the Haloze region, promotion of the results-oriented approach is taking place since 2016, while there have been no comparable activities in the Karst region. The econometric analysis is carried out using the mixed logit and the latent class models.

Based on the preliminary analysis, we estimate that the large majority of farmers preferred pure or hybrid result-based schemes while there also seems to be a smaller class of farmers that prefer current management-based system. Most farmers also preferred various types of group learning and individual advising on farms compared to standard lectures. A conditional collective bonus, on the

other hand, was not deemed important. There seem to be no significant differences between both research areas, but we expect that in the Haloze region payment levels for similar attribute levels were approximately 80-100 EUR/ha higher.

#### **ID440.**

### **Governance interventions toward sustainable agroecosystem management at the watershed scale**

Brian C Chaffin

*University of Montana, Missoula, MT, USA*

Building a more robust understanding of past social-ecological and hydrological transitions across agricultural landscapes may provide insights into the future challenges of balancing the needs of agricultural production with sustaining ecosystem functions and human livelihoods. Interdisciplinary efforts are needed to identify governance interventions and societal actions that push environmental governance generally (and water governance specifically) toward a regime of supporting productive agriculture and community sustainability. This paper presents a critical analysis of a series of social-ecological regime shifts across a large agricultural watershed in the central United States, a region important for both domestic and export food production. One aspect of these regime shifts includes a governance intervention that catalyzed an abrupt change in environmental governance from a state-based system of use rights, to a hybrid, sub-state system that consolidated multiple authorities and restructured established aspects of environmental governance at a more bioregional scale. The creation of Natural Resource Districts (NRDs) as water and landscape governance organizations in Nebraska (USA) has been billed as a

transformative shift of state-based environmental governance toward a more transparent, locally-legitimate, and landscape-relevant approach to agroecosystem governance. Although some aspects of this characterization may be warranted, NRDs are also rife with the politics, power struggles, socio-economic inequities, and management challenges common to any scale of environmental governance. From an analysis of existing biophysical data, qualitative interviews with environmental governance actors, and text-based archival data (e.g. laws, regulations, and industry or community publications), NRDs and associated outcomes are evaluated spatially and temporally as signally a potential landscape-scale regime shift driven by a governance intervention to address the need to better account for local context in agroecosystem management toward sustainability.

**ID663.**

### **Governing spillovers of agricultural crop production through voluntary sustainability standards**

*Gabi Sonderegger<sup>1,2</sup>, Christoph Oberlack<sup>1,2</sup>, Vasco Diogo<sup>3</sup>, Andreas Heinemann<sup>1,2,4</sup>*

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Voluntary Sustainability Standards (VSS) are popular private sector governance interventions that define and verify sustainable agricultural land use at the level of production units. However, agricultural production can

prompt spillover mechanisms, i.e. socio-economic or environmental processes that are triggered by agricultural land use and lead to sustainability impacts beyond the farm level. Examples are runoff of chemical inputs to downstream water bodies, cross-habitat species interactions with nearby ecosystems, or long-distance flows of production factors and migrant workers. Operating across different levels, spillover mechanisms are inherently difficult to anticipate, detect and thus to govern. Empirical evidence on the governance of spillovers through existing commodity supply chain interventions is currently limited. This study addresses this knowledge gap by investigating whether and how existing VSS regulate spillovers of agricultural crop production. Using the ITC standards map database, we conduct a criteria coverage analysis of more than 80 agricultural standard documents, and assess the way and extent to which they aspire to address different types of spillover mechanisms. Finally, we reflect on the potential of VSS for creating positive change beyond the farm level, and discuss key opportunities and challenges in this regard.

## Panel ID 608

### Forest Governance

Parallel Panel Session 3,  
Tuesday 7<sup>th</sup> September 2021,  
16:30-18:00 CEST

Chair: Leticia Merino Pérez

### ID59.

#### **Climate and Biodiversity Politics and Policies in the Brazilian, Bolivian, and Colombian Amazon**

Joana C Pereira

*Portuguese Institute of International Relations,  
NOVA University of Lisbon, Lisbon, Portugal*

Anthropogenic climate change and biodiversity loss are two of the most pressing dimensions of the ecological crisis facing the planet. The Amazon rainforest, a tipping point in the Earth's climate system and the home to no less than 10% of the planet's known biodiversity, emerges as a particular point of concern. The forest's ecological integrity is under threat. Climate change and deforestation are jeopardizing the Amazon's resilience, possibly leading to the collapse of large parts of the forest during this century. However, the 'savannization hypothesis' is still overlooked by the social science research community and decision makers. In this paper, climate threats to the resilience of the Amazon are reviewed and the Brazilian, Bolivian, and Colombian governance of the forest is analysed to shed light on the political, economic, and social processes driving the destruction of the region's flora and fauna. In addition, a new, sustainable development paradigm for the Amazon combining the revolutionary technologies of the Fourth Industrial Revolution with indigenous ontologies is proposed. The research is the result of a)

literature review conducted through a comprehensive search of the English, Portuguese, and Spanish references indexed on the Web of Science, Scopus, and Redalyc databases over the past decade; b) interviews with local scholars, public officials, and NGO members; c) governmental publications and data; d) studies conducted by scientific agencies, consortiums, and international organizations; e) public opinion surveys; and f) news reports.

### ID117.

#### **Institutional and social factors affecting community-based forest governance in northern Mexico**

Eduardo Carrillo-Rubio<sup>1</sup>, *Stephen J Morreale*<sup>2</sup>

<sup>1</sup>*Universidad Nacional Autonoma de Mexico, Mexico City, Mexico.* <sup>2</sup>*Department of Natural Resources, Cornell University, Ithaca, NY, USA*

Community-based forest governance approaches impact millions of rural and indigenous people around the world. Improving our ability to predict local governance outcomes and identify pertinent causal correlates is necessary to improve implementation effectiveness, quantify social and ecological impacts, and minimize negative consequences. However, assessing the conditions and impacts of large-scale conservation is often difficult due to cost, analytical, and practical field constraints, especially in culturally- and biologically-rich landscapes where studies need to account for spatial and context-specific heterogeneity while allowing for rigorous inferences and policy-relevant comparisons. Here, we provide findings from a multidisciplinary, multi-scale, landscape-based study of community forest management in the Sierra Tarahumara region of México. We evaluated long-term forest

cover change and the institutional factors affecting forest management under a variety of communal governance arrangements. We developed an analytical framework and used hierarchical models to analyze data from satellite images, population census, and socio-ecological ground surveys to quantify the relationships between forest change rates within different management and institutional regimes, geographical conditions, and socio-demographic user group characteristics. We found that from 1976 to 2005 deforestation rates varied within different management regimes, and that greater social cohesiveness and user engagement in decision-making processes were linked to social equality and lower deforestation rates. Cultural heterogeneity, group size, technical capacity, proximity to markets, and household gender ratios in favor of women were the most significant predictors of forest change. Communal forests owned by a majority (>50%) of indigenous members organized into smaller groups (<280 members) and where the majority of heads of households were women experienced significantly lower rates of forest loss. Illegal logging was found to be significant in areas near markets, but not in forests owned by indigenous communities. These findings support a frontier of research on effective forest governance that could help design more effective forest policies and conservation interventions. Our methods provide a practical approach to understand why deforestation occurs, and a useful tool to identify the most effective institutional and governance arrangements for management and co-management of forests and natural resources in specific regions where communities, government, and protected areas coexist within the larger landscape matrix.

**ID532.**

### **Should PES be used to implement zero-deforestation supply chain policies? The case of soy in the Brazilian Cerrado**

*Rachael D Garrett, Janina Grabs, Federico Cammelli, Florian Gollnow, Samuel A. Levy*

*ETH Zurich, Zurich, Switzerland*

Over the past decade public and private actors have been developing a variety of new policy approaches for addressing agriculturally-driven deforestation linked to international supply chains. While payments for environmental services (PES) have been advocated in many contexts as an efficient and pro-poor environmental policy to incentivize conservation, it remains unclear whether such an approach, implemented through supply chains and targeted at individual farms, would be efficient, effective, equitable, or legitimate as a policy for reducing ecosystem conversion. Here we use ex-ante theoretical and empirical analysis of secondary and interview data to compare potential outcomes of PES to other supply chain policy implementation mechanisms as a mechanism for avoided-deforestation. We examine the case of the Brazilian Cerrado, where PES are currently being proposed to achieve zero-deforestation targets in soy supply chains. We conclude that a standalone PES scheme in the Cerrado would likely suffer from low efficiency, effectiveness, and equity compared to a zero-conversion market exclusion mechanism or a combination of a market exclusion with PES only targeted at the poorest farmers and tied to restoration instead of avoided deforestation. The primary advantage of a standalone PES would be its greater legitimacy within the soy sector, but a PES program directed only at soy farmers would still face legitimacy challenges from

other local actors. Given the limitations of single commodity supply chain approaches in regions with heterogeneous agricultural systems, we suggest that a mixed supply chain and jurisdictional effort would be more equitable, effective, and efficient in reducing agriculturally-driven deforestation. These mixed approaches would also align better with evolving international smart mix initiatives for halting import-driven deforestation than a standalone PES scheme.

### **ID173.**

#### **Innovations in private regulatory supply chain governance: Mapping and classifying zero-deforestation commitment implementation mechanisms in the palm oil sector**

*Janina Grabs, Rachael D Garrett*

*ETH Zurich, Zurich, Switzerland*

Despite increasing public awareness and corporate efforts in the last decade, the production of many agricultural commodities continues to cause deforestation and land degradation in the tropics. Corporate zero-deforestation commitments, i.e. voluntary sustainability initiatives that signal a company's intention to eliminate deforestation from its supply chain, have proliferated in response. However, it continues to be unclear how such commitments are implemented in practice. Such knowledge is direly needed to assess the effectiveness of zero-deforestation commitments as a mechanism of private regulatory governance, and to differentiate between likely outcomes of different implementation types.

Drawing on a novel database of over 500 companies active in the palm oil sector, this paper maps the current state of zero-

deforestation commitment implementation mechanisms in global agri-food supply chains. It offers a comprehensive classification of implementation mechanisms, draws out their advantages, drawbacks and likely effects in the field, and associates company characteristics and local production region characteristics with the chosen implementation method(s).

The paper thus contributes to the growing literature on the evolution of private regulatory governance and public-private regulatory mixes beyond the use of third-party certifications, as well as likely impacts on the problems private regulation aims to solve.

### **Panel ID 610**

#### **Experimental urban governance**

Parallel Panel Session 1,  
Tuesday 7<sup>th</sup> September 2021,  
8:30-10:00 CEST

Chair: Andrea Simonelli

### **ID12.**

#### **Urban transformation through experimentation: Towards a conceptual framework**

*Franziska Ehnert*

*Leibniz Institute of Ecological Urban and Regional Development, Dresden, Germany*

While there are multiple attempts of steering urban sustainability transitions, moving beyond traditional government through hierarchy towards governance through markets and networks, progress remains slow. The development of cities towards sustainability resembles more stagnation than transformation. This has led to a search for alternative governance interventions to

transform cities and local communities. Transition management is such a governance approach, which seeks to combine top-down steering with bottom-up engagement, and political planning with openness and reflexivity (Loorbach 2010). It is based on four iterative phases: a strategic, tactical, operational and reflexive phase. Problem structuring and envisioning (strategic phase) are followed by coalition-building and the development of a transition agenda (tactical phase). Subsequently, projects are executed and transition experiments implemented (operational phase), being accompanied by evaluation and learning (reflexive phase). However, studies on the design, implementation and impact of such transition experiments in urban settings remain few and far between.

Against this backdrop, a conceptual framework is to be developed to address the question of how urban sustainability transitions can be initiated, promoted and consolidated through specific governance interventions. This is to study the research questions of how transition experiments as a form of transdisciplinary collaboration between stakeholders and scientists can enable and shape urban sustainability transitions and how intermediary actors and institutions can facilitate experimentation in urban settings.

These research questions are to be explored through a case study of the transdisciplinary project “Dresden 2030+ - The City of the Future: Empower Citizens, Transform Cities” (Germany). While it is guided by the idea of transition management, the approach is also adapted to the local context of Dresden. It began with envisioning a sustainable future for Dresden until 2030 (2015 – 2016). It continued with the design and planning of ten transition experiments to move from the vision to action

(2017 – 2018). These transition experiments will be implemented from 2019 to 2021. They are places of learning and knowledge co-creation by citizens and scientists. They are therefore situated within neighbourhoods and public institutions.

The literature on transition management, real world laboratories and transition experiments (with manifold concepts such as urban transition labs, social innovation labs or urban living labs) is to be reviewed. Based upon this literature review, a conceptual framework is to be developed for the study of transition experiments as a governance intervention to promote change towards sustainability in Dresden.

## **ID645.**

### **Experimental governance for sustainable cities? Examining the workings and implications of an urban living laboratory in India**

Zaheb Ahmad

*Tandem Research, Aldona, Goa, India*

In rapidly growing cities in the Global South, uncertainty, complexity and socio-technical lock-in associated with rapid urbanization, climate change and technologization, coupled with institutional inertia, is rendering conventional governance approaches ineffective in addressing the challenges of sustainability.

In India, small and mid-sized cities are likely to cross a total of 200 by 2030. The increasing number and size of urban areas is putting extraordinary pressures on infrastructure and resources in cities. India’s Smart City Mission (SCM), launched in 2015 by the central government, is claimed to be the flagship

program driving urban transformations. The SCM, however, sits uncomfortably within the governance architecture of cities. Overlapping mandates of the SCM with decentralised mechanisms for the governance of cities, is leading to contestations between state government-led urban local bodies (ULBs), and 'smart city' corporations established by the central government.

Experimental governance - deliberative and iterative configurations to test new regulatory approaches and policies - have been seen as a way to resolve the management of complex and emerging challenges. In Europe, urban living labs (ULLs) have been used to establish governance structures comprising multiple state actors, knowledge institutions, citizens, and private sector - to spur innovation needed to meet the challenges of urban sustainability. Methodologically, ULLs test and trial solutions on a small scale but under real-world conditions. The ULL approach of experimentation under real-world conditions, however, is only made possible by aligning mandates, interests and expectations of multiple actors. Conventional forms of governance neither offer collaborative architectures for governance, nor have the flexibility for experimentation.

Based on experiences of the Panaji Urban Living Lab (PULL), the paper explores the relevance of experimental governance approaches to Indian cities, and examines the suitability of ULLs in aligning institutional mandates and actions of multiple actors towards urban sustainability.

Findings from the case of the PULL suggests that as 'boundary organisations' - institutions outside established governance structures, that seek to mediate and co-ordinate workings of multiple actors across scales, domains and areas of expertise - ULLs create common

ground, interests, and commitment among actors involved. This fastens the process of goal-setting to achieve sustainability as compared to bureaucratic governance approaches, and induces institutional innovation among state actors.

The paper will contribute to the growing body of literature on experimental governance, urban living labs and institutional innovation - particularly in rapidly transforming cities of the Global South, where there is often greater need to innovate and act towards sustainability.

**ID679.**

## **Cities and Regions in Multi-level Climate Governance**

*Lauri Peterson*

*(Department of Government, Uppsala University, Uppsala, Sweden)*

The UN's 2030 Agenda for Sustainable Development and the IPCC acknowledge the responsibility of governments on all levels to reduce greenhouse gas (GHG) emissions. The Paris Agreement of 2015 has increased the role of bottom-up climate initiatives and the importance of multi-level governance. Cities and regions have begun to play an increasingly large role in climate change policy, despite stymied efforts on the national level. Nevertheless, we know very little about what type of climate issues local and regional governments address and why. This paper draws on two global datasets, World Observatory of Subnational Government Finance and Investment database on subnational climate investments and CDP data on the renewable energy targets, to answer this research question. The study uses renewable energy targets and subnational

funding in order to investigate local and regional climate change mitigation from 2019-2020. The preliminary results of the statistical analysis suggest that the presence of renewable energy targets on the local and regional level are best explained by multi-level networks and the freedom to locally shape solutions, which is in accordance with polycentric governance. Hence, engagement in city and regional networks and freedom from top-down management are some of the determinants of institutional change in climate policy. The paper provides new knowledge for both researchers and policy-makers on the key factors that drive policy reforms for improving climate change mitigation on both local and regional levels of governance.

## Panel ID 612

### Water governance strategies: law and data

Parallel Panel Session 2,  
Tuesday 7<sup>th</sup> September 2021,  
10:30-12:00 CEST

Chair: Annisa Triyanti

#### ID50.

### Integrating a water law into the Earth system law perspective

Gabriel Lopez

*University of Lincoln, Lincoln, United Kingdom*

Institutional inability to address social-ecological systems undermines the rule of law, and thus, a government's capacity to address environmental degradation and achieve sustainable development. This has been demonstrated for instance with increasing dryland degradation and expansion, illegal logging, and water overexploitation. Given the

anthropocentric, state-centric, and linear nature of environmental laws, they have not been an effective tool to protect the Earth system or to guarantee sustainable conditions conducive to all life forms. Moreover, there are socio-ecological dynamics at the Earth system level that have cascading impacts at national and regional levels, and current environmental laws and government institutions are unable to address them. One example is the Chilean water crisis as a result of growing avocados for Europe, or environmental pollution caused by Canadian mining companies in Latin America.

Another concrete example of environmental law's failure for addressing social-ecological problems is the Mexican water law, where despite its application, in recent years water shortages, depletion, and conflicts over water access have increased. Flaws in the water law's design have opened the doors to corruption, overexploitation, and other institutional problems that hinder law enforcement. By analyzing the Mexican water law and measures related to its compliance and enforcement through the social-ecological system lens, this chapter will show how the utilitarian approach of this legal framework hinders the achievement of the law's water protection objectives. This analysis also highlights how other formal institutions created by reason of this law contain erroneous assumptions about the ecological functioning of water systems, generating negative impacts over the water ecosystem services. The chapter concludes that the Mexican water law is unable to address and govern complexity and uncertainty and to protect Mexico's water systems. Moreover, it shows how this law's inability to address local, regional, and national complexities as a result of Earth system dynamics, is leading to social and ecological crises.

Moving from this traditional state-centric law to a more adaptive legal system operating under the institutional principles of iteration, flexibility, subsidiarity, and collaboration, would paramount. Accordingly, this chapter highlights the Mexican water law's potential for enabling an Earth system law approach, by leveraging current legal and institutional tools. This chapter contributes to the Earth system law literature by discussing how a water law within an Earth system legal framework could possibly better address social-ecological complexities, and how it can improve human well-being and environmental protection.

**ID540.**

**Embracing Conjunctive water management in international water law: To pursue legal amendment, instrument coupling, or new protocol adoption?**

Imad Antoine Ibrahim

*Qatar University, Doha, Qatar*

International water conventions – e.g., the *1997 United Nations Convention on the Non-Navigational Uses of International Watercourses* – include positive but insufficient focus on groundwater and its interaction with surface water. As such, a growing body of literature has proposed modifications to existing frameworks to enable consideration to surface and groundwater and their interactions. While this literature places considerable focus on coupling and amending existing legal frameworks, elaboration and evaluation of a new protocol on conjunctive water management comprises a key gap. To fill this gap, this paper seeks to answer the following question: does formulation and adoption of a new “conjunctive” protocol provide more value than existing proposals

centered around modifications to existing law? This paper seeks to compare benefits associated with current proposals to strengthen the international legal framework for management of surface-groundwater interaction, *vis-a-vis* adoption of a new protocol on conjunctive management of transboundary freshwaters. The paper first addresses the main international water conventions and instruments, focusing on the degree to which they consider interlinkages between surface water and groundwater. Then, the paper examines the concept of conjunctive water management and deduces tenets that should be pursued in shared waters to achieve this objective. Last, the paper explores the degree to which existing proposals vs a new protocol enable an embrace of these tenets of conjunctive water management. The paper finds that multiple options can and should be concurrently pursued. Benefits of doing so include more effective management of transboundary freshwater resources that are interconnected hydrologically, a less fragmented and more consistent international water regime, and ultimately more benefits accruing to the populations and environmental goods dependent on shared water resources.

**ID570.**

### **Overcoming Data Friction by Connecting Diverse Stakeholder Needs to Address Sustainability Challenges: A Typology of Data Portals in Monsoon Asia.**

*Vivek Anand Asokan<sup>1</sup>, Masaru Yarime<sup>2</sup>, Motoharu Onuki<sup>3</sup>*

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The increase in types and volume of data provides new avenues and potential for a sustainability transition. Data friction, however, can hamper the exchange of knowledge. The role of data-intensive approaches in integrating knowledge and their use by multiple stakeholders to translate the knowledge into action is not understood. This paper develops an analytical framework to analyse nine web data portals in Cambodia, India and Thailand, using a case-study approach and collecting data from primary survey questionnaire and literature review. Our study shows that most web data portals are primarily providing information, and a few portals transform the knowledge into action, yet, focus on singular themes. Data-friction among various stakeholders restricts the exchange of knowledge among stakeholders. Our results have broad implications, and we suggest using a spatial scale to link knowledge among researchers and use natural hazard mitigation to connect diverse stakeholders' needs. A scale-based picture, focusing on landscapes, institutions and practices is proposed which can be used to align diverse fields by acting as "bridge" for improved science-policy interface and decision making,

facilitated through cognitive proximity, matching, and coordination. A scale-based approach can play a key role in connecting human behaviour, a [social science](#) thematic topic, with ecosystems, a natural science thematic topic.

**ID122.**

### **Do not burn or else: Law enforcement of Indonesia's zero burning policy**

*Ida Aju Pradnja Resosudarmo*

*The Australian National University, Canberra, Australia*

Recently disastrous forest and land fires ravaged parts of the globe, including in North and South America, Asia and Australia. Indonesia has experienced recurring annual fires, with extreme events recorded during El Nino periods. In 2019, high intensity fires returned and engulfed peat-rich Sumatra and Kalimantan islands. These fires and the resulting haze have severe economic, social, health, and climate change repercussions.

These mostly human-induced fires are associated with land clearing, directly or indirectly attributed to a web of various actors, including farmers with landholdings of various sizes, timber and agricultural plantations, and local and non-resident investors. The Indonesian government addresses the issue by imposing a strict zero burning policy on everyone, with severe sanctions for violations. Environmental regulations, however, are only as effective as their monitoring and enforcement. Recurring fires indicate that efforts to control them -- from policies on strict prohibition of burning in land preparation to technological fixes -- have not been entirely effective. More recently, disastrous effects

and international attention have led to a stronger stance on enforcement.

Law enforcement is particularly relevant to Indonesia's land management approaches, which continue to place strong emphasis on command and control. Despite the critical role of law enforcement in forest and land fires, the literature lacks systematic analysis beyond pointing out its importance. The relatively large body of work have focused on the political economy, causes and extent of fires and haze. This work thus attempts to fill this under-researched topic by examining how Indonesia's current enforcement strategies on fires policies are playing out.

The research seeks to address two research questions: 1) "How is the enforcement of forest and land fires policies carried out in practice; and 2) "How does the enforcement of forest and land fires policies affect actors' land use behavior"? It employs a qualitative approach through interviews with local, regional, and national stakeholders and analytical review of court cases and other documents. Focusing on two fire-prone provinces of South Sumatra and Central Kalimantan, the research finds that there are significant challenges in enforcing the policy on both smallholders and large corporations.

## Panel ID 613

### Private sector initiatives

Parallel Panel Session 4,  
Wednesday 8<sup>th</sup> September 2021,  
9:00-10:30 CEST

Chair: Rachel Garrett

### ID264.

### Quantifying the impact of indirect suppliers on the effectiveness of cattle zero deforestation commitments in Brazil

*Samuel A Levy<sup>1</sup>, Federico Cammelli<sup>1</sup>, Erasmus K.H.J. zu Ermgassen<sup>2</sup>, Rachael D Garrett<sup>1</sup>*

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The governance of commodity-driven deforestation in tropical regions is increasingly managed by private sustainable supply policies, including zero-deforestation commitments (ZDCs). ZDCs are implemented by the companies that buy, process and trade forest risk commodities and focus on preventing deforestation-linked production entering a committed company's supply chain. Commitments can be signed collectively or individually and vary greatly in their scope, rigor and monitoring/enforcement capacity. One aspect likely to be critical to ZDC effectiveness is enforcement of ZDC policies among indirect suppliers to the committed actors. If ZDCs are not enforced for indirect suppliers, such producers can continue to deforest without risk of penalties, allowing products associated with deforestation to enter into the supply chain. Here, we quantitatively examine the impact of indirect suppliers on ZDCs' effectiveness at reducing deforestation in the Brazilian Amazon's cattle sector, the largest direct contributor to global

deforestation alongside palm oil in Indonesia. To date, no study has measured the magnitude of deforestation occurring among these indirect suppliers, though multiple studies have pointed out that these actors are likely responsible for ongoing high rates of deforestation in the cattle sector. Here we quantify the impact indirect suppliers on overall commitment effectiveness in the Brazilian cattle sector by examining the production, sales and land use behaviour of 400 randomly selected direct and indirect cattle producers from four municipalities in northeast Pará, Brazil. We estimate the effect that sales to ZDC slaughterhouses have on property-level deforestation for direct and indirect suppliers to isolate the effect that indirect suppliers. We use a unique dataset combining household and farm surveys conducted in 2019-2020 along with property level remotely sensed data on both deforestation and degradation. In a context of low political interest in governing deforestation, the need for effective private policies has never been higher. Quantitative evidence for the magnitude of ongoing deforestation among indirect suppliers is needed to support the design of improved policy mixes for conservation in the Amazon biome and may support policy design in regions with similar supply chain challenges.

### ID31.

## The emerging Purpose Ecosystem: innovative private sector agency in Earth System Governance?

Frederik Dahlmann<sup>1</sup>, Wendy Stubbs<sup>2</sup>, Rob Raven<sup>2</sup>, Joao Porto De Albuquerque<sup>1</sup>

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The private sector has long been seen to play a critical role in addressing the challenges of the Anthropocene and providing potential solutions to address the UN Sustainable Development Goals (UN SDGs). Yet there are questions whether businesses can address the complexities involved in interconnected sustainability issues. There are also concerns that private sector engagement with the UN SDGs simply reflects new efforts to enhance social legitimacy through ‘SDG- or rainbow-washing’ and superficial adoption of the underlying aims of the Agenda 2030.

Partly in response, a myriad of intermediaries, initiatives and organisations are emerging that aim to drive wider systems change by advocating and advising businesses to reconsider and broaden their fundamental ‘raison d’être’. Their focus is to create ‘purpose-driven businesses’ which fundamentally integrate social and environmental objectives into their organisational *purpose*, rather than the pursuit of a singular focus on financial objectives (such as maximising profits and/or shareholder value).

In this paper, we conceptualise this emerging network as the ‘Purpose Ecosystem’. Actors within this purpose ecosystem seek to create favourable framings, incentives, systems, and

infrastructures to support the development of purpose-driven businesses; connect and bring together purpose-driven actors from multiple areas; and, educate new and potential businesses to be social and environmental innovators or ‘change-makers’.

Specifically, we argue that this Purpose Ecosystem represents an innovative form of governance intervention which may have the potential to drive wider purposeful change in societal behaviour, specifically by endorsing and accelerating action aligned with achieving the UN SDGs. Conceptually, we situate our paper within the broader research agenda on Earth System Governance (ESG), while also drawing on the established literatures on management and sustainability, to inform a critical view and assessment of the Purpose Ecosystem, and to provide new insights and research questions. Both are important fields of academic enquiry in sustainability research but have so far largely existed in parallel.

Importantly, we also highlight a number of risks, barriers, trade-offs, and caveats to be considered in the overall assessment of Purpose Ecosystems. In doing so, we respond and contribute to the ESG research agenda by focusing on the role of private actors in shaping the governance of transformation in the Anthropocene.

## **ID171.**

### **Credible Corporate Commitments as Private Governance Mechanisms**

*Janina Grabs, Rachael D Garrett*

*ETH Zurich, Zurich, Switzerland*

Over recent years, corporate commitments to improve the environmental and social impact of their operations have multiplied. Commitments to zero-deforestation sourcing, carbon neutrality, or fair trading practices are now part and parcel of companies’ Corporate Social Responsibility practices. Such commitments are frequently made in response to, or anticipation of, reputation-tarnishing ‘naming-and-shaming’ actions by civil society actors, and thus become important reputation management tools.

Especially in transnational value chains, such commitments become important mechanisms of private governance, especially if they pronounce tangible and date-specific targets that constitute market access barriers to their suppliers. Yet, the credibility of such commitments has been understudied, though it is critical for this strategy’s success. Indeed, non-credible sourcing commitments run the danger of creating a self-fulfilling prophecy: If suppliers do not perceive the future market access barrier as credible, they have a low incentive to switch practices. This creates a supply gap at the target date, causing companies to postpone or drop their initial commitments. In response, NGO actors are in a bind on how to respond in leveraging their influence on corporate reputations to encourage more ambitious future action.

Drawing on credible commitment theory from game theory and institutional economics, this article explores the conditions under which

corporate commitments become more or less credible, and proposes a theory of credible corporate commitments with testable hypotheses. As first illustration of the framework, it presents empirical evidence from several commodity sectors (e.g. coffee, cocoa, soy and palm oil) where corporate commitments constitute important private governance strategies.

**ID210.**

### **Toward social-ecological peace? Transforming governance quality through the Extractive Industry Transparency Initiative-Indonesia**

Yanuardi Yanuardi<sup>1,2</sup>, *Marjanneke J Vijge*<sup>1</sup>

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The violence that inflicts social disintegration and disharmony with nature within the extractive industry sector has been widely documented. The Extractive Industry Transparency Initiative (EITI) has been established as a new global standard that seeks to increase transparency in this sector and improve governance quality through enhanced participation and accountability. This article explores the extent to which the EITI process in Indonesia - a country especially dominated by the extractive regime - might contribute to improving the quality of mining governance and eventually whether EITI could contribute to fostering social-ecological peace, that is, a situation in which violence against nature and humans is absent, and where humans and nature can realise their potential. The paper does so by examining both the societal and ecological improvements in the mining sector that EITI may provide. Based on data from EITI-Indonesia multi-stakeholder group's minute

meetings from January 2012 – December 2018, semi-structured interviews during November 2018 – January 2019 with ten key informants and EITI-Indonesia reports 2013-2018, we conclude that, although the process initiated by EITI Indonesia has obtained compliance status since 2014 and contributed to improving the transparency related to state revenues, EITI has not significantly contributed to terminating the vicious cycle of social-ecological violence. The underlying factors are, first, that the adopted EITI standard is not sufficient in terms of increasing transparency; the applied threshold prevents EITI from disclosing the reclamation guarantee fund of a vast majority of mining companies. The EITI-Indonesia does not disclose how the government disburses the fund, the mining contract and beneficial ownerships documents. Second, the EITI multi-stakeholder group falls short of accommodating the interests of the next generation and aspiration to protect nature e.g. disclosing the social-ecological impacts. Third, EITI could not optimally contribute to improving governance at local levels, because EITI-Indonesia operates at the national level, whereas the authority to issue mining licenses, to monitor and to manage mining reclamation fund lies with local governments. Thus, we conclude that the EITI's transparency has not established a governance system strong enough to limit the social-ecological impacts of mining practices. The article concludes by providing key insights into the pathways towards social-ecological peace.

**ID372.**

**Blockchain: breakthrough in supply chain accountability or technological fix for political problems?**

*Michael J Bloomfield, Yixian Sun, Michael Rogerson*

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Across industries, blockchain technology – a type of cryptography that securely records transactions – has been increasingly heralded as a ‘game changer’ for achieving supply chain transparency. It has been piloted in the seafood industry to tackle issues associated with illegal fishing and ‘modern slavery’, the mining industry to eradicate the global trade in ‘conflict minerals’, and has been discussed in a variety of industries ranging from food and textile to energy and infrastructure to improve traceability or allocate funding more efficiently and equitably. Is blockchain really a breakthrough in supply chain governance or, alternatively, is blockchain simply another attempt at a technical solution to what are essentially political problems? To what extent can blockchain ensure corporate accountability in supply chains? What could be the negative consequences of this new technology?

While large corporations, industry groups, and activists are already experimenting with its use, scholarly literature is only just beginning to trickle out in the form of single case studies and, often, emerging from the Business and Management literature. While these studies are undoubtedly useful, there is an urgent need for a more comparative and critical approach to evaluating the opportunities and challenges this new technology offers in terms of supply chain transparency and governance.

Toward this end, we conduct a comprehensive review of the ‘real world’ cases of blockchain being used in global supply chains by companies, activists, and other organizations from regulatory agencies to industry groups. By conducting this exercise, we begin to build a new dataset on blockchain technology in global supply chains. We draw data from publicly available resources including media reports, scholarly blockchain literature, and ‘grey literature’. We then map these initiatives, building a typology of its uses and goals.

This mapping exercise forms the basis for assessing these initiatives’ ability to address current issues in each sector and its potential consequences. We inductively build a framework to assess what blockchain can and cannot address – and which commodities it could work better or worse for, based on both the commodity’s physical nature as well as the social relations related to its production and consumption.

## Panel ID 614

### Climate policy (iii): public perceptions and prospects for action

Parallel Panel Session 5,  
Wednesday 8<sup>th</sup> September 2021,  
13:00-14:30 CEST

Chair: Jirina Jilkova

#### **ID505.**

### **The effects of deliberative mini-publics on public opinion regarding ambitious climate policy: Testing various informational cues to German citizens in a factorial survey experiment**

Janosch Pfeffer

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To avoid dangerous climate change, ‘unprecedented’ societal transitions are needed. Such transitions are hard to imagine without ambitious policy action by nation states. However, democratic political leaders are often hesitant. Past experiences such as with the yellow vest movement in France suggest, they have comprehensible reasons to be hesitant. Some researchers in deliberative democracy and a growing number of societal and political actors argue that bodies of randomly selected citizens, so-called deliberative mini-publics, may be conducive to governing sustainability issues like climate change. National-level deliberative mini-publics on climate change were recently held in Ireland, Great Britain, and France, and are currently undertaken, planned, or lobbied for in many other European countries—for example Scotland, Spain, or Germany. But can mini-publics really lead to more ambitious climate action? Some hopes may be overly

optimistic and uncritical while others wait to be substantiated. One important question is whether mini-publics can influence public opinion regarding ambitious climate policy.

In theory, mini-publics can provide informative short-cuts to citizens. Citizens would adjust their opinions in the direction of mini-publics’ recommendations based on ascriptions of trust toward mini-publics’ judgments. However, there have hardly been studies to test this theory with empirical robustness. Even less do we know, empirically, about the causal mechanisms determining ascriptions of trust in mini-publics’ judgments, or about the signals required to provoke such effects. Finally, we do not know whether or to what extent such effects would be transferable to sustainability issues like climate change; That is to issues that are not just salient, and controversial—like the issues of abortion and same-sex marriage that were addressed by the Irish Citizens’ Assembly—but also highly complex, uncertain, and ambiguous.

In this study, I test whether a deliberative mini-public increases public support for an increase of the CO<sub>2</sub> tax in Germany. Moreover, I ask to what extent different communications about the mini-public moderate this effect. I study this question by conducting a factorial survey experiment innovative to this field. Before indicating their opinions, respondents of the treatment group are informed that the policy was recommended by a mini-public. Moreover, additional information about the mini-public is systematically varied to study causal mechanisms. Beyond academia, results can inform practitioners about what communications ‘work best’, and may provide advocates with robust evidence for one of the many claims they make when trying to convince politicians and other actors of the values of deliberative mini-publics.

**ID606.**

### **Climate Security as a Coalition Magnet? Prospects for Action in the United States and in the BRICS Countries**

*Mihaela Papa*

*Fletcher School, Tufts University, Medford, MA, USA*

Ever since the UN Security Council has become more open to discussing the link between climate and security, the key initiatives for advancing this linkage have predominantly come from countries other than the United States and the BRICS. With the climate threat being increasingly framed in the security context under the Biden administration and some of the BRICS countries weakening their resistance to the climate security agenda, the climate-security nexus is poised for revival in global policymaking. This paper asks: can climate security act as a coalition magnet and accelerate action in the field of climate change? Drawing on the theoretical framework developed by Beland and Cox to study ideas as coalition magnets, this paper examines whether climate security has the needed components to act as a magnet that can open a path for policy change. Using content analysis of U.S. and BRICS countries' policy documents and the method of comparative policy analysis, this paper investigates whether climate security as a global policy idea has the needed polysemic character that can make it attractive to domestic groups and whether there are policy entrepreneurs who can employ this idea. The findings show that the climate security agenda has growing support in the relevant communities of practice, but also raise questions about the challenges of securitization of environmental challenges.

**ID664.**

### **Machine Learning a Probabilistic Structural Equation Model to Explain the Impact of Climate Risk Perceptions on Policy Support**

*Asim Zia<sup>1</sup>, Katherine Lacasse<sup>2</sup>, Nina Fefferman<sup>3</sup>, Brian Beckage<sup>1</sup>, Louis Gross<sup>3</sup>*

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While public opinion is a strong driver of policy change in democratic societies, the complex interactions of climate risk perceptions, belief in climate science, knowledge, political ideology, demographic factors, and their combined effects on support for policies aimed at mitigating climate change are not very well understood. This study applies an unsupervised machine learning approach to learn a “probabilistic structural equation model (PSEM)” for understanding such complex interactions. With foundations in Bayesian Network theory and information theory, PSEMs use the principle of Kulback-Leibler divergence to learn the relative importance of latent variables that explain structural dynamics of support for climate policy. A PSEM with R<sup>2</sup> of 92.80% is derived from publicly available mixed-pool “Climate Change in the American Mind” (CCAM) dataset collected between 2008 and 2018 (N=22,416). The estimated PSEM predicts that 27.38% of the US population strongly supported climate policy action, while 59.46% were lukewarm supporters and 13.15% strongly opposed climate policy interventions. The conditional probability distributions of lukewarm policy supporters reveal a novel finding: Lukewarm supporters are more likely to be ambivalent about human induced climate change, less likely to be worried about climate change and

more likely to be moderates and independents. Poor adoption of climate policy proposals in the US can be attributed to this silent majority of lukewarm supporters. Consistent with previous studies, we also find that strong supporters of climate policy are more likely to be alarmed and worried with relatively high and moderate risk perceptions and likely to be very liberal or somewhat liberal. In contrast, strong opposers of climate policy are more likely to be climate deniers, skeptics or doubtful, not concerned, risk deniers and very conservative or somewhat conservative. Theoretically we discover strong support for dual processing theory: while analytical risk perceptions have the largest effect size, this effect is mediated through affect/emotions, beliefs and ideology. We argue that data-driven machine learning models can account for complex interactions among latent variables to explain climate policy preferences. Future experimental research may be implemented to test whether emotionally sensitive communication of climate change induced risk may trigger a significant change in the policy preferences of lukewarm policy supporters to become strong supporters of climate policy.

## Panel ID 616

### Catalysing sustainability: leverage points, networks and policy innovations

Parallel Panel Session 2,  
Tuesday 7<sup>th</sup> September 2021,  
10:30-12:00 CEST

Chair: Julia Leventon

## ID202.

### Governance and Sustainable Management of Electronic Waste in India and South Africa

Anwesha Borthakur

*KU Leuven, Leuven, Belgium*

Electronic waste (E-waste) has observed a considerable intensification in the recent decade rendering its management a major challenge to the contemporary world. India and South Africa are no exceptions. Today, these countries are engrossed with massive challenges concerning environment and resource-friendly management of E-waste where it is becoming a significant waste stream both in terms of quantity and toxicity. Considering the complexities associated with this toxic stream of waste, this paper is an attempt to review the existing E-waste governance in the emerging economies, taking into consideration the evidence and experiences of India and South Africa. The impact of the E-waste policy interventions is assessed with respect to consumers' E-waste disposal behaviour and awareness in both the countries. The paper further evaluates the influences of European Union's landmark Waste Electrical and Electronic Equipment (WEEE) and Restriction of Hazardous Substances (RoHS) Directives in E-waste policymaking in India and South Africa. We

attempt to problematize the E-waste policy concerns in both the country through queries such as: what are the policy approaches currently in place in the countries? How effective these policy responses have been in solving the E-waste problem in the respective country? Is there any difference in the E-waste policy approaches 'within' the emerging economies, considering the somewhat similar growth trajectories of these nations which classify them as 'emerging economies'? We especially focus on the legislative and regulatory measures that are in place in India and South Africa which are indispensable for ensuring effective and responsible E-waste management. In-depth literature reviews, a bibliometric analysis and a structured questionnaire survey were carried out as a part of the study. Regarding consumers' awareness and disposal behaviour, we attempted to address queries such as: what are the different modes of E-waste disposal practiced by the consumers of these two countries? Do consumer's awareness level and disposal pattern differ from one country to another? What are the different factors that affect the consumers' behaviour towards E-waste disposal? Does awareness level among consumers shapes their disposal behaviour? We argue that the E-waste governance and management approaches of a particular country necessitates a local-specific method where all the inherent socio-cultural, economic, political and environmental considerations of the country is taken into consideration while devising effective solution mechanisms.

**ID425.**

## **Connecting the Dots: Global Social Identity and Transnational Networks for Sustainability**

Eva Maria Lynders

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Realizing the 2030 Agenda calls for integrated approaches in policies and societal action. Due to the demand for continued joint knowledge creation and societal change across the globe, the role and importance of transnational research and action networks dealing with questions of sustainable development is likely to rise within the next decade. Not only do they represent crucial actors in accompanying and pushing global governance processes. They can also serve as "laboratories" for what some researchers call an emerging "global civil society". The term is associated with the three elements of an increased awareness for global challenges, a sense of responsibility to react to them, and a sense of connectedness which allows for joint (or at least orchestrated) action. Possible preconditions or enabling factors for such a global civil society are not yet fully understood.

Still, one promising stream of research rises from a more current adaptation of a well-known psychological concept: the global social identity concept (sometimes also cited as global human identification) measures to which extend a person identifies with "the world as a whole". Some research results suggest that the higher the extend of global human identification of a person, the higher the propensity of cooperation on a global level. In the context of sustainability challenges, the concept could possibly proof to be an

important element in connecting global necessities with local societal action. Unfortunately, possible connections between the degree of a global social identity and the approach towards sustainability questions on various levels has not yet been investigated in depth. Similarly, research on the effect of transnational networks on the development of such a dimension of identity only started recently. As a contribution to connecting these dots, the aim of this paper is twofold: 1) It provides a detailed overview of the research and theoretical considerations on global social identity and related concepts 2) It examines its potential to be studied in the context of transnational research and action networks for sustainable development.

**ID582.**

### **Direct Government Provision of Green Jobs in a Market Context: Analysis of Practical Institutional Options for Ensuring Decent Work for All in Just Sustainability Transitions**

*Mark Elder*

*Institute for Global Environmental Strategies,  
Hayama, Japan*

Creating “decent work for all” doing sustainable activities – green jobs -- is essential to secure political support for sustainability transitions. Maximizing employment has long been one of the highest political priorities, especially during COVID-19, but it has rarely been achieved. Conventional employment solutions, including those for “green jobs” and “just transitions,” are mainly market-based and indirect: macroeconomic policy, industrial promotion policy and financing, public works, government procurement, education, and training. However, markets have never been

able to provide decent jobs for all, especially during periods of rapid change in technology and economic structure, which characterize sustainability transitions. Many new jobs are in different locations and require different skills than the old jobs, often devastating communities with dying industries. Traditional unemployment policies, social safety net programs and welfare, are expensive and unpopular yet cannot prevent poverty. Moreover, supporting many potentially employable people with social safety net subsidies is a large opportunity cost when so much socially beneficial work is needed, especially to promote sustainability – such as environmental clean-up and care for the elderly, children, and the disabled, etc. Markets often cannot supply this work because customers cannot afford to pay. Therefore, much stronger government management and action to directly create jobs is needed to achieve decent work for all, and this work should contribute to sustainability transitions. This paper analyzes the advantages, disadvantages, and tradeoffs of two possible institutional options and their variants. The first is direct employment by government, for example by the US Works Progress Administration (WPA) and the Civilian Conservation Corps (CCC) during the great depression; they directly hired workers for specific projects. Regular government departments also could employ more workers. Second, governments could outsource employment, based on proposals from businesses or NGOs, or expand traditional public works projects (e.g. sustainable infrastructure). Some combination of these methods could also be used. Issues to be addressed include possible funding schemes, organization and decision-making structures, workers’ eligibility requirements, workers’ wage rates and employment conditions, especially the duration of workers’

participation in the programs, how the programs would relate to similar market activities, and how potential related corruption could be minimized. This is not intended to replace the market economy, and most “green jobs” may be created using traditional industry promotion, financing, and “enabling” measures for green industries. Rather, these options are intended to ensure access to green jobs (broadly defined) near their current residence for those who are “left behind.”

**ID614.**

### **A system leverage points approach to governance for sustainable development**

*Mitzi Bolton*

*Monash Sustainable Development Institute,  
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Public decision-makers are employed to make decisions on behalf of others to enhance the public good and help drive societal progress. Yet, a cursory look at the world’s attempts to achieve sustainable development shows this has not been consistently achieved. Examples such as government management of Covid-19 or financial stimulus also illustrate that well-meaning public servants can fail spectacularly with terrible consequences. Indeed, decision-makers themselves and the literature often talk to complexity and wicked problems preventing optimal public outcomes from being realised.

Interviews with 35 public servants ranging from street-level bureaucrats to organisational leaders identified 40 factors with the potential to act as both barriers and enablers of stated public objectives being achieved. The factors identified illustrate the operating environment in which public decisions are made to be a complex system. There is thus a need to apply

systems thinking in public administration research and practice more consistently.

Donella Meadows argued that systems are present everywhere, and her work on leverage points includes consideration of political and government applications. Thus, leverage points and associated arguments concerning their comparative impact are a useful framework for understanding where and why public decision-makers ‘fail’ to achieve their objectives. This approach of applying a leverage points frame to the problem of sustainability governance and public decision-making more broadly appears to be an emerging area of focus in the literature, and empirical support for its further exploration is provided here. The nature of systems means change often yields unforeseen outcomes – good and bad -, however, that does not mean this approach should be discounted. Recognition and cautious use of system leverage points may help catalyse solutions which have evaded governments thus far, transforming public decision-making practice and, importantly, outcomes.

This paper seeks to understand if, based on their potential to act as leverage points, any of the 40 factors identified by public decision-makers are more likely to be effective in driving transformational change. The reverse approach is also adopted to determine if there are leverage points which could be more actively applied within decision-making systems to encourage the expression of multiple factors as enablers (rather than barriers) of optimal public outcomes. It finds both influential factors and leverage points for future focus in sustainability governance.

## Panel ID 617

### Framing, narrative and discourses in environmental governance

Parallel Panel Session 2,  
Tuesday 7<sup>th</sup> September 2021,  
10:30-12:00 CEST

Chair: Stanislava Brnkalakova

## ID508.

### A leap of faith: The religious discourse of socio-ecological care as an earth system governmentality

Miranda Boettcher

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The Anthropocene is fundamentally altering concepts of human agency and responsibility in the governance of socio-ecological systems. These concepts are paramount in discussions about governing deliberate interventions into the global climate – often referred to as ‘climate engineering’. Reflections on what it might mean for humanity to ‘play God’ by controlling the climate have brought religious knowledge to bear in these discussions, as it provides resources that individuals and communities draw upon to understand humanity’s role in and responsibility towards non-human nature. Using climate engineering as a paradigmatic example of deliberate human interventions which may come to define the Anthropocene, this paper presents a sociology-of-knowledge discourse (SKAD) analysis of interviews with environmentally active Christian, Muslim, Jewish, Buddhist, Hindu, and Neo-Pagan faith-leaders and scholars. The respondents were asked to reflect upon humanity’s relationship to the non-human world in view of large-scale

human interventions into the climate system. The study identifies a pan-religious environmental discourse that situates humanity in an interconnected and divine ‘socio-ecological whole’ – a governmentality of Socio-Ecological Care. In contrast to techno-managerial ideas of human agency and control, this relational governmentality is informed by an ethics of care and humility. By recognizing humanity’s reciprocal relationship with the non-human world, religious knowledge offers a ‘discursive blueprint’ that may help to re-conceptualize global environmental governance in the Anthropocene. The paper concludes by highlighting how the ‘green’ synergies of diverse religious traditions can bolster complementary global systems of knowledge in reconceptualising the actors, rationales, and practices of responsible and sustainable Earth System governance.

## ID624.

### Helping or hindering? The political effects of emergency frames in sustainability

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Emergency frames are mobilised in multiple areas of contemporary sustainability governance. This occurs both in response to specific events (e.g. wildfires, droughts, floods), and also strategically in attempts to stimulate collective action on issues for which

it has long been lacking. For example, issues such as climate change and biodiversity loss are increasingly declared as society-wide emergencies by scientists, civil society groups, cities, national parliaments, and international organizations. Despite growing attention to the emergence of emergency frames, there is a lack of systematic understanding of their effects. Moreover, the strategic deployment of emergency frames is contentious. While some argue that the urgency and irreversibility global environmental changes calls for an emergency stance, others are more cautious or recommend against such approaches. Resolving this contradictory picture requires systematically considering the broad range of possible effects that can occur, but this is hampered by fragmented literature across disciplines and domains. This paper critically reviews and synthesises insights across interdisciplinary lines of thinking on the effects of emergency frames (e.g. political science, human geography, sustainability science, social psychology) within sustainability and also drawing other domains (e.g. COVID-19, social justice protests, security studies) where relevant.

Findings result in a typology comprising five key dimensions of variation in the political effects of emergency frames: 1) affect among mass publics (including emotions and arousal, motivations, behavioural responses), 2) empowerment or disempowerment of social actors (including ability to accomplish tasks, influence over others, patterns of inclusion/exclusion), 3) shifts in formal political authority (including effects on rule of law, consent/legitimacy, democratic accountability), 4) (re)shaping of discourse (including effects on public attention, political imaginaries, embedding of new ideas), and 5) impacts on institutions (including strengthening or weakening existing

institutions, new mechanisms of steering). This provides a conceptual foundation for explaining diverse political effects of emergency frames. It implies that the utility of emergency frames may vary across contexts (e.g. interplay with existing debates, depending on the presence of safeguards against adverse consequences) and over time (e.g. risk of adverse short-term consequences vs stimulating productive conflict within longer-term societal transformations). This paper contributes to ongoing dialogue with the Earth System Governance community on the topic of emergency frames by building on an Innovative Session exploring this topic held at the 2020 ESG Virtual Forum. It also contributes to scrutinising prospects for a certain type of political response to sustainability problems (deployment of emergency frames) in turbulent times.

**ID651.**

### **The politics of environmental disaster framing: a content analysis**

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Environmental protests have been on the rise across the world as people grow increasingly dissatisfied with the deteriorating state of the environment. Protests sometimes follow damaging environmental disasters, but more often, disasters fail to trigger large-scale protest movements. Why is that? Through an examination of media framing in the aftermath of large environmental disasters, this paper proposes two likely factors: uncertainty of disaster impacts and disaster's reliability.

The paper examines disaster framing as a strategic activity by governments,

corporations, and activists. A broader objective is to better understand the use of specific language and various narratives in the immediate aftermath of environmental disasters. While the use of such language has, to some extent, been explored in several studies, the link between disaster language and environmental protest has not yet been examined. To this end, this paper presents a content analysis of news media coverage of three major industrial environmental disasters linked to varying degrees of post-disaster protest: the 2014 Mount Polley mine leak, the 2010 Deepwater Horizon oil spill, and the 2011 Fukushima nuclear disaster.

The preliminary findings suggest both expected and surprising patterns in the post-disaster framing dynamics. Specifically, contrary to the prevailing literature, emotional and environmental frames may play a small (if any) role in post-disaster protest mobilization. The preliminary analysis lends some support to the mobilizing potential of relatability and prompts further investigation of the role of uncertainty. Both have been largely neglected as protest mobilizing factors in the prevailing literature. Understanding the use of language after environmental disasters may shed more light on public interest in other environmental crises, including the loss of biodiversity and the impacts of climate change.

## Panel ID 618

### Transformative governance: sustainability and biodiversity

Parallel Panel Session 5,  
Wednesday 8<sup>th</sup> September 2021,  
13:00-14:30 CEST

Chair: Jasper Montana

## ID126.

### Transforming global biodiversity governance, a difficult journey: Exploring the history and future of global biodiversity governance

Joanna Smallwood<sup>1</sup>, Armandine Orsini<sup>2</sup>, Marcel Kok<sup>3</sup>, Aleksandar Rankovic<sup>4</sup>, Christian Prip<sup>5</sup>, Katarzyna Negacz<sup>6</sup>

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The 15th Conference of the Parties (COP 15) of the Convention on Biological Diversity (CBD) will be held at the end of 2020, in China. It will be a significant milestone in the history of international biodiversity governance, as it will see the adoption of the "post-2020 global biodiversity framework", a new architecture whose principal aim will be to better contribute to the deep socioeconomic transformations necessary to halt biodiversity loss. The CBD has long recognized the importance of these issues, but associated decisions are made elsewhere in sectoral arenas (trade, high seas, climate, development policies, etc.). Biodiversity actors must, therefore, be able to challenge these arenas and find allies, points of convergence, and levers of change within

them. This ambition can be found, quite explicitly, in the documents drafted by the CBD Secretariat that describe the CBD's objective to stimulate a "transformative change" in favour of biodiversity.

This paper, based on a forthcoming book chapter, will review the challenges for the development of this new framework, both from an intellectual and from an international negotiation perspective. It will first provide an overview of the highly fragmented biodiversity governance landscape: as an "old" international environmental issue, biodiversity, or some of its components, is the object of multiple international conventions and international governmental and non-governmental organizations. This will enable making sense of this landscape, and of its successes and limitations so far.

Then, the paper will dwell on the fact that the strongest limitations of the biodiversity regime, so far, has been its incapacity to intervene on different sectoral drivers of biodiversity loss, both at the international level and, even more importantly, at the national level during implementation. These different implementation gaps will be reviewed and serve as a base to imagining how the post-2020 framework will face these obstacles.

Finally, the paper will assess the post-2020 framework and the challenges ahead.

## ID145.

### Transforming biodiversity governance

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This paper is based on the introductory and concluding chapters of the edited volume on transforming biodiversity governance that is currently under development, and thereby captures the state-of-the art knowledge on transformative biodiversity governance. Such transformative governance is urgently needed, since biodiversity governance has to date been unable to slow down or halt biodiversity loss, and is also necessary to meet the Sustainable Development Goals.

The paper reflects on and contributes to the ongoing discussions among the international biodiversity community on the new strategy of the Convention on Biological Diversity, the so-called "Post-2020 Global Biodiversity Framework, with the aim to enhance our understanding of the need for, and ways forward towards, transformative biodiversity governance – in other words – how to transform biodiversity governance.

Following the Global Assessment (GA) of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), we define transformative change as a fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals and values. Such change is necessary, since currently these structures inhibit sustainable development – they actually represent the underlying causes of biodiversity loss. Transformative change is

thus meant to simultaneously address these underlying causes.

While a quickly growing literature discusses transformative change, less thinking has been done on how to govern such transformations. We here define such transformative governance as the formal and informal rules, rule-making systems and actor-networks that enable transformative change. Taking the argumentation of the IPBES GA one step further, we argue that governance has to be integrative, inclusive, informed, adaptive and anticipatory in order to be transformative.

Transformative governance is *integrative*, since change is related to and influenced by changes elsewhere (at other scales and locations, on other issues, in other sectors). It is *inclusive*, since the change per definition includes different types of actors and different interests, values etc., and needs to address issues of social justice. It is *informed*, including different knowledge systems (including non-positivist social sciences) and ILK, and *adaptive*, based on learning, reflexivity, monitoring and feedback. It is also *anticipatory*, e.g. when governing the development or use of new technologies.

The paper reflects on lessons learned and ways forward for transformative biodiversity governance on various issues and in different ecosystems, including on values, global biodiversity governance, market-based instruments, emerging technologies, justice and equity, animal governance, access and benefit sharing (ABS), conservation and protected areas, and in agricultural landscapes, cities, and oceans.

**ID172.**

## **The political compromises holding back sustainability transformation**

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Within the existing sustainability research, the role of politics in constraining and enabling transformative changes has remained underexamined. Specifically, we argue that there is a critical gap in studying how incumbents manage pressures for institutional change when crisis and conflicts emerge. Existing theories tend to conceptualise regime stability as a result of rule-following behaviours and other self-reinforcing mechanisms that promote technical conformity. There is also a greater focus placed on studying incumbent firms, their corporate strategies and apolitical interactions with policy field. Whilst insightful, scholars are recognising the need to broaden this sector-bound perspective. Viewing incumbency as a relatively open concept permeated with plural relationships allows research to better examine the blurred boundaries between sector(s) and the polity. The plurality of contexts can also result in more tensions. Therefore, we ask how can incumbency maintain legitimacy under such pluralistic contexts? We conceptualise the ways institutional contradictions are being managed using political compromises. We explored the concept in a case study of politically-charged water initiative in Indonesia. Incumbents appeared skilled at placating tensions using piecemeal compromises, including short-term fixes, elimination, decoupling, and mediation. Despite multiple crisis, conflicts, and

movements against it, the incumbency has prevailed with minimal technical and political adaptations. We show that the recurring tensions have counterproductive effect on systemic transformations. The divisive counterframings by challengers, while creating legitimacy problems, fall short in creating governance space and processes for transformative higher order learning in the systems. In light of our findings, future research is needed to investigate ways to utilise more co-productive processes to build shared political imperatives that challenge incumbents' legitimacy to facilitate long-term transformations.

**ID324.**

### **Enabling conditions and governance for sustainability transformations: Lessons from four major social-ecological challenges**

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Sustainability and transformation sciences inevitably require identifying challenge-oriented patterns in social-ecological systems and making normative judgments about desirable and undesirable trajectories and/or states. Transformation research aims to foster sustainability transitions and innovations, but it does not pay sufficient attention to the mechanisms needed for doing so. Resilience research provides insight into mechanisms of change, adaptation or stability, but it tends to mainly frame resilience as a desirable property and overlooks persistent dynamics that lead to social and ecological degradation,

vulnerability, or barriers that hinder sustainability transformations.

Here, we examine how, in what ways, and by whom, earth system governance might be transformed across multiple scales. We operationalize a comprehensive understanding between the undesirable properties of resilience (lock-ins) and their impacts on mechanisms for transformations towards sustainability, through a lens of O'Brien's (2018) three spheres of transformation: practical, political, and personal. Four social-ecological themes and associated case studies are used to define and analyse case-specific lock-in mechanisms and therefore enrich our understanding of how states and trajectories may be disrupted and shifted onto more sustainable pathways. These case studies relate to important social-ecological challenges: pollinator decline, negative emissions technologies, plastic pollution, and increasing meat demand for human consumption.

Our analysis reveals 'enabling conditions' – sharing common elements with multiple lock-ins (inter-locked mechanisms) – that can bring synergistic benefits for sustainability transformation across different social-ecological challenges and their governance. Understanding the enabling conditions as means for transformation to occur can provide meaningful insights to successfully crack persistent lock-in mechanisms, and thus contributes to our understanding of how the governing of nature is being transformed.