BERLIN CONFERENCE ON GLOBAL ENVIRONMENTAL CHANGE

TRANSFORMATIVE GLOBAL CLIMATE GOVERNANCE “APRÈS PARIS”

Berlin, 23 - 24 May 2016
Preface

Dear friends and colleagues,

it is our great pleasure to extend a warm welcome to the 2016 Berlin Conference on Global Environmental Change: Transformative Global Climate Governance après Paris.

It is already the 12th instalment in the successful series of Berlin Conferences that started back in 2001 and the second (after 2010) that is jointly hosted by the Freie Universität's Environmental Policy Research Centre (FFU) and the German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE).

With the adoption of the 2030 Agenda on Sustainable Development and, crucially, the Paris Agreement on climate change only a few months behind us, the momentum for addressing the human dimensions of global environmental change is arguably at an all-time high. Climate change, in particular, is now widely acknowledged as a central challenge not only for environmental governance, but also for sustainable human development. This was hardly the case at the time when the previous Berlin Conferences addressed, for instance, industrial transformations (2003), effective and equitable resource policies (2006) or the governance of social-ecological change (2008).

As the political landscape of global climate governance appears to be shifting in the wake of the Paris climate change conference, pertinent research questions that revolve around the quest for effective and legitimate answers to the daunting challenges of anthropogenic climate change stay with us. This conference thus invites scholars and practitioners to refocus their search for answers in the light of the Paris outcomes and to consider them in the larger context of the universally desired transformation towards sustainable development in today’s turbulent world.

Yet, transformative pathways will inevitably be diverse, complex and non-linear. Moreover, they are likely to unfold on different temporal and spatial scales. In the tradition of the Berlin Conferences it is our aspiration to bring together ideas and threads of research that have not been adequately linked before to deal with the underlying intellectual challenges of transformative global climate governance as well as to reach out to the political practice of climate governance. We seek to challenge ideas and theories, identify promising avenues and frameworks for current and future research, expose scientific findings to political realities and, not least, further dialogue between social and environmental sciences and
policy-makers to facilitate a climate-smart and just transformation towards sustainable global development.

As a research community concerned with the human dimensions of global environmental change we are dedicated to contribute in developing solutions that work: the struggle for gaining support and legitimacy for transformative policies, the coordination of various actors across different domains and levels of policy making, the analysis of narrative frames that would support such transformation. It is therefore of utmost importance to understand the contexts in which climate policies, and the institutions to govern them, are developed. What are competing discourses, what works in different political and legal systems, in economic as well as in cultural contexts? It is our responsibility as social scientists, in particular, to better understand the challenges that policy-makers face in implementing the Paris outcomes and to identify suitable entry-points for our research findings and insights to support climate policies that are efficient and effective as well as legitimate and fair. In short: while it remains first and foremost the duty of states and governments to walk the talk of Paris and to raise the ambitions of global climate governance, we as a research community also have some goods to deliver. Ultimately, we will also have to shift gears to advance transformative research towards sustainable global development.

Like its predecessors, this Berlin Conference is able to build on a broad basis of contributions and support. For a start, we gratefully acknowledge funding from the German Federal Ministry of Economic Cooperation and Development (BMZ) and the Helmholtz Association (Alliance ENERGY-TRANS). We are also thankful for the advice and support that we have received from the members of our International Steering Committee and our endorsing partners, namely the Earth System Governance Project (ESG), the Environmental Policy and Global Change Working Group of the German Political Science Association (DVPW), the Galvanizing the Groundswell of Climate Actions (GGCA), the Innovations in Climate Governance network of excellence (INOOGV), the LIAISE community of practice on impact assessment and research for sustainable development as well as Future Earth.

Moreover, you have responded to our call for papers with a large number of high quality submissions, proposing a broad range of promising papers. To warrant high academic quality as well as a just selection process, each submission was rated by at least four reviewers. We are very grateful to the sixty-four members of our international review panel and their crucial contribution to selecting the very papers that you now find included in this program. Of course, we are equally grateful to those who
will be actually presenting their papers in the course of the next two days - there would not be much of a conference without you! Besides, you will want to join us in appreciating the services of our team of student volunteers who are doing their best to help us ensure a smooth proceeding of the 2016 Berlin Conference.

Not least, as co-chairs of this conference, we are highly indebted to our conference managers Okka Lou Mathis and Ann-Cathrin Beerman as well as to Maxim Injakin and Marie Fuchs who have done an extraordinary job to make this conference happen and we wholeheartedly thank them for their tireless efforts!

Ultimately, however, this is meant to be your conference! It is your active participation, your ideas and your insights that we seek and we thank you for sharing your intellectual efforts at the 2016 Berlin Conference.

We wish all of you a good time in Berlin and an inspiring and rewarding conference.

Steffen Bauer  
DIE

Clara Brandi  
DIE

Klaus Jacob  
FFU

Co-chairs of the 2016 Berlin Conference
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Programme Overview

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<td>8:30</td>
<td>Registration &amp; Welcome Coffee</td>
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<td>9:15-9:45</td>
<td>**Opening Plenary (Room: <strong>Cambridge)</strong> &lt;br&gt; • Introduction by the conference co-chairs Steffen Bauer, Clara Brandi, DIE &amp; Klaus Jacob, FFU</td>
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<td>9:45-10:45</td>
<td>**Plenary Session: Transformative Global Climate Governance après Paris? (Room: <strong>Cambridge)</strong> &lt;br&gt; • Dirk Messner, DIE: Global cooperation and transformative governance after the Paris Agreement &lt;br&gt; • Leena Srivastava, TERI University: Is the Paris Agreement &quot;fair and ambitious&quot; enough to prove transformative?</td>
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<td>11:00-12:30</td>
<td><strong>Parallel Panel Sessions 1-7</strong> &lt;br&gt; 1. Adapting to Climate Change: Policies, Actors and Evidence (Room: <strong>Cambridge</strong>) &lt;br&gt; 2. Beyond Carbon: Socially Inclusive Forest Governance (Room: <strong>Sorbonne 1</strong>) &lt;br&gt; 3. Climate Discourses – Narratives, Values and Frames (Room: <strong>Sorbonne 2</strong>) &lt;br&gt; 4. Climate Policy Integration (Room: <strong>Oxford 1</strong>) &lt;br&gt; 5. Democratizing Climate Governance (Room: <strong>Oxford 2</strong>) &lt;br&gt; 6. Fairness and Differentiation in Global Climate Governance (Room: <strong>Harvard 1</strong>) &lt;br&gt; 7. Governing the Transformation – Promises and Pitfalls (Room: <strong>Harvard 2</strong>)</td>
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<td>12:30-13:30</td>
<td><strong>Lunch Break</strong> &lt;br&gt; **Brainstorming: Breaking Old Boxes and Envisioning New Social Contracts (Room <strong>Oxford 2)</strong></td>
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<td>13:30-15:00</td>
<td><strong>Semi-Plenary I: Making Sense of Paris - A Science-Policy Roundtable on the Changing Narratives of Global Climate Governance (Room: <strong>Cambridge)</strong></strong></td>
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<td><strong>Semi-Plenary II: Implementing the Paris Agreement as a Challenge for Multilevel Governance: Who should do What, When and How? (Room: <strong>Harvard)</strong></strong></td>
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<td>15:00-15:30</td>
<td>Coffee Break</td>
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| 17:15-18:45 | **Parallel Panel Sessions (14-19)** |
| 14. | Climate Policies – Addressing Inequality and Distributive Consequences *(Room: Cambridge)* |
| 15. | Financing Climate – Resilient Development *(Room: Sorbonne 1)* |
| 16. | Institutional Complexity of Global Climate Governance *(Room: Sorbonne 2)* |
| 18. | National Realities of Transformation *(Room: Oxford 2)* |

| 19:30 | Conference Dinner |
|  | • Jennifer Morgan, Greenpeace: The Paris Agreement, Global Coherence and Me – Continuing to Make the Impossible Possible *(Room: Dining Hall)* |
**Tuesday, 24 May**

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<td>10:30-11:15</td>
<td><strong>Plenary Keynote on Transformative Climate Governance</strong></td>
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<td>- Robert O. Keohane, Princeton University: Climate change politics after Paris as a two-level game: Implications of pledge and review for social science research <strong>(Room: Cambridge)</strong></td>
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| 13:45-15:15 | Semi-Plenary III: Beyond the 'Firewall': How to ensure Equity and Fairness in the Implementation of the Paris Agreement  
(Room: *Harvard*)  
- Saleemul Huq, ICCCAD  
- J. Timmons Roberts, Brown University  
- Feja Lesniewska, SOAS  
Chair: Clara Brandi, DIE |              |
|          | Semi-Plenary IV: It's Development, Stupid! Implementing Climate Policy in the Context of the 2030 Agenda for Sustainable Development  
(Room: *Cambridge*)  
- Thomas Spencer, IDDRI  
- Cosmas M.O. Ochieng, ACTS  
- Jennifer Morgan, Greenpeace International  
Chair: Imme Scholz, DIE |              |
| 15:15-15:45 | Coffee Break                                                                                                                                     |               |
| 15:45-16:45 | **Plenary Session: What will the Future of Global Climate Governance Look Like?**  
(Room: *Cambridge*)  
- Frank Geels, University of Manchester: Global climate governance and socio-technical transformation: Is the Paris agreement enough?  
- Frank Biermann, Utrecht University & Lund University: World Politics in the Anthropocene |               |
| 16:45-17:30 | **Closing Plenary** (Room: *Cambridge*)  
- *Outlook on the Earth System Governance Conference: Nairobi 2016*  
  Fariborz Zelli, Lund University, Sweden  
- *Wrap up & closing remarks of the conference co-chairs*  
  Klaus Jacob, Clara Brandi & Steffen Bauer |               |
| 17:30     | End of the conference                                                                                                                             |               |
Speakers

Frank Biermann: **Copernicus Institute of Sustainable Development, Utrecht University & Lund University**
Frank Biermann is a research professor of Global Sustainability Governance with the Copernicus Institute of Sustainable Development at Utrecht University, The Netherlands. Biermann also chairs the Earth System Governance Project, since 2015 a part of the international research alliance “Future Earth.” His current research examines options for a reform of the United Nations and multilateral institutions, global adaptation governance, Sustainable Development Goals, the political role of science, global justice, and conceptual innovations such as the notion of the Anthropocene.

Yamide Dagnet: **World Resources Institute (WRI)**
Yamide Dagnet is a Senior Associate with the World Resources Institute’s (WRI) Collective Climate Action Objective where she leads the Blueprint 2015 project. Prior to her post at WRI she was a United Nations Framework Convention on Climate Change (UNFCCC) negotiator on Measuring, Reporting and Verification (MRV) for the United Kingdom at the Department of Energy and Climate Change.

Frank Fass-Metz: **Federal Ministry for Economic Cooperation and Development (BMZ), Germany**
Frank Fass-Metz is Commissioner for Climate and Deputy Director General at the Federal Ministry for Economic Cooperation and Development (BMZ) leading the Special Unit for Climate since February 2015. Prior to that, his responsibilities included i.a. representing Germany at the Council of the Global Environmental Facility (GEF) (2008-2015), the GEF Assembly (2010 and 2014) and at the Trust Fund Committees for the Climate Investment Funds (2008-2015). Since August 2015 he is Alternate Member at the Board of the GCF.
Frank W. Geels: Sustainable Consumption Institute (SCI) & Manchester Institute of Innovation Research (MIoIR)
Frank Geels is Professor of System Innovation and Sustainability at the Sustainable Consumption Institute at the University of Manchester. He is chairman of the International Sustainability Transition Research Network (STRN) and one of the world’s leading theorists of transformative change. He investigates contemporary and future transitions in the energy, agri-food and transport domains.

Thomas Hale: Blavatnik School of Government, University of Oxford
Thomas Hale is Associate Professor in Global Public Policy at the University of Oxford. His research explores how we can manage transnational problems effectively and fairly with the goal of building more effective institutions to manage climate change. He is also a member of the steering committee of the Galvanizing the Groundswell of Climate Actions (GGCA).

Saleemul Huq: International Centre for Climate Change and Development (ICCCAD) & International Institute for Environment and Development (IIED)
Saleemul Huq is the Director of the International Centre for Climate Change and Development (ICCCAD) and Senior Fellow at the International Institute for Environment and Development (IIED) and a former lead author of the Intergovernmental Panel on Climate Change (IPCC). His current focus is on supporting the engagement of the Least Developed Countries in the United Nations Framework Convention on Climate Change, especially in the context of its recently established Warsaw International Mechanism on Loss & Damage.
Martin Jänicke: *Environmental Policy Research Centre (FFU), Free University Berlin*

Martin Jänicke is Founding Director of the Environmental Policy Research Centre (FFU) and Professor at Free University Berlin. He specializes in climate policy and green economy and has published on structural change and environmental impact.

Andy Jordan: *Tyndall Centre for Climate Change Research, University of East Anglia*

Andy Jordan is Professor of Environmental Sciences at the University of East Anglia and is a member of the Tyndall Centre for Climate Change Research. He has published widely on climate change, sustainable development, and environmental policy making, notably regarding the European Union.

Robert O. Keohane: *Woodrow Wilson School, Princeton University*

Robert Keohane is Professor of International Affairs at Princeton University and one of the world’s leading scholars on international relations. His research focuses on international institutions and environmental affairs. He was honored by the American Political Science Association to give the 2014 Madison Lecture, which he dedicated to addressing the Global Politics of Climate Change as a challenge for political science.

Penehuro F. Lefale: *LeA International Consultants*

Penehuro F. Lefale is Director of LeA International Consultants, Ltd. He was one of the founding members of AOSIS in 1990 and was involved in the negotiations of the UNFCCC and the Kyoto Protocol. With LeA, he is currently the scientific and technical climate advisor for Tokelau. His research focuses on indigenous knowledge systems and climate science, climate interventions, and weather and climate extremes in the Pacific Islands Region.
Feja Lesniewska: SOAS University of London
Feja Lesniewska is a Senior Teaching Fellow both in the School of Law and the Centre for International Studies and Diplomacy (CISD) at SOAS University of London. She co-founded the Law Environment and Development Centre and is a member of the Centre’s Journal Law Environment and Development (LEAD) Editorial Board. Her research focuses on climate change law, sustainable development, energy and ecosystem law within an international and transnational law context.

Dirk Messner: German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE)
Dirk Messner is Director of the German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE) and Professor in Social Sciences at the University of Duisburg-Essen. He is co-chair of the German Advisory Council on Global Change (WBGU). His research focuses on global cooperation, climate change and low carbon development.

Jennifer Morgan: Greenpeace International
Jennifer Morgan is co-Executive Director of Greenpeace International. Prior to that she was Global Director of the Climate Program at the World Resource Institute (WRI), Director of the Global Climate Change Program Third Generation Environmentalism (E3G) as well as of the Global Climate Change Programme of Worldwide Fund for Nature (WWF). She has published widely on the 2015 climate change agreement and its relevance for sustainable global development.

Cosmas Milton Obote Ochieng: African Centre for Technology Studies
Cosmas Milton Obote Ochieng is the Executive Director of the African Centre for Technology Studies. He has held various positions in a number of university, research, development and conservation organizations around the world. His research focus includes sustainable land, water and energy ecosystem management, green economy and climate change.
**Timmons J. Roberts: Brown University**

Timmons Roberts is Ittleson Professor of Environmental Studies and Sociology at Brown University, where he was Director of the Center for Environmental Studies from 2009 to 2012. He is a Non-Resident Senior Fellow at the Brookings Institute. His current research focuses mainly on how equity affects our ability to address the complex global commons problem of climate change.

**Heike Schroeder: School of International Development, University of East Anglia**

Heike Schroeder is a senior lecturer (associate professor) in climate change and international development at the School of International Development, University of East Anglia. Her work focuses on the UNFCCC process, forest governance and REDD+ and urban climate governance. She is a member of the Tyndall Centre for Climate Change Research, the Earth System Governance project under Future Earth and IDDRI’s Scientific Council.

**Thomas Spencer: Institute for Sustainable Development and International Relations (IDDRI)**

Thomas Spencer is Director of the Energy and Climate Change Program. He has worked on climate change since 2007, has advised numerous governments, and authored numerous publications. He works on international politics and negotiations of climate change, as well as on domestic implementation in the EU.

**Leena Srivastava: TERI University**

Leena Srivastava is currently the Vice Chancellor of the TERI University from January 2012. The TERI University is a graduate institution engaged in teaching and research on sustainability issues, with nearly 700 students – a hundred of whom are PhD students. Dr Srivastava is a member of various committees and Boards both at the international and national level, she serves on the Executive Committee of Sustainable Energy for All (SE4ALL) initiative of the UN Secretary General.
Monika Zimmermann: ICLEI – Local Governments for Sustainability

Monika Zimmerman is Deputy Secretary General of ICLEI – Local Governments for Sustainability based in Bonn, Germany. She supervises the development and coordination of ICLEI’s agendas on Resource-Efficient Cities and Green Urban Economy and the preparation of the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) at ICLEI.
Conference Co-chairs

**Steffen Bauer**
Dr. Steffen Bauer is a senior researcher at the German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE) and co-leader of the institute's cross-departmental climate project "Klimalog: Research and dialogue for a climate-smart and just transformation". He received a PhD in political science from Free University Berlin and is an associate researcher of Freie Universität's Environmental Policy Research Centre (FFU). He was co-chair of the 2010 Berlin Conference "Social Dimensions of Environmental Change and Governance”.

**Clara Brandi**
Dr. Clara Brandi is an economist and a political scientist at the German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE) and co-leader of the institute's cross-departmental climate project "Klimalog: Research and dialogue for a climate-smart and just transformation". She received a PhD from the European University Institute, Florence. Prior to joining DIE, she worked for the WHO Department of Ethics, Equity, Trade and Human Rights, the United Nations Development Programme, the German Federal Ministry of Economics and Technology, the International Labour Organization and the European Parliament.

**Klaus Jacob**
Dr. Klaus Jacob is research director of the Environmental Policy Research Centre (FFU). He is head of the research group on “Policy Assessment” which works in the fields of impact assessment, evidence-based policy making, strategies in environmental and sustainability policy, ecological modernization as well as environmental innovation and lead markets. The work of his research group combines basic research and applied policy consultancy for national and international clients.
Towards Policy Coherence in Climate Change Adaptation Planning in southern Africa

*Lindsay Stringer*
*University of Leeds, United Kingdom*

The post-2015 development agenda requires policy coherence, where achievement of development goals in one sector does not undermine the achievement of the goals of another. It also recognises that cross-cutting issues like adaptation to climate change need to be considered and mainstreamed across multiple sectors. This paper presents a policy analysis. It analyses the water management and agricultural strategies and approaches identified in national sector policies for water and agriculture, National Development Plans, climate change policies and strategies, and Intended Nationally Determined Contributions submitted prior to the Paris United Nations Framework Convention on Climate Change Conference of the Parties, from Malawi, Tanzania and Zambia. It assesses the extent to which policies are coherent with one another with regard to their treatment of climate change adaptation and identifies the timeframes being considered within adaptation planning. Findings identify that sector policies show some degree of cross-thematic coherence and alignment, in particular around their acknowledgement of the importance to address short-term disaster management of floods and droughts. They also overlap in their relative lack of recognition of the need for specific project planning to address climate adaptation needs on a 5-40 year timeframe. Climate change policies explicitly call for significant investment in adaptation from the international community. Where coherence between sector and climate policies and strategies is strongest, the more recent climate policies largely repackage existing sectoral policy statements. These findings can be understood in the context of the uncertainty of climate change impacts for the longer-term, alongside short-term government disaster management planning linked to humanitarian intentions, as well as in the context of the short-term nature of political cycles and economic gains. For climate-resilient policy decision-making to make further headway, we argue that policies need to more pro-actively embrace cross-sectoral planning, in order to foster greater policy coherence.
Objectives, participants and methods of participatory processes for adaptation to climate change in Germany

Torsten Grothmann
University of Oldenburg, Germany

Several publications stress the relevance of stakeholder and public engagement for transformative climate governance. To get an overview of current practice of participatory adaptation processes in Germany 76 processes at national, federal, regional and local levels were identified and 22 processes were analysed in more detail by document analyses (e.g. of workshop documentations) and half-standardised interviews with organisers and moderators. The study focused on the objectives, participants and methods of the participatory processes. Consistent with risk governance in general, the results indicate a dominance of functionalistic objectives, focusing on getting input from participants in order to improve the quality of adaptation strategies and measures. Second most common are neoliberal objectives stressing the need for proportional representation of stakeholder interests, interestingly without the explicit aim to reconcile conflicts between stakeholders. Deliberative and emancipatory objectives of participation are very rare. Only the national government explicitly aims with its participatory processes at facilitating adaptation actions among the participants. Consistent with the lack of emancipatory objectives there is lack of small municipalities, small businesses, citizens with low socio-economic status and migration background as well as young and female citizens taking part in the participatory adaptation processes, although many of these are identified as particularly vulnerable to climate change. Probably due to the primarily functionalistic objectives policy makers and actors from civil society are also lacking in most processes. Well represented are governmental agencies and scientists. Methods and procedures of most participatory processes follow a prevention orientation by first confronting participants with scientific projections of potential climate change impacts and then discussing adaptation options. A promotion orientation, e.g. by first developing visions for a (climate) resilient future and then discussing options to realise the vision, is rather rare. The results indicate a range of potentials for improving future practice of participatory adaptation processes in Germany.
Development, Climate Change Adaptation, and Maladaptation: Some Econometric Evidence
Shouro Dasgupta¹,², Francesco Bosello¹,²
¹Fondazione Eni Enrico Mattei; ²Centro Euro-Mediterraneo per i Cambiamenti Climatici

The total estimated damage from climate related disasters between 2011 and 2013 was US$ 641 billion while the average number of deaths and people affected between 2003 and 2012 were 106,000 and 216 million, respectively. How will these damages and fatalities change in the coming years? Under the theoretical view point, expectations of both increasing and decreasing trends can be supported. Indeed, on the one hand development associated to higher population density, physical capital, and ultimately GDP would itself determine a higher exposure to climate stressors and thus expected damages. This trend can be exacerbated by climate change that can increase the frequency and intensity of some form of climatological events (IPCC, 2012). On the other hand, development associated to more advanced technologies, knowledge and resource availability would determine a higher adaptive capacity and thus lower expected damages.

This paper examines the determinants of climate related disasters and attempts to estimate the presence of adaptive capacity in terms of per capita income and population density elasticities. Using robust econometric analysis, we find evidence of adaptive capacity in a weak form both in terms of income and population density elasticities for our entire sample. That is, damages are in fact increasing with income and population but less than proportionally. There is also evidence of countries improving their adaptive capacity over the long-run but some maladaptation occurs in the short-run. We also find that higher income countries show adaptive capacity in a strong form, i.e. damages decrease with GDP, while lower income countries highlight the opposite behaviour. Finally, using Granger causality tests for panel data, we find evidence of increase in GDP per capita Granger causing climate related damages for lower income countries but not in higher income countries.

Aid for Adaptation to Climate Change: A Network Approach
Carola Betzold¹, Florian Weiler²
¹University of Antwerp, Belgium; ²University of Bamberg, Germany

In the run-up to Paris, individual countries and multilateral banks are making new promises to provide millions of dollars for adaptation (and mitigation) action in developing countries, with a view to reaching the 100 billion USD target announced in Copenhagen. But where are all the-
se funds going to? To what extent do they reach the poorest and most vulnerable, those most in need of support?

The focus of this paper is on bilateral aid for adaptation to climate change. Using OECD data on adaptation aid, we examine how donors allocate this aid – and to what extent they indeed prioritise those 'particularly' vulnerable to climate change. To understand donor behaviour, we build on the large literature on aid allocation in general, and on adaptation aid in particular. However, as opposed to traditional dyadic analyses, we conceptualise aid allocation as a network, in which the provision of adaptation aid is a network tie. This network approach, we argue, can better capture interactions between donors, for we know that the allocation decisions of others influence a donor's allocation decision. Donors on the one hand coordinate their allocation, but on the other hand also compete for political and economic influence through the provision of aid, including aid for adaptation. In order to capture these coordination dynamics in addition to the dyadic relationships between donors and recipients we employ exponential random graph models.

Our analysis is highly relevant to transformative global climate governance and speaks specifically to the theme of global justice. Developed countries promised to support adaptation in developing countries not least for fairness and equity concerns; it is thus important to examine to what extent funding indeed responds to these concerns and reaches those most vulnerable to climate change – or to what extent the provision of adaptation aid follows other criteria.

New Technologies, Innovative Data Sources: Managing Disaster Risks in Developing Countries

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The expected average loss through natural disasters in the future is estimated to amount up to 314 billion USD annually, with 91 percent of these being related to climate and weather (UNISDR, 2015). Natural disasters affect developing countries disproportionately, making disaster risk adaptation an important development challenge.

Accurate, timely, and comprehensive data will be a key enabler to better manage disasters when they occur, adapt behaviour to make them less likely, and increase societies’ overall resilience. Here new technologies and innovative data sources bear great potential. Mobile phones, Unmanned Aerial Vehicles or wearable devices can help to improve response management, increase predictability, and better understand how disasters are connected to human behaviour. Yet new data sources also
create challenges. Authorities need to handle increasing information flows and have to find ways to integrate new information into existing systems. This poses particular capacity development challenges at both subnational and national levels to low-income countries, which often lack the necessary resources to adapt quickly to changing realities.

The paper examines a) the role of innovative data sources for better Disaster Risk Management (DRM) and climate change adaption, as well as b) the policy implications that stem from these innovations for national or local capacity building in developing countries. It identifies bottlenecks in access to and dissemination of data by taking a qualitative approach, drawing from case studies and interviews with data experts, members of DRM offices and representatives from the development community. Preliminary results suggest that strengthening multilevel capacity in human, institutional, financial and intellectual capacities is a pre-condition to ensure that technological innovations for disaster-related data collection can be rolled out successfully.
Assessing equity risks of REDD+ benefit sharing within national policy mixes
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Negotiations for REDD+ under the UNFCCC were finally concluded at the 42\(^{nd}\) session of SBSTA in June 2015. As countries move from readiness activities towards implementation, REDD+ benefit sharing will be challenged to demonstrate performance in meeting the objectives of emissions reductions and provision of social and environmental co-benefits. A REDD+ benefit sharing mechanism operates within a constellation of national contexts, interlinked institutional factors and policy mixtures beyond the forest sector, making any evaluation of the policy instrument a complex task. Difficulty in evaluating the effectiveness, efficiency and equity (3Es) implications of a benefit sharing mechanism means there will be little understanding of its contribution to change in forest governance at various levels, and that their potential risks may not be adequately reviewed nor addressed. What are the risks, how and why they occur, and whom they potentially affect can have implications particularly for equity and fairness. Through comparative analyses of REDD+ policies in 13 countries and review of lessons from sectoral experiences in benefit sharing, we developed a framework to address these complexities and assess risks in three areas: (1) structure of the benefit sharing policy instrument, including targeting criteria; (2) the broader institutional and policy contexts underlying forest and REDD+ governance; and (3) outcomes of REDD+ including emissions reductions and co-benefits. In applying the framework to case studies, we gain insights into trade-offs between the 3Es, and where equity risks may emerge. The identified risks are related to unclear rights, under-representation of certain groups, elite capture and incomplete decentralization and authority. The framework provides flexibility in use of indicators that are context-appropriate and allows for a common understanding of what needs to be assessed. This will be important features in the post-Paris policy arena for keeping climate governance measurable within new and changing priorities.
Governing Forest Mosaic Landscapes to Integrate Climate and Livelihoods Goals
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There is increasing recognition of forms of collaborative or community forest management and acknowledgement of their role in the conservation of tropical forest landscapes. The role of tropical forests in global climate change and increasing emphasis on multifunctional forest landscapes in which conservation and production functions are valued implies a shift in which locally adapted forest management practices are placed within wide political and administrative systems. Tropical forests are complex social-ecological systems embedded within multilevel social, ecological, and political processes. Patterns of land use are determined by the interplay between political-administrative hierarchies of scale and local institutions and practices. Consequently, community forest management embodies a duality in which ways of relating to the forest embedded in cultural and social processes overlap with policies and legal frameworks for the management of forest resources established by national and international agendas. This paper emphasizes the need to incorporate more explicitly the underlying social processes and values which shape emerging forest governance models and investigate the spatial relationships between forest landscape biophysical characteristics, socioeconomic and cultural constructs. It places community forest management within the wider context of forest mosaic landscapes and explores the potential to embed the management of diverse biocultural landscapes within overall systems of governance. It synthesizes lessons from comparative case studies in the DRC, Colombia and Peru in order to examine the shifting dynamics of local institutional architecture entwined in local realities and practices, their historical formation and interplay with broader development and conservation agendas. This paper links closely to the conference themes of coherence, framing and global justice in promoting integrative governance of global regimes focused on climate change, sustainable development and biodiversity conservation, while additionally promoting a more holistic view of multilevel governance that takes into account the interdependence between rural livelihoods and land use within a landscape.
Why power matters: Power and social relations as mediators of benefits from REDD+ and PES schemes.

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Market-like mechanisms (e.g. REDD+ and PES) have received significant attention as win-win solutions for mitigating climate change and for sustaining natural capacities of ecosystems to provide ecosystem services while addressing poverty. On the one hand, research has shown that such instruments can provide alternative income sources, poverty reduction and improved agricultural practices. On the other hand, critical research on these mechanisms has revealed issues such as: commodification of nature, land grabs, ill-compensated natural resource use restrictions, natural resource conflict intensification, green-washing of environmental degrading activities and even human rights violations in the name of “conservation”.

REDD+ as an international payment for ecosystem service scheme will be very likely part of the Paris climate deal. Consequently, it is important to draw lessons from ongoing local PES schemes and REDD+ pilots. Our paper aims at unravelling how power asymmetries filter potential benefits from market-like conservation instruments to the different social actors (e.g. peasants, indigenous communities, intermediaries and buyers of ecosystem services) and to analyse the trade-offs that such instruments create for them. We focus on power dynamics that determine the access of poor communities providing ecosystem services (ES) to benefits from market-like conservation mechanisms. And we investigate the impacts of these instruments on the ability of local communities to access ES, land and property.

We build upon qualitative research on REDD+ pilot projects and PES schemes in Colombia, Ecuador, Indonesia and Peru. Our findings indicate, among others, that especially the worst-off members of society were not able to participate in negotiations on the design of benefit schemes, did not receive benefits at all or suffered from increased competition and conflict over land. Some communities lost control over their resource base while other were able to use market-like conservation instruments to maintain and legitimize land claims.
The Importance of Equity Perceptions for REDD+: A Case Study from Dien Bien, Vietnam

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The complex design and implementation processes of performance based policies and measures for Reducing Emissions from Deforestation and Forest Degradation (REDD+) at national and subnational levels will pose a major challenge for climate mitigation in forest rich developing countries. This paper focuses on the integration of equity considerations in the payment distribution under Vietnam’s Payments for Forest Ecosystem Services scheme (PFES), which is considered as a blueprint for the national REDD+ benefit sharing mechanism. Equity perceptions are powerful determinants of human behaviour and, consequently, many environmental conflicts arise from contested visions of what constitutes ‘equitable’ environmental management. Therefore it is being highlighted that equity can play an instrumental role in shaping outcomes of PES schemes. Based on empirical work in Dien Bien province, this paper specifically analyses local perceptions of equity, how these match equity considerations in the PFES legislation, and how this effects the motivation to implement the program. We conducted surveys with 52 village heads, 179 in-depth household interviews and eight focus group discussions in four selected communes. Amongst others we find that weak direct participation of villagers in communication and information distribution on PFES could undermine their engagement in the scheme. Our results show that the prevailing perception of equitable benefit distribution corresponds to the egalitarian understanding of fairness. We find that this is very much influenced by the intransparent process of payment distribution. Further, distribution based on performance is widely perceived as fair. These equity perceptions are in theory reflected in the underlying government rules for determining payment distribution. However, practical concerns lead to suspending official distribution rules on the ground, creating a mismatch between equity perceptions and actual implementation. We thus conclude that assessing and incorporating prevailing local distributional equity perceptions may improve the overall effectiveness of a future REDD+ benefit sharing mechanism.
Adopting The Climate Justice Frame To Local Political Struggles In South Africa - The Effects Of The International Climate Change Conference In Durban In 2011

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International conferences can be regarded as areas of transnationalisation. This counts especially for the conferences of the United Nations Framework Convention on Climate Change (UNFCCC) with comparatively open participation structures. For international Non-Governmental-Organisations (NGOs) and donors such as foundations, these conferences provide an opportunity to support local grass-root organizations and social movements in the host country in their struggle for climate justice on a local level. The paper investigated the effects of the climate change conference in Durban/South Africa in 2011 and look at the impact of the conference on the framing of climate change in the South African environmental movement. Drawing on interviews with social movement actors before and during the conference in 2011 and interviews that were conducted in August/September 2012 and in March/April 2014, the paper will show how local actors in South Africa are adopting the international climate justice frame to their local political struggles and thus create new sub-frames in the field of climate change. Instead of referring to global inequalities, social movement organizations in South Africa have reframed “climate justice” and combined environmental challenges with social challenges in the country. The findings suggest that by doing this, they developed new meanings in order to be able to reach deprived groups.

The narrative position of the Like Minded group of Developing Countries before and after Paris

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Yamin and Depledge (2004) argue that the UNFCCC regime is characterised by formal and informal coalitions, alliances, and political groups. Blaxekjær and Nielsen (2014) have demonstrated how new groups since COP15 have transformed the narrative positions and negotiations space in the UNFCCC, creating bridges as well as new trenches between
North and South in relation to the principle of Common But Differentiated Responsibility. As the UNFCCC regime readjusts after COP21, these new narrative positions and negotiations space should be re-examined. Through original data such as official statements from groups, observations at UN climate conferences (2011-2015), and interviews with delegates and experts, the paper analyses the narrative position of the Like Minded group of Developing Countries (LMDC), an influential political group under the UNFCCC established in 2012. Following Blaxekjær and Nielsen’s (2014) policy-oriented narrative approach to IR the paper analyses LMDC’s identity, the problems identified by LMDC and the solutions to these problems, and the paper identifies five central characteristics of the dominant LMDC narrative. The analysis also touches upon what narrative techniques are used in constructing the LMDC identity. This framework reveals the embeddedness of narratives in practice as they unfold in the formation of new alliances and ruptures in old ones. This paper contributes to the emerging Narrative in IR research agenda with a policy-oriented model of analysis. The paper also contributes to the broader research agenda on the post-Paris UNFCCC regime, and argues that as long as CBDR/RC is a major unresolved issue – an essentially contested concept – as long will the LMDC play a prominent role in the UNFCCC regime.

Value-based adaptation to climate change and divergent developmentalisms in Turkish agriculture

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There is an increased recognition and attention on human values with respect to their role in shaping climate change adaptation policies. Furthermore, as the recent literature suggests, values held by policy actors are centrally located in the debates linking adaptation to development. However different values tend to give way to diverging adaptation policy preferences, which often appear as a dichotomy of adjustment (incremental change) versus transformation. This study enquires the assumptions and values in adaptation policy by using Q-methodology and advances value-based approach to adaptation policy with an empirical case from Turkey, a rapidly developing country with a vulnerable agricultural system. By exploring the narratives of 29 policy actors who participated in the making of Turkey’s climate change adaptation strategy, the analysis suggests that assumptions regarding an economic growth-driven development agenda often shape adaptation concerns. Further analysis of the 4 emerging discourses (productivism, eco-localism, techno-managerialism and authoritarianism) suggest that while discourses agree that the ultimate goal of adaptation is safeguarding a
developmentalist vision in agriculture, they differ on the means and agents for reaching this goal. I argue that this divergence can enhance the transformative potential of adaptation by bringing 'how', 'for whom' and 'why' questions back to policymaking.

Policy Actor’s Discourses and Interactions Coalitions on the Climate Mitigation and Adaptation Domains - A Brazilian Case Study. Leandra Fatorelli, Monica Di Gregorio

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Transformations towards effective and righteous climate institutions and actions require coherent policies on climate change mitigation and adaptation, from global to local level. In Brazil, most of the GHG emissions come from changes in land use and from the agriculture and livestock sectors (Climate Observatory, 2014). Agroecosystems and natural systems such forests have a key role in supporting transformation towards resilient social-ecological systems and they account for many interactions between mitigation and adaptation (Locatelli et al, 2015).

We present a case-study analysis on the Brazilian climate change policy process related to forest, agriculture and livestock. The paper is based on a mix-method approach combining social network analysis (Wasserman and Faust 1994, Scott 2000, Borgatti, Everett and Johnson, 2013) and discourse network analysis (Leifeld, 2013) to understand the arrangement of actors according to their discourses and beliefs and according to their interactions with other actors in the climate change policy domain. Our objective is to understand the relationship between actors’ discourse and interaction (information exchange and collaboration) networks and how this combination is likely to impact the process towards transformation in climate change policies.

We have three main questions to address this objective:

1) Which are the mitigation and adaptation priorities according to the actors in Land Use and Land Use Change domain?

2) Who are the influent actors and how they are distributed in coalitions in the discourse network according to 1) their priorities for mitigation and beliefs about REDD+ and other forests mitigation strategies; 2) their priorities for adaptation and beliefs about Ecosystem-based Adaptation (EbA).

3) In which extent the influent actors’ priorities and coalitions reflect paths of transformation towards coherent mitigation and adaptation policies?

The case-study is a result of analysis of 105 interviews gathered in 2014 and 2015, with policy actors from distinct sectors in Brazil.
The Paris Climate Summit and rebalancing ministerial power to implement ambitious environmental legislation in China
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In 2014 the Chinese government passed considerable amendments to the country’s environmental protection law, outlining stronger enforcement measures for companies and authorities who fail to implement what already was a comparably strong law by international standards. The new Chinese environmental policy law promises to reshuffle competences on policy-making and implementation at the central government level. Previous studies have shown that domestic bureaucratic motivations and agency for understanding climate policy decisions in particular in the Chinese concept. The concept of bureaucratic politics (Allison & Halperin, 1972; Halperin & Clapp, 2006) is used to explain the factors and the process leading to policy adoption. The paper argues that by empowering the Ministry of Environmental Protection, the law promises to not only distribute power on environmental and climate protection more widely but also take implementation challenges into account at an earlier stage, addressing one of the core challenges of existing targets and potentially ambitious international commitments following the UNFCCC Paris summit.

Regulatory capture and bureaucratic friction in Brazilian climate policy
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Over the last decade, Brazil has become a key player in the international climate change negotiations due to a combination of foreign policy aspirations and rising greenhouse gas emissions. With high consumption of biofuels and hydropower, as well as a low dependence on coal, the country possesses a relatively clean energy matrix. Notable successes have also been achieved in reducing the rate of deforestation. However, Brazil’s role in international climate governance is uncertain as emissions from non-forestry sectors are bound to increase throughout the coming decades. While mitigation policy holds out the promise of substantial co-benefits, the mainstreaming of climate objectives across
those sectors is low. Equally, there is little public support for climate action beyond forest conservation. While forest policy remains popular, and the recently revised Forest Code managed to avoid opposition from key stakeholders, the sector’s declining share in the Brazilian emissions profile implies that there is little scope for the scaling-up of commitments under a Paris agreement. The lack of a strong commitment towards non-hydropower renewable energies, low-emissions agriculture and improved energy efficiency, despite the availability of co-benefits, thus presents an empirical puzzle. Methodologically, we draw on expert interviews and archival material. Our sectoral analysis covers forestry, solar- and wind energy, energy transmission & distribution as well as agriculture. We show that the cross-sectoral variation in climate policy integration results from both inter-ministerial and inter-agency frictions within the federal state apparatus, as well as from opposition by well-organized interest groups. We conclude that those factors may contribute to a declining role of Brazil in the international climate change negotiations beyond Paris. This is bound to jeopardize Brazilian aspirations for leadership in South-South affairs.

What climate change mainstreaming means in theory?
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The climate change as a problem has been evolving as a cross cutting issue that surpassed the environmental agenda to became a social, economic and political issue. Is a social problem since the human activities are highly related with the greenhouse gases emissions (GHG) concentration that is producing a transformation in the climate system (IPCC, 2013), but also is an economic problem, considered as the biggest market failure since the humanity did not internalize the externalities produced by the actual development model (Stern, 2006).

In this regard, a number of studies have been made to analyse the relationship between climate change and other sectors such as energy, forest, finance and others, due its contributions with the GHG or due the impact of climate change in these sectors. In this context there is a trend that calls for the integral attention of climate change beyond the environmental sector where the mainstreaming approach used in other fields such as the gender studies (Daly, 2005) has been used in recent years. Therefore, this paper as part of a broader research aims to analyse what climate change mainstreaming means in theory? There are countries that have claimed been climate change mainstreaming leaders, but there are not common indicators that show what does that mean (Gupta and Van Der Vij, 2014). This analysis will contribute with the debate about
the internalization of climate change to frame the problem within and across countries. Mainstreaming could be a goal or a tool depends on the perspective, but in order to understand the best way to do it is important to understand what climate change mainstreaming means in theory and what indicators we can use to analyse this concept in practice and promote in this way a transformation of the way that climate change is treated.

Integrative Environmental Governance: Presenting a framework for analysis & practice and testing it on REDD+

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The issue of regime complexity in global environmental governance in general, and global climate governance more specifically, is widely recognized. The academic debate on regime fragmentation has itself however been rather fragmented, with discussions circling around different concepts, including polycentric governance, integrated management, landscape governance, environmental policy integration, regime complexes, institutional interaction, metagovernance and the nexus approach. Moreover, the topic of policy coherence is also discussed among practitioners in global climate governance and related fields, such as biodiversity conservation and sustainable development, where the call to promote synergies and address trade-offs is increasingly heard. Several global climate policies are designed to take these synergies and trade-offs into account, such as Reducing Emissions from Deforestation and forest Degradation (REDD+) through its non-carbon benefits (NCBs). This paper brings together these academic and practitioner debates under the common heading of Integrative Environmental Governance (IEG), and develops a framework for analysis and application in practice. The framework can be used for different purposes, namely: the analysis of the relationships between different governance instruments; finding solutions to improve these relationships; explaining the relationships between different instruments; strengthening the attention for a certain issue over others; and enabling decision-making on trade-offs between different issues. The paper tests the application of the framework on the case study of REDD+ and its relationships to global biodiversity and sustainable development governance. With this, the paper promotes a mode of governance in which not a single governance instrument is the point of departure, but the relationships between governance instruments take center stage, a perspective that is urgently needed, given the current calls for synergies, and the knowledge gaps on the best ways to achieve them.
Fairness and Equity implications for New Governance Mechanisms
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Research in the field of Global Environmental Governance (GEG) pays considerable attention to the emergence of New Governance Mechanisms (NGM) since environmental politics and governance is in a state of gradual yet profound change as global governance has become increasingly transnationalised. This doesn't only mean the involvement of a growing number of non-state actors, from the local to the regional and global operating at different levels, but also involving new state actors, corresponding to new ways of participation. In this regard, NGM poses profound challenges to governments and institutions in the Developed and Developing world alike. This article seeks to advance the debates on GEG by analysing fairness and equity implications in participatory processes that led to the development of innovative governance mechanisms in Brazil, which may have influenced the elaboration of its intended Nationally Determined Contribution (iNDC). Given the fact that the social dimension is at the heart of Brazil’s climate adaptation and mitigation strategies and bearing in mind the need to institutionalize the protection of vulnerable from the negative effects of climate change and strength their resilience, a relevant aspect is evident. Brazil, as a transitional economy, could provide insights into environmental governance schemes as well as influence the policy-making process in others developing nations. We believe that existing local, regional and global governance mechanisms in Brazil, explore key-factors associated with public perception, awareness, ethics, justice, innovation and risk management, which are ultimately important to address normative implications related to the climate negotiations and international relations once Brazil’s iNDC commits to strength the country’s adaptation capacity and proactively assess climate related risks, besides, it recognizes the importance of the engagement of civil society and local governments to manage vulnerabilities in the National Adaptation Plan. But how fairness and equity are really addressed in the country?
Are Input- and Output-Legitimacy in Global Environmental Governance Complementary?
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There is much debate about democratizing global governance, commonly understood as making global governance – and especially its institutions – more participatory, transparent, and accountable to citizens. More democratic global governance is described as more legitimate and is therefore commonly considered more effective in addressing global issues and transformations. However, from an empirical perspective, it is not clear whether improving the process characteristics of global governance and thus enhancing the input legitimacy of global governance would make citizens more supportive of global governance efforts.

We address this larger issue by focusing on the following two research questions:
1. Does the prospect of “good” (e.g. effective and low cost) global governance outcomes reduce public demand for process quality (e.g. participatory and transparent), and does the prospect of “bad” global governance outcomes increase public demand for process quality?
2. Do more/less participatory, transparent, and accountable global governance process characteristics make citizens more/less accepting of “bad” global governance outcomes?

We use an experimental approach. The experiments are embedded in an online survey of people living in the US.

Our results support our expectations: input- and output qualities appear to be substitutes for each other in individual evaluations of global environmental governance. Most interestingly, the prospect of bad global environmental governance outcomes increases public demand for a more participatory political process within the formal political system of representative democracy. Public demand for civil society involvement appears unaffected by the prospect of “good” or “bad” global governance outcomes.

Our research is relevant for transformative global environmental governance because it connects political, normative, and popular dimensions of global environmental change management. The legitimacy of international political actors and strategies addressing global environmental issues is of utmost importance for any effective transformation towards more sustainable development.
The Influence of the Quality of Democracy on Reactions to Climate Change: Why Dealing With Climate Change Means Democratizing Climate Governance

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The paper analyses how the quality of democracy influences the climate performance of established democracies. Two analyses separate for the first time established democracies based on their level of democracy and detect internal mechanisms to understand their different reactions on climate change. Therewith, the paper contributes to the question how transformative global climate governance “après Paris” can be translated successfully to national circumstances. Findings demonstrate that a higher quality of democracy influences climate performance, for the most part, positively. The positive influence of the quality of democracy, evaluated by empirical translations of control, equality and freedom, can be observed regarding output (policy targets etc.) and with certain limitations regarding outcome (GHG emission development). Research results are robust and show synergy in terms of detailed mechanisms verifying statistical trends. An initially outlined concept of democratic efficacy explains these findings by theorizing that democracy’s ability to produce desired and intended climate performances raises with increasing quality of democracy. Empirical analysis is conducted by applying an explanatory mixed methods design. Firstly, panel regressions deliver trends on the influence of the quality of democracy, as measured by the Democracy Barometer, on climate performance, as measured by the Climate Change Performance Index. Depending on combination of data, the number of countries ranges from 39 to 41 in 2004 to 2012 resulting in 193 to 326 country-years. Secondly, a case study of Canada’s Kyoto Protocol process from 1995 to 2012 follows, providing detailed insights in mechanisms of the quality of democracy and climate performance. The findings are based on documentary analysis and 27 interviews with former ministers, MPs, NGOs, Think Tanks etc. The fundamental practical implication of the paper can be translated to specific policy recommendations, but is as simple as complex: overcome democratic shortcomings and thus democratize climate governance to make it more efficacious.
Overcoming the UNFCCC firewall: An analysis of the narrative positions of the EU, the African Group and the Like-Minded Developing countries

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The so called ‘firewall’ between the developing and developed countries has been a prominent feature in the history of the UN Framework Convention on Climate Change (UNFCCC). One manifestation of this firewall can be seen in the two opposing understanding of the key UNFCCC principles – common but differentiated responsibilities and respective capabilities (CBDR/RC) that have dominated much of the negotiations and in particular the Copenhagen Summit in 2009. In the run-up to the 2015 Paris deadline for the future UNFCCC regime, a new dynamic could be observed in which the division on CBDR/RC was not as clear cut as previously. Drawing on original data, including official statements and submissions, observations from COP17-COP21 and interviews with delegates, this paper analyses three key political groups at the UNFCCC: the EU, the African Group of Negotiators, and the Like-Minded Developing Countries (LMDC). The paper maps key narratives of the groups, mapping amongst other at the different understandings of CBDR/RC and the post-Paris UNFCCC regime. As we move towards the operationalization of the Paris Agreement over the next years, better understanding the dynamics of the firewall and ways to overcome will be pivotal in getting everyone to move in the same direction.

A Dynamic Interpretation of the Principle of Equity in the Context of the Next Climate Change Regime: Equity as a Force of Gravity

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This paper explores how to move beyond the concept of equity as common but differentiated responsibilities and respective capabilities (CBDR/RC) encompassed in UNFCCC Art 3, towards a dynamic interpretation.
Some recognize equity as a principle of distributive justice. When trying to give content to this principle, the most important contributions come from conclusions on what equity is not. This paper attempts to reconstruct the concept of equity by exploring how equity principles have been applied in international courts’ decisions. Based on this case study, it will evaluate the link between the concept of equity and new emerging concepts of due diligence, differentiation, special circumstances, and benefits-sharing into the Climate Change Discourse. The main hypothesis is that a dynamic interpretation of equity drags new contents into the Climate Discourse. Equity dynamism calls for flexibility and variety. The next Climate Regime should be shaped as a flexible agreement in its contents, settings and outcomes. Mitigation commitments should be tailored to what a country is willing and able to afford. This would bring different commitments to different countries.

In this regard the question on equity concerns what approaches parties should adopt in order to justify the fairness of their national pledges. Several proposals have been put forward on what indicators could depict a country’s condition. All of them offer a new and dynamic interpretation of equity. To date three approaches - the Global Carbon Budget Approach, the GDRs Framework and the Mutual Recognition Approach - have gathered momentum. This research paper shows that none of these mitigation schemes are a silver bullet. Every approach has strengths and weakness from an equity perspective. As a final objective this paper will assess the progress made in the last rounds of negotiations towards a more equitable Climate Change Regime.

Past and future of burden sharing in the climate regime: Fairness and ambition from a top-down to a bottom-up governance system

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Historically, burden sharing of mitigation in the climate regime has been guided by the principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR&RC), which was operationalized as a division of the world between the Annex I group of countries with emission reduction targets (OECD and transition economies) and the non-Annex I countries without such commitments (all other countries). Such operationalization was the result of a top-down, negotiated outcome, and survived for over 20 years despite changing economic and environmental realities. Since the Copenhagen Accord in 2009, however, a more bottom-up form of governance is emerging. For the upcoming Paris agreement, countries have put forward their Intended Nationally Determined Contributions (INDCs), which lay down their proposed mitigation
(and adaptation) actions for the period 2020-2030. While there is no doubt about the continuing relevance of the CBDR&RC principle, under such a bottom-up regime its operationalization has changed dramatically. Now each country is expected to show why its proposed contribution is fair and sufficient to achieve the UNFCCC’s objectives. In this article, I explore the evolution of burden sharing for mitigation in the climate regime by concentrating on how the regime design (from top-down to bottom-up) and countries' beliefs regarding fairness and ambition have affected two main dependent variables: participation of countries (with actual mitigation targets and/or actions) and depth of cooperation (in terms of stringency of those targets). Concretely, I rely on text analysis of the INDCs and of parties’ textual proposals for the Paris agreement, and on quantitative estimates of countries' mitigation ambition, to answer two main research questions: (i) Does this new bottom-up structure suffer from the trade-off between participation and depth of cooperation usually expected in top-down regimes?, and (ii) Do countries’ proposed contributions actually reflect the fairness principles invoked by them in their INDCs and other proposals?

Reframing differentiation: equitable outcomes for transformational change
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Differentiation in climate action in line with the capability and historical responsibility of countries lies at the heart of the equity debate in the UNFCCC. However, although the principle of equity is enshrined in the UNFCCC, attempts to operationalise equitable outcomes in a universal agreement have failed thus far. While the sticking points in multilateral climate frameworks remain the same, transformations in climate governance will require new approaches to old problems. Equity is a challenging issue primarily because it has remained an abstract and elusive theme. Reframing existing challenges in the climate regime can unlock new pathways of change. The Paris agreement will look to combine top down ambition with bottom up self-differentiation through the INDCs. While models for distributing the mitigation burden exist already, the new bottom up, self-differentiated approach to climate action requires a reexamination of the equity dilemma. In this paper, I will attempt to reframe the question of equity in a forward looking, flexible framework by arguing firstly that the right to pollute, for so long the basis of equity conversations, is riddled with negative connotations of the like unsuitable for positive and dynamic change. I propose a paradigm shift from the right to pollute to the right to sustainable development. Further, protecting that right to sustainable development is then key to ensuring equitable out-
comes in the new climate regime. I therefore argue that an increase in financing of adaptation processes in countries particularly vulnerable to climate change has to be central to the evolving bottom up driven framework of climate action and propose a system of climate reparations that must be interlinked with the same.

Predicting Paris – Multi-Method Approaches to Forecast the Outcomes of Global Climate Negotiations

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The global climate negotiations of 2009 at Copenhagen famously missed the goal of arriving at a global climate agreement. Would this be repeated in 2015? We undertook multi-method research in predicting the outcomes of the Paris negotiations of 2015 across 13 issues with the help of an ex ante expert survey and two negotiation simulation models, namely the Exchange Model and the Predictioneer’s Game. After the event, all three forecasts were assessed against two benchmarks, namely an ex post expert survey of the main decision taken at Paris and the annexed Paris Agreement and our own coding thereof. Regardless of the benchmark chosen, the ex ante expert survey performed favorably if compared to both simulation models.
Making Serious Inroads into Achieving Global Climate Goals: Disrupting Innovation Driven by Governmental Regulatory Targeting, Not Slow Guided Incremental Innovation by Incumbents is What is Needed to Transform the Industrial State

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Strategic Niche Management and Transition Management have been promoted as useful avenues to pursue in order to achieve both specific product or process changes and system transformation to achieve global climate goals by focusing on technology development through evolutionary and co-evolutionary processes, guided by government and relevant stakeholders. However, these processes are acknowledged to require decades to achieve their intended changes, a timeframe that is too long for many of the environmental and social issues we are facing. An approach that involves incumbents and does not consider targets that look beyond reasonably foreseeable technology is likely to advance a model where incumbents evolve rather than being replaced or displaced. Sustainable development requires both disruptive technological and institutional changes, the latter including stringent regulation, integration beyond coordination of disparate goals, and changes in incentives to enable new voices to contribute to integrated systems and solutions. This paper outlines options for a strong governmental role in setting future sustainability goals and the pathways for achieving them.

Putting Climate Finance into Context: A Global Public Goods Perspective

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Climate change (the problem) and climate change mitigation and adaptation (as the policy outcome to be achieved) possess properties of a global public good (GPG). Yet studies that examine climate finance through the GPG lens remain rare. As this chapter shows, however, there is added value to employing this analytical lens. Its findings suggest that international-public climate finance is an important inhibitor of overall climate finance. Many of the current constraints, however, are not
climate-specific but GPG-specific. They reveal lagging institutional and theoretical adjustment to the global-publicness in consumption and provision of policy challenges such as climate change. Importantly, the GPG lens also enables us to see what could be done to correct this situation.

Transforming Development Pathways in Brazil: Towards a Low Carbon Economy
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Transforming the development pathway towards a low carbon economy is absolutely crucial to tackle the climate change challenge in the world, and particularly in emergent countries. Brazil is one of the largest developing economies in the world. Its long-run development challenges include: poverty eradication, reduction of inequalities, food security, access to energy and water, public security, technological innovation and competitiveness. Climate change will have to be added to this list, due both to the country high vulnerability to climate change and to its important contribution to global GHG emissions. In this context, this study presents an analysis of the social and economic implications of different GHG emission mitigation scenarios for Brazil.

Brazilian voluntary commitment to reduce emissions until 2020 shall be reached thanks to the sharp cut on Amazon deforestation achieved since 2004. As the economy grows, emissions related to the combustion of fossil fuels for energy production and consumption have been increasing significantly and are expected to become the dominant source of GHG emissions over the next decade. Mitigation policies and measures, beyond those included in governmental plans, have been identified and grouped in scenarios up to 2030 according to expert judgement on assumptions about its economic and political feasibility, resulting in different penetration rates of technological and management innovations.

Comparative analysis of the scenario results has allowed for highlighting economic (GDP, inflation, trade balance, industrial competitiveness) and social (employment, income distribution, low income household consumption patterns) implications of lower carbon pathways in Brazil. These results provide new insights on the opportunities to implement the Brazilian INDC presented to UNFCCC COP21 and to further increase the ambition to curb down country’s GHG emissions up to 2030.
Breaking old boxes and envisioning new social contracts: Valuing seeds of change for transformative climate governance

Much prevailing climate governance is only reinforcing existing structures of unsustainability and lacks the capacity to stimulate the transformations required to move away from business as usual. As an example, REDD+ – initially celebrated as an innovative idea – is now found to be deeply constrained by the dominant policy paradigm. What was expected to trigger transformational change in and beyond the forest sector has stumbled over deeply entrenched and sticky institutional structures. They reflect a social contract that has enabled unsustainable resource exploitation with little or no room for change in current carbon and non-carbon trajectories.

This interactive session aims to bring conference participants together to think critically and unconventionally about a set of questions, including:

- What are the assumptions that keep us boxed in business as usual?
- What seeds of change already exist inside or outside our box?
- What ingredients do we want a new social contract to contain?
What does it take to make integrated ecosystem service valuation feasible in urban environmental decisions? Decision-makers’ view on value pluralism of ecosystem services

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The low use of ecosystem service valuation (ESV) in environmental policy and management calls for a change of ESV research. In order to spread from academia to practice, the development of ESV methodologies and tools should incorporate input from environmental decision-makers. The current research progress on integrated ESV methodologies for decision-making is still at an early stage and can thus benefit from this attempt. Acknowledging value pluralism of ecosystem services, integrated ESV does not just independently assess biophysical, socio-cultural and economic values but should also consider associated trade-offs between these value-domains. In order to ensure integrated ESV methodologies are likely to be used in practice, it is important to understand the underlying interests, beliefs and potential applications of value pluralism in environmental decision-making. However, a state-of-the-art analysis in an urban context is missing. Given the complexity of urban ecosystems and associated stakeholders in limited space, integrated ESV promises to be particularly appropriate to reflect the benefits of urban ecosystem services that contribute to urban resilience and human-wellbeing. Based on semi-structured interviews of urban environmental decision-makers in Germany, this paper investigates the practical perspective on value pluralism and integrated ESV. One aim of this study is to shed light on decision-makers knowledge and acceptance of different ecosystem values. A further step assesses the practice of independent inclusion of different valuation metrics into decisions to date. The scope is finally broadened to a truly integrated ESV to learn if the potential of the approach for urban ecosystem policy is recognized by and relevant for environmental decision-makers. On the basis of our results we identify potential implementation drawbacks of integrated ESV in practice as well as drivers to increase its application in urban environmental decision-making. The results mark an important starting point for the ongoing
research of the construction of integrated ESV frameworks for urban ecosystem services.

Public Policy Assessment in Global Environmental Assessments
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The aim of this paper is to review and conceptualize promises, challenges, and options for conducting public policy assessments (PPAs) in the context of global environmental assessments (GEAs). Beyond the basic benefit of enhancing the quality of public policy discourses, the distinct opportunities of policy assessments in GEAs as global processes include (1) informing international environmental policy regimes, (2) facilitating the global diffusion of domestic environmental policy lessons, (3) supporting environmental policy agenda-setting processes at multiple scales, and (4) fostering the establishment of international policy expert networks. Key challenges to PPAs in GEAs include the complexity of the domain of international environmental governance, as well as the prevailing research gaps, pervasive uncertainties, and disputed normative implications of PPAs. Possible response options to these challenges include an improved conceptualization of PPAs for guiding and coordinating these exercises; carefully focusing their scope and objectives in alignment with the available resources (e.g., time, funds, and expertise); and investing in expanding PPA-related capacities of future GEAs, such as by building related research communities in the social sciences and humanities.

The paper is based on literature analysis and review, and more than 100 interviews with stakeholders who participated in Global Environmental Assessments (with a focus on GEO-6 and the IPCC AR5 WGIII process). Given the focus on policy assessment in the context of Global Environmental Assessments it relates to the conference themes “multi-level capacity” and “coherence”.

The Role of ‘Soft’ Monitoring Instruments for Compliance with International Climate Goals
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Learning about effective ways to ensure compliance with internationally agreed targets is key in times of aggravating climate change and other
global challenges. This paper is concerned with the question *What role do 'soft' monitoring instruments play within the Compliance System of the Kyoto Protocol, and what are their prospects within the climate regime post-2020?* It analyses the working of the Compliance System since 2006, by looking at the different instruments, ranging from ‘soft’ (facilitation) to ‘hard’ (enforcement). The focus is placed on the qualitative analysis of usefulness perceptions that different stakeholders express with respect to different aspects of the monitoring. In particular, the perceived usefulness of different aspects related to the institutional design of the monitoring instrument is researched. It is argued that soft instruments and in particular the Expert Review Teams played an important role in facilitating compliance with countries’ climate commitments in monitoring compliance under the Kyoto Protocol. The paper finds that it is the combination between soft and hard instruments that was perceived to be particularly useful. Based on those empirical findings derived from expert interviews, recommendations are given for the institutional design of a compliance monitoring architecture resulting from COP21 and beyond. In addition, linkages with the monitoring of climate-related goals under other global frameworks, more specifically the SDG13 on Climate Action, will be discussed in light of coherence and usefulness considerations.

**How to achieve reliable, transparent and independent monitoring of greenhouse gas emissions from land activities for policy support**

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We are undertaking analysis and case studies to develop proof of concept for a publicly available, comprehensive, global, and independent spatial information system (or systems) on land cover and land use, their dynamics and the associated carbon stocks and flows (emissions). Current global monitoring systems provide an opportunity for comparative analysis and derive recommendations for more efficient and effective systems addressing different user needs and allowing for performance assessment of climate and development policies and their outcomes - increasingly important in the post-Paris world and with regard to the SDGs and other coordinated development efforts. For performance assessments, baselines and underlying assumptions must be clear and transparent. While some authors ask for uniformed, standardized approaches, we contend that the increasing portfolio of aspects that need to be measured and assessed will have the consequence that different
users will have different needs with regard to data type, time and scale resolution, and national circumstances. Getting performance assessment right is important for many aspects of global governance that will be discussed at this conference: Policy transformation will ultimately depend on possibilities to assess the outcomes; justice, fairness and equity will depend on clear and transparent data and rules of the game across multiple levels of government and policy action, and a better analysis of discourse can be achieved in the light of unambiguous data. Here we will provide an update on the efforts, discuss them in view of current developments and the Paris climate agreements, and identify what needs to be done over the next 5 years (post-2015) and beyond (post-2020).

Transformations of climate governance: Developing equity and fairness guidelines for the post-Paris climate effort

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The objective in Paris is to establish the conditions of a durable climate effort, designed to grow in strength and ambition over time. The upcoming agreement architecture has a number of distinct features, including (a) greater focus on accountability and transparency applicable to all and (b) a dynamic approach to differentiation of responsibilities – one without predefined dichotomies and without a rigid model of responsibility allocation.

Equity is unequivocally central to the climate effort. At this juncture, equally important is the need to update conceptions of equity and fairness that have long guided the international effort. There is increasing awareness, and a growing literature, suggesting that the flexible yet rigorous agreement architecture requires a nuanced conception of equity and fairness, which captures a suitable understanding of differentiation of responsibilities bound by rules and procedures applicable to all.

In this paper, our goal is to take this discussion forward by generating guidelines for an updated concept of equity that could be integrated into the review and assessment procedures. We review the emerging literature and distill specific criteria of equity for the agreement’s procedural elements. We do so by characterizing the values underpinning discussions on equity arising from the new agreement, and the decisions coming from the forthcoming Paris meetings. We examine how these values can figure in the procedural requirements of a post-Paris climate regime and develop guidelines for operationalizing our criteria.

In developing our criteria, we are guided by two sets of core considerations: any acceptable criteria (1) should embrace a genuinely pluralistic conception of differentiation; (2) must include a commitment to en-
hancement of human well-being and flourishing in developing countries. We discuss how our guidelines can add rigor to the multilateral assessment and reviews, while identifying challenges. We conclude with a discussion of implications for research and policy.
Local Governments and Climate Change in Turkey: Beyond Special Circumstances for Mitigation and Adaptation

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Climate change is a global phenomenon and a perfect example of complex interdependence. Although governments are responsible of dealing with problems stemming from climate change and co-ordinating efforts for mitigating and adapting to climate change, some governments tend to behave on the basis of their short term interests and energy culture and not so keen on committing themselves to reductions in their carbon emissions and countries like Turkey base their position at the negotiations on the basis of their “limited past emissions” and “special circumstances” for economic development. However, climate politics is an arena of multi-level governance and there are challenges to this image at the sub-national level. Players ranging from local businesses to local governments and municipalities act independent of their governments in committing themselves to emission reduction targets as a part of global networks of local government initiatives against climate change. A number of players share their knowledge and resources through communication, and new policy ideas and discourses flow across different localities and scales, thereby connecting different spaces and the human and non-human players that inhabit them. This paper aims to focus on practices of some Turkish municipalities which played relatively active roles in mitigating and adapting climate change through their activities as a part of global networks of local governments. Since Turkish governments have been reluctant players concerning climate change through their discourse of “special circumstances” and limited incentives for change, a number of local governments bypassed the national level, which is not so keen on having climate change as a priority area, translated and brought international impulses, into sub-national and local policy development processes. Turkish experience illustrates that membership in global networks, involvement of international organisations and development finance institutions play a major role in developing a local level capacity in adapting and mitigating climate change.
Searching for middle ground: national contributions in a global agreement
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For the last twenty years, international climate change policy has been focused on the search for a centrally negotiated multilateral climate treaty with all countries as signatories. Yet since its inception, adapting the top-down multilateral treaty model to the challenge of climate change has been a Sisyphean task. The evolving climate regime – one that combines bottom-up national pledges for climate action (INDCs) with top-down rules for review, transparency and collective consideration of overall adequacy - represents a paradigm shift from earlier attempts to craft a global climate agreement. In the Paris agreement, the global community is searching for middle ground - a fine balance between bottom-up national contributions and top-down rules of the game that might deliver both ambition and universal participation. Theory suggests that a ‘clumsy’ approach to climate policy might just work. Institutional experts have studied the surprising resilience possible in “polycentric governance” that creates adaptive systems better suited to complex problems than simpler, more efficient but more brittle agreements. The new paradigm raises some new questions, such as the role of peer pressure and free riding in climate politics, while old challenges like equity and inclusivity remain and take on new forms. In this paper we examine if the new paradigm might help break the multilateral deadlock and unleash transformative climate action from the bottom-up. Nations, groups of nations, or others—who agree on certain actions can work together to achieve as much as possible, rather than adhering to a least common denominator of mandated global action. Theoretical propositions from Elinor Ostrom’s pioneering work on polycentric institutions have been enrolled to examine how a new, more flexible and transformative climate regime can be built around the Paris agreement.

Multi-level Governance and the Integration of Mitigation and Adaptation in Land Use Policies in Indonesia
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This paper explores the political opportunities and challenges associated with facilitating integration of climate change mitigation and adaptation in land use policy processes across levels of governance in Indonesia.
Since the 2nd IPCC assessment report it has been recognized that mitigation and adaptation display important synergies in the land use sector (Klein et al. 2005, Nabuurs et al. 2007). While previous research has proposed various ways to integrate adaptation and mitigation activities (Murdiyarso et al. 2005), we know little about what is needed to effectively integrate policy decision-making processes and policy objectives across level of governance (Locatelli et al. 2015, Doherty and Schroeder 2011, Ravikumar 2015).

We understand multi-level governance as ‘the existence of overlapping competencies among multiple level of governments and the interaction of policy actors across those level’, which result in ‘multi-level policy networks’ (Marks et al. 1996: 41-2) and reflect a multi-actor polycentric polity structure (Mayntz 1994, Ostrom 2010). Mechanisms that determine the structure of cross-level interactions – whether they result in dominance, separation, merger, negotiated agreement or systems change – are determined by: i) authority and power differentials; ii) level and limits of decentralization; iii) contrasting discourse; iv) cognitive transitions; and v) blocking - or supporting - policy coalitions (Young 2006).

This paper investigates the power relations, the distinct discourses on climate change mitigation and adaptation of policy actors and the formation of policy coalitions across national, province and district levels in Indonesia. It adopts an institution approach and integrates institutional, discourse and social network analysis (Young 200, Hayer 2005, Scott 2000).

The study is based on fieldwork undertaken between 2014 and 2015 in Indonesia. It is based on 120 interviews with policy actors across national, 1 province (West Kalimantan) and 1 district (Kapuas Hulu) and on multi-level policy document analysis.

Community resilience in the face of climate change: challenges to multi-level capacity building

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Communities facing the effects of climate change are actively trying to boost their resilience. At the same time, governments are mainstreaming climate change into their development frameworks. Close examination of current practice, however, points at a disconnect between government policy and community initiatives. This study explores how strengthening specific capabilities at various levels can ensure synchronization of policy and practice and further community resilience in face of climate change. Choosing an approach that appreciates the interplay of top-
down and bottom-up logics towards performance under stress, it illustrates that understanding resilience in terms of capacity opens the door to practical thinking on policies as well as practices to improve it. Evidence is taken from case studies in Vietnam and Chile. These show how governments can play an enabling role by connecting their efforts to initiatives taken by communities. At the same time, top-down structures, such as the United Nations Framework Convention on Climate Change (UNFCCC) and the Sustainable Development Goals (SDGs) can break silos between different (inter)national political agendas and underscore the need to link top-down and bottom-up approaches to ensure resilience. This paper contends that improving communities’ adaptive capacity demands bridging the disconnect between multiple levels of policy and practice. In doing so, values and interests, i.e. different, too often conflicting, political agendas, need to be aligned. More concretely, we found that while resilience is an emergent property of human systems, a number of specific areas exist in which government and local stakeholders can work together. Combining, for instance, multi-stakeholder platforms in which diverse actors ranging from policy-makers to researchers to community representatives draw lessons learned at the community-level into local and national policy, with initiatives aimed at strengthening capacities and ensuring access to relevant assets at the community level.
Global climate governance has an increasingly polycentric character with heterogeneous actors of different scale, constitutional shape and preference profiles interacting and mutually affecting others’ climate actions. Enabling the effective and efficient expression of individual climate policy preferences to ensure a maximum feasible level of global climate policy ambition in this context is a key challenge for the emerging polycentric climate governance regime. One classical and promising policy instrument for balancing heterogeneous interests and raising climate ambition are financial transfers. While financial redistribution effects from policies within states are pervasive and often veiled in complexity, transfers and distributional effects of climate policies beyond the nation state are a central point of contention in the bargaining processes in regional as well as global climate negotiations (as recently exemplified by the Green Climate Fund).

This contribution examines the conceptual and empirical significance of monetary transfers and their redistribution effects in climate policy. It considers the EU ETS as one of the most advanced carbon price regimes as a case study asking: What has been the role of cross-country transfers in negotiating the level of ambition of the EU ETS cap and other design features? Were transfers central to persuade reluctant member states to drop resistance during the high-level negotiations and to raise their own climate policy ambition or were they just negligible part of the incremental and complex decision-making processes within the EU? How did the redistribution empirically develop in EU ETS reform processes, and how exactly were the revenues spent within different countries (e.g. to address national-level veto players in the two-level game)? Are there lessons to be learnt for international climate policy, i.e. the increasingly prominent climate finance architecture? The case study combines document and media analysis with expert interviews and a literature review to address these questions.
California’s cap-and-trade system: Diffusion and lessons
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California’s cap-and-trade system is designed to be a backstop that sweeps up GHG emission cuts that other key parts of the state’s climate policy program – the Renewable Portfolio Standard, the energy efficiency program, the Low Carbon Fuel Standard – do not cover. In the design process, regulators looked to other emission trading systems like the EU ETS, RGGI, and discussions within the Western Climate Initiative, to avoid copying flaws in important mechanisms like allowance allocation and offset rules. California’s cap-and-trade is comprehensive in coverage, and expanded to cover also the transport sector in the second commitment period (2015-2017). While the Democratic majority and Governor now push forward with policy initiatives to strengthen the state’s climate policy further and to link with other cap-and-trade systems, critics claim that California is a special case and others cannot easily copy its policies. Furthermore, controversy is emerging regarding the innovative use of revenue generated from cap-and-trade auctioning, which has filled up the Greenhouse Gas Reduction Fund substantially, allowing the state government to support infrastructure investments, projects for disadvantaged communities and other low-carbon policies.

This paper assesses how California’s cap-and-trade emerged, the significance of diffusion, and the lessons for other and linked trading systems. We explore actors, interests, institutions, and policy diffusion mechanisms involved in the continuing design process of the cap-and-trade system. We find that 1) despite the signature status of the trading system, in fact California mostly relies on much less transparent and more costly direct regulation; 2) while on the surface California is integrating with other systems, notably Quebec’s, California cap-and-trade develops mostly in its own special political context. This raises questions about how other trading systems will achieve more cross-border trading as many analysts have claimed and hoped.

The Global Spread of Emissions Trading: Diffusion or ‘Parallel Play’?
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We discuss main similarities and differences in the design of selected systems: the EU emissions trading system (EU ETS), California, New Zealand, Australia, China and South Korea. We have selected these cases
because they have been at the center of different “waves”; they represent countries or regions with big emissions, globally or regionally; there have been linking efforts between some of them (particularly EU and Australia); they exhibit interesting similarities and differences in design and implementation choices; and they help us identify the importance of design choices and political context for the success and, as in the case of Australia, failure (at least temporarily) of emissions trading.

As we are particularly interested in the role and explanatory power of inter-system policy diffusion, we discuss the role of such diffusion for shedding light on similarities and differences in design, checked against internal, contextual shaping factors. As to policy diffusion, we distinguish between two main triggers, operating through different causal mechanisms. The first main trigger has to do with cognitive or normative influence – ideas – that can be understood in constitutive terms (notably internalization or socialization). The second main trigger involves material consequences and operates through the mechanism of adaptation to altered conditions. This mechanism directs attention to “competition and coercion” stemming from growing political and economic interdependencies between economies and the related impact of these on the payoff structures associated with the pursuit of different policies.

On the background of this analysis, we discuss the more general implications for global climate politics. Do systems seem to converge or diverge over time? Better knowledge can help us to assess the prospects for linked systems and an emerging future global climate regime “from below”.

Feed-in tariffs for renewable energy: which determination option works for whom?

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Feed-in tariffs (FiTs) are among the most widely used and effective renewable energy support policies globally. When introducing FiTs, governments have the options of predetermining the FiT rates or tendering them. Both options have implications for the distribution of risk and profit opportunities (or cost) between project developers and electricity consumers. Furthermore, other actors, such as incumbent power producers and energy intensive companies have stakes in the electricity sector. Governments thus need to cater for political economy considerations, that is, they need to consider actor and interest constellations and forge coalitions for policy implementation.

This paper aims to highlight the political economy dynamics in FiT implementation and compare the advantages and disadvantages of FiT deter-
mination options against specific country backgrounds. This is illustrated by
the cases of Germany and South Africa. The paper comes to the conclu-
sion that the governments’ technical and political management capabilities,
the importance of minimising costs to consumers, technology risk and cost
dynamics, and the number of potential bid participants are among the most
important factors for the appropriate choice of FiT determination method.

Rural Transformation through Resource Efficient Technologies in Gu-
jarat, Western India: Does Subsidy Policy Matter?
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Over the years, water scientists, researchers and hydrologists have been
constantly warning about the looming water scarcity in the state of Gujarat,
western India. Given the common pool nature and absence of marginal
pricing for groundwater, an unsustainable extraction and allocation is ob-
served. This underscores the importance of adopting water efficient tech-
nologies like micro-irrigation, while also maintaining current levels of farm
production, so as to facilitate the process of sustainable rural transfor-
mation. Since there is a strong political unwillingness to implement
Pigouvian taxes on externalities, the resource efficient technologies are
mostly subsidized in the developing countries like India. From a social point
of view, subsidies can be justified as important sources of rural transfor-
mation on the basis of three types of market failures: (i) learning externali-
ties, (ii) income smoothening, and (iii) water saving technologies reduce
use of groundwater, which is a CPR.

The water scarce regions in the state of Gujarat get additional subsidy from
the state government to promote micro-irrigation. Farmers are more likely
to adopt micro-irrigation in this region, and therefore, an important research
issue is ‘whether the government should provide additional subsidy to en-
hance adoption rate in these regions?’. Hence, the aim is to examine the
impact of additional subsidy on the adoption and area under micro-
irrigation. The empirical analysis considers all the villages in both dark-
zone and its counterpart adjacent talukas. While hydrological and geo-
 graphical parameters are equal in between them, there is a discontinuity in
assessing subsidy due to geographical location; the additional subsidy
could be wasteful from public perspective if similar adoption rate would
have been achieved without this. Analysis based on a Regression Discon-
tinuity Design approach reveals that additional subsidy enhances the prob-
ability of area expansion under micro-irrigation by 44-48%, and this was
marginally higher in case of dark-zone talukas i.e., 50-52%.
Making sense of societal transformation to sustainability: a cross-country comparison

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Today there is growing attention to the need for societal transformation to realise sustainability. The question now is not whether environmental change will generate societal transformations, but to what extent these transformations are influenced by social, political and cultural practices and whether and how they can be successfully instigated, governed or accomplished. Exploring how different actors across different world regions make sense of problems, goals and action alternatives for sustainability transformations is important for increasing our understanding of the processes through which transformations take place and what drives such processes.

This paper provides an analytical framework for and initial results from a cross-country comparison of sense-making of societal transformations to sustainability. It draws on a mixed-methods approach, entailing comprehensive literature review, media analysis, focus group interviews with lay people, survey results from the International Negotiations Survey (INS) from UNFCCC COP 15 to 21 as well as an analysis of different pathways outlined in all the Intended Nationally Determined Contributions (INDC) ahead of the Paris negotiations.

Through frame analyses we explore how transformations towards sustainability is made sense of in international media. Focus group interviews give insight into sense-making among lay publics. We pay particular attention to framing processes, as frames promote some aspects of an argument, while minimizing, obscuring or excluding others, thereby communicating how and why an issue should be seen as a problem, how it should be handled, and who is responsible for it. The INS questionnaires probe how stakeholders in 10 different world regions prioritize policies and measures for meeting climate policy objectives. The INDCs have been coded according to four sets of key variables: 1) envisioned goals of long term strategies, 2) types of actions and sectors 3) choices of policy instruments employed to reach stated targets (4) actors involved in national climate governance.
From Emissions to Extraction: Addressing the Supply Side of Fossil Fuels in Global Climate Governance

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There is an increasing recognition in policy and academic circles that to avoid dangerous climate change, most fossil fuel reserves will need to be left in the ground. Achieving this will be a daunting challenge, given that fossil fuel extraction remains central to energy and development plans in many countries, and energy policy has emphasized the expansion of fossil fuel supply and markets. To date, climate policy has focused largely on the demand for fossil fuel energy, with a view to reducing greenhouse gas emissions in a range of sectors. The role of fossil fuel supply, in particular fossil fuel extraction, has received far less attention in both policy discourse and research.

This paper helps fill this gap by exploring the possible role of international institutions in governing fossil fuel development. Whereas national policies play a key part in governing fossil fuels and any transition away from them, international institutions can also play an important part. Focusing on the issues of extraction-based accounting, fossil fuel subsidies, and net avoided emissions from leaving fossil fuels underground, the paper shows that there are various ways forward for governing fossil fuel supply through the United Nations Framework Convention on Climate Change (UNFCCC). However, given the close relationship between fossil fuel resources and national sovereignty, and the potential implications for equity discussions, the paper argues that the role of the UNFCCC can only expand in an incremental fashion.

The role of land grabbing drivers for effective regulation

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The quest for alternative agricultural production mechanisms in the face of climate change has led to massive land use changes in the past decade. One consequence of this has been the emergence of land grabbing where private and government actors invest in land outside of their national borders. Without regulation, land grabbing will lead to a shift in power structures within and across national borders and eventually threaten the very foundational principle of the international order: state sovereignty.

This paper analyzes why governments invest in land as well as whether and how the drivers of the investments should be used as potential entry points for regulation and the development of incentive structures. Three
categories of drivers have been synthesized from the literature and empirical data and were then tested with regard to the two extreme cases, China and Egypt. The eclectic summaries of drivers presented in the academic literature so far, such as food security or financial returns, do not straightforwardly explain why governments pursue their investments in land outside of their territory; especially government investments cannot be explained uni-dimensionally when examined in detail. It was found that the drivers are either dominated by demand factors, by supply factors, by structural changes, or a combination of these. An attempt to regulate the phenomenon needs to consider the dominating driver. The results of this study illustrate the complexity of this phenomenon while the three categories of drivers that the author developed provide a useful framework of analysis for policy makers. The regulatory options at hand vary fundamentally depending on which driver dominates the respective land transaction. The framework helps identifying the levels where regulatory mechanisms should be introduced and which actors need to be addressed so that the negative externalities resulting from the selling of a nation’s most valuable resources can be minimized.
Alliance Building through Dialogues: Developing a Typology of Climate Dialogue Initiatives under the UNFCCC
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How can we understand and explain “climate dialogues” as a form of alliance building initiative under the UNFCCC negotiations? Despite the use of several diplomatic meetings leading up to COP15, such as the Greenland Dialogue on Climate Change, COP15 in 2009 is largely seen as a failure in global climate negotiations. This failure threatened to end UNFCCC negotiations altogether, but negotiations got back on track and recent years have seen many novel attempts at dealing with the impasse of climate negotiations. Some of these new negotiation forms can be labelled “climate dialogues”. This paper draws on original material collected through many years of observation at UNFCCC negotiations, interviews with practitioners (negotiators and experts), and knowledge from personal participation in dialogues. The paper applies a theoretical framework of Communities of Practice, and compares one old and three new, but different climate dialogues, The Greenland Dialogue (2005-2009), the Cartagena Dialogue for Progressive Action (2010-), The Punta Cana Dialogue (2012-), and the Toward 2015 Dialogue (2015-). The paper develops a typology of dialogues as well as evaluates their strengths and weaknesses in relation to moving negotiations forward. Although there is recognition in the field, that climate dialogues play an important role in negotiations, the literature and knowledge about these dialogues is scarce. This paper thus contributes to a significant gap in the literature both theoretically and empirically. This paper contributes to the recent International Practices research agenda. The paper also contributes to the broader research agenda on the post-Paris UNFCCC regime, and argues that through a better understanding of different types of policy dialogues, we can better develop and strengthen the UNFCCC and other spaces of global climate governance.
South Africa’s multiple faces in current climate clubs
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Climate clubs emerged as a concept to revitalize the international climate change negotiations under the UNFCCC and mitigate the free-riding problem. The underlying idea suggests that countries committed to reducing emissions can advance a stable coalition in form of a club with other countries (Nordhaus 2015). As a result more countries would put forth targets for more ambitious emissions reductions (Grubb et al 2015). That’s the theory of many writers on climate policy. The practice and theory in international relations shows that club governance requires a solid national interest to sustain clubs (Schneckener 2009).

This paper analyzes South Africa’s membership in current climate related clubs. We contextualize South African climate club governance in its wider geopolitical and national context of low carbon development. South Africa classifies as a middle income and non-Annex 1 country. Its economy is the second biggest on the African continent. South African international cooperation plays strategic roles within the clubs of big emerging economies, like the BRICS group, it has been active in the BASIC climate group since its creation in 2009. At the same time, the country aims to speak for developing nations more broadly and Africa in particular. South Africa currently heads the G77. The African Union’s chairperson is a South African. Multilateral cooperation with rich nations in form of the European Union and the OECD continue to play an important role in South Africa’s foreign policy portfolio. The purpose of the analysis is to identify if and how South Africa can possibly contribute to advancing ambition in climate clubs. Furthermore, it advances ideas about possible design options for climate clubs that may appeal to developing countries. This ongoing research is part of a project on “a pioneer’s alliance” jointly lead by the German Development and Wuppertal Institutes.

The Role and Potential of Pioneer Climate Clubs to Contribute to Stronger Mitigation and Transformation
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The agreement adopted in Paris by COP21 will demonstrate the strengths and weaknesses of the present international regime to regulate greenhouse gases. The interpretations of the result will vary, but there will also be consensus that it will not be sufficient to keep average global warming below 2°C compared to pre-industrial levels. This development is in part due to the consensus–based decision-making that governs the delibera-
tions within the UNFCCC regime. Therefore, while a universal approach to solving the climate problem remains desirable, it appears unlikely under present conditions.

Recent research stresses the advantages of smaller groups moving forward 'minilaterally' on the issue of climate protection. This paper will focus on one particular type of club, namely a mitigation alliance focusing on more ambitious and accelerated reduction efforts. Such an alliance might present a way out of the present deadlock in which a small number of countries can effectively block progress. A pioneers’ alliance for ambitious climate action may therefore actively contribute to a transformation of the present unsustainable global economic system and concomitantly advance the implementation of the 2030 Agenda for sustainable development.

Crucial issues to be addressed to this end include inter alia the legal basis of such a club (treaty-based or not?), its ‘entry fee’ (under what conditions may countries join?), the benefits and side-benefits for diverse ‘club members’ (e.g. preferential treatment in the trade of climate related technologies, access to specific resources, application of safeguards, etc.?), the interlinkages to and institutional interplay with the UN climate regime. The paper discusses these challenges and corresponding pitfalls as well as the prospective benefits that might accrue from the formation of a pioneers’ climate alliance.

Climate Clubs and AOSIS: Friends or Foes?
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Every country is a polluter and a victim of anthropogenic climate change. Inextricably linked, every greenhouse gas emitted from every corner of the world changes the atmospheric composition of the climate system. Viewing the climate change problem from this lens, every person from every country must play its part in mitigating and adapting to climate change. And every country is a developing country, in the sense of universality as conveyed by “Transforming Our World: the 2030 Agenda for Sustainable Development” (2030 Agenda). Goal 13 of the 2030 Agenda specifically recognises the United Nations Framework on Climate Change (UNFCCC) as the primary forum of global climate governance. However, progress for legally binding quantified emissions reductions limitations (QERLs) mitigation targets under the UNFCCC-style multilateralism framework has yet to produce an effective response to the threat of global warming. The gap between currently pledged QERLs trajectories and global emissions levels consistent with limiting global warming to 2°C Celsius above pre-industrial temperatures remains large. It is therefore not surprising that a growing number of minilateralism-style proposals (e.g. climate clubs) have emerged in the literature as a way forward to promote
QERLs actions in the post 2015 Paris Climate Summit era. This paper explores how climate clubs could potentially assist in catalysing greater international cooperation for effective QERLs actions. The paper then specifically investigates how the Alliance of Small Island Developing States (AOSIS) could assist in pioneering emerging international cooperation efforts to establish climate clubs to fast track QERLs actions. What makes AOSIS’s epic quest to be a member of the international climate clubs movement so important is the question of whether it can help navigate the international community towards using climate minilaterism-style clubs to complement UNFCCC-style multilateralism in the post 2015 Paris Climate Summit era.

Tolling bells for Nationally Appropriate Mitigation Actions in Emerging Economies: Policy Cycle Stages in Comparative Perspective

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While emerging economies need to address pressing domestic challenges, it is increasingly becoming evident that they are also expected to be more actively engaged in areas of global governance, climate change being the foremost of these. This paper studies the case of Nationally Appropriate Mitigation Actions (NAMAs) engagement in India, Brazil and South Africa (IBSA) from a comparative politics perspective, to understand how the policy process surrounding NAMAs in these countries has played out and what are the challenges faced by IBSA in domestically engaging with an internationally formulated policy framework. IBSA are among the biggest economies from the global South. The paper elaborates on both the individual as well as comparative experiences of IBSA with the policy process for NAMAs engagement – or lack thereof – to draw areas of convergence and differences in engagement with an internationally conceptualized policy framework. The paper studies policy process from a policy cycle model constituting of six stages: agenda-setting, policy formulation, decision making, implementation, evaluation and innovation.

The paper presents mixed experiences with NAMAs in IBSA: for India, NAMA does not seem to provide enough support to scale up its mitigation efforts and so its engagement with NAMAs is limited to agenda-setting stage on a conceptual level; Brazil seamlessly merged its mitigation efforts with the concept of NAMAs; whereas efforts to package specific mitigation efforts in South Africa could not be implemented as NAMAs. The experiences faced by these countries are compared in a stage wise manner to identify the variance in their engagements with NAMAs. Irrespective of their experience with NAMAs, IBSA have moved on to Intended
Nationally Determined Contributions (INDCs) which leaves little space for NAMA engagement going forward. The paper concludes by drawing lessons for INDC engagement based on NAMA experience in IBSA.
Sociotechnical Transitions and Multilevel Theory: A Pragmatic Engagement with the Social Sciences of Governance

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Geels (2010) provides a concise yet generative summary of the relationship of sociotechnical transition theory to a broad array of social science “ontologies”. In so doing, he surfaces multiple alternative theoretically embedded assumptions about change agents and the causal mechanisms of change. In this paper we are concerned with the state as an agent and site of change within the pragmatic context of deploying theory in the service of helping to “better think through the problem” of transitions to sustainability. We are specifically concerned with juxtaposing specific theories of policy learning (eg. Sabatier’s advocacy coalition framework) and policy transfer (cf. Dolowitz and March 1996) to Geels’ more universalized theories of change. More empirically, we focus on the role of the state as a multi-level institution that serves as a staging ground for contestation over and implementation of sustainability change as policy is formulated and implemented. Recognizing the deeply normative and collective good features of sustainability policy, we explore in particular the ways that policy innovation related to sustainability responds to and shapes civil society engagement as policy evolves in distributed ways between local, regional, state, national and international bodies within the context of U.S. traditions of federalism.

Vertically integrating multiple scales of climate actions

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Urban areas account for approximately 71 to 76 percent of carbon dioxide emissions from global final energy consumption and between 67 and 76 percent of global energy use. As of November 2015, the Non-State Actor Zone for Climate Action (NAZCA) recorded climate action commitments from 896 regions, representing 28 percent of all of the commitments non-state and sub-national actors made on the NAZCA platform. Despite their significant contribution to global greenhouse gas emissions, policies and actions at the urban scale still require significant attention at the national and international levels to ensure that sustainability goals are met.
emissions, there is a lack of clarity regarding the mitigation impact of states, regions, and cities’ climate actions.

Determining how sub-national actors’ climate actions align with commitments made by the nation states they reside within is particularly difficult. It is often challenging to determine whether sub-national entities’ mitigation efforts are part of national mitigation targets, whether they operate in parallel with national efforts, or whether they exceed or go beyond them. In short, sub-national efforts’ “vertical integration” into national and global mitigation goals is not well-understood. While some argue sub-national actions fall outside of official, state-centric processes like the UN Framework Convention on Climate Change, others, including national governments, contend that these efforts are part of a national government’s own goals.

In this paper, we compare several methods of determining and understanding how sub-national climate efforts vertically align with national mitigation commitments. These approaches take recent national climate action pledges, or intended-nationally determined contributions (INDCs), into consideration. We will draw upon recent work we have published that features nearly a dozen representative case studies of sub-national actions that largely take place outside of or beyond existing national commitments. These methods have implications for the process of quantifying emissions reductions to make sense of mitigation contributions from actors at multiple scales, to avoid double-counting emissions reductions from overlapping commitments.

**Strategies from Below: The German Climate Grassroots Movement on its Long Way to Paris**

**Jana Elena Bosse**  
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In December 2015, government representatives gather in Paris to negotiate common policies to tackle climate change. The 21st Conference of the Parties will bring the topic of climate change and global warming to the focus of public attention. Social movement scholars would assume that climate movements consider the conference in Paris, just as the conference in Copenhagen, to be an important political opportunity to become visible, exert pressure and put their demands on the political agenda. For an important part of the German grassroots climate movement, however, it is not part of their strategy to be visible in Paris. Even more, many grassroots groups and activists consider the conference to be politically insignificant.

The activists’ lesson from Copenhagen is that climate change cannot be stopped politically but only by direct action. Therefore, the German cli-
mate movement started fighting for global climate justice on a local level, focusing on coal as a major polluter. In this context, many grassroots groups and activists are convinced that the COP 21 will not effectively combat climate change. Therefore, protesting in Paris does not make sense strategically and could even grant legitimation to a political process they oppose. But why then are many of those very activists so eager to find various reasons for going onto the streets of Paris?

Gamson (1996) remarks that political opportunities (i.a. Tarrow, 2011) have to be noticed as such before becoming relevant for social movement action. Against this background, I analyse the change of strategy that took place in the German grassroots climate movement between the conferences of Copenhagen 2009 and Paris 2015. My hypothesis is that experiences made in Copenhagen can explain both the strategical decisions leading to the constitution of the German anti-coal grassroots movement and the problems activists face in their attitude towards the COP 21.

Conceptual Approaches to Green Transformation – Lessons from Selected Examples of Technical Cooperation with Developing Countries and Emerging Economies

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Tackling climate change and the 2030 Agenda for Sustainable Development have crucial challenges in common: The transformation of economies and societies. Global consumption and production patterns must become much more sustainable. Economic development within the planetary boundaries requires fundamental changes towards low-emission, climate-resilient or inclusive green economies. Wording is not a minor issue; nevertheless, what really matters are the ideas behind and the pathways to be followed. Developing countries and emerging economies are important partners for joint efforts needed to tackle climate change. Though all countries were called to submit their Intended Nationally Determined Contributions (INDCs) for climate protection before Paris, the socio-economic development agenda is often different from the climate agenda. For implementing commitments contained in the INDCs, transformation processes have to be launched at least for the sectors involved, and International Cooperation has a role to play in providing adequate support for developing countries and emerging economies. As experiences with green transformation seem limited to certain sectors or parts of economies and do not include full-scale examples of national economies yet, international organizations have to develop advisory methods and instruments based on existing evidence.
The fundamental question is: “What are success factors and conditions that drive effective transformation, meeting the specific climate or ecology objectives while at the same time generating social and economic co-benefits? What are best practices or success stories, and how can they be explained?” The present contribution will analyze selected experiences from Technical Cooperation, including aspects like advice on enabling frameworks and strategy development as well as sector transformation. In addition to examples like sustainable energy systems, integrated climate and ozone layer protection is an interesting case showing significant progress in terms of transformation. It is characterized by the interlinkage of global environmental agreements (Montreal Protocol), national implementation and international support.
The Transformative Role of Socioeconomic Justice in Addressing Climate Governance

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The current debate on climate policy and ways towards achieving global agreement, points to injustice as major obstacle for progress. Multi-year research initiated by AEJI has focused on the centrality of inequalities in consumption patterns concerning GHG emissions and climate change responsibility, and on the distributional influences of climate economy tools, especially carbon tax in Israel.

Methodologically, developing of indicators for comparisons of GHG emissions levels across different groups of populations, has been designated with aim to define the relevancy of ‘justice’ and its logic for the design and implementation of an effective and acceptable climate policy, and advancing GHG mitigation policies, while ensuring equal distribution of the burden without exacerbation of inequalities. The research is framed by the two main questions:

1. Do GHG mitigation plans lead to an increase or a decrease of disparities between socioeconomic deciles in Israel?
2. What impact do the measures for GHG mitigation have on poverty and vulnerable population groups in the country?.

The article will present the analyzing of the main recommendations featured in government decision the official mitigation plan, by five main sectors: electricity, building, transportation, fuels and waste. The results suggest that when it comes to fields of consumption, individuals belonging to the top income decile emit approximately 8-24 more GHG than those belonging to the bottom income decile, respectively the consumption field. The gap, which as approximately 2-4 times bigger than the monetized consumption gap between the two said groups, illustrates the extent to which GHG functions as a multiplier of inequality. Consequently, formulating policy for emission cuts regulations, should apply by considering the gaps.
The article will discuss as well the different scenarios for imposing equitable carbon tax, a critical tool for the Israeli effort, and other countries, to mitigate greenhouse gases by 2030.

**International and intranational emissions inequality**

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If the provision equity is to mean anything, it should refer ultimately to equity between people and not only between governments or countries. In the context of climate change, determining fair shares of the global climate action effort by reference simply to a country’s aggregate emissions and/or income seems unfair because it doesn’t take account of (and may penalise) the majority of citizens of countries with large and mostly very poor populations, such as India.

If participating countries in international climate negotiations were to ground strident positions on equity at the international level with clear reference to the intra-national inequity, could this move the debate on emissions sharing closer to consensus?

This submission will examine a novel model combining an international Multi-Regional Environmentally-Extended Input-Output (MRIO) model with internationally available household expenditure data. This model will estimate carbon distributions ensuing directly and indirectly from household expenditures, thus providing evidence for inequality in emissions as well as economic purchasing power, disaggregated by expenditure categories. These results will thus provide unique insights into how energy/emissions inequalities exist within today's societies.

The goal of my PhD research is to model further how equity and carbon mitigation measures may be in conflict (regressive) or coherence (progressive). However, for the purpose of this session, I am most interested in exploring the question of which sources of carbon emissions are most linked to high income/high expenditure households, as opposed to the necessities required by the lowest income brackets. If these sources of emissions can be identified as negotiable and/or excessive then this understanding may inform us about the specific ways our societies need to change so that needless energy use can be identified and curtailed, enabling development of the poorer majority within the constraints of climate change.
Using revenues from carbon pricing to close infrastructure access gaps: Distributional impacts on households in Nigeria

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Carbon pricing has been recognized to be the most cost-effective means for climate change mitigation. However, especially in developing nations, there is concern that respective policies jeopardize development and disproportionately burden the impoverished. While in developed countries distributional impacts of carbon pricing have been studied abundantly, studies on developing countries are relatively scarce. This paper analyzes the distributional impact of an economy-wide carbon tax on households in Nigeria, Africa’s largest economy. Revenue is assumed to be recycled into basic infrastructure provision. The distribution of tax payments as well as of infrastructure access gaps across income groups is estimated by combining an environmentally-extended input-output analysis with household survey data from the 2010/11 Living Standards Measurement Study. In contrast to most developed country studies, we find that for Nigeria a carbon tax or reform of fossil fuel subsides would be progressive. Furthermore, access gaps impair primarily rural, lower income households. These results suggest that a carbon tax recycled into infrastructure not only poses a better targeted means of redistribution than the existing subsidy regime, but also entails relevant environmental and human development benefits.

This paper underlines that climate change mitigation policy can, if well drafted, reconcile all three sustainable development goals of environmental, economic and social enhancement. We hope to, thereby, promote national efforts toward sustainable transformation strategies.

Energy Transition in the Building Sector: Comparison of German and Norwegian Policies and Technologies Regarding Residential Buildings

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Buildings in private and domestic use are responsible for about 30% of the global greenhouse gas emissions mainly due to their need for heating and cooling energy. This corresponds to about 40% of the global final energy consumption. (GBPN 2013; UNEP SBCI 2009) Therefore, a viable implementation of buildings energy efficiency policies is inevitable to realise a transformation of the energy system to mitigate climate change.
Within the building sector lies a huge potential for emissions reduction through the renovation of the existing building stock and climate-friendly building codes for new constructions, both adapting CO$_2$-neutral technology solutions. As there are several different pathways to a decarbonised energy system, there is always the question which political and technological solutions are most efficient, effective and feasible.

This paper aims to analyse building efficiency policy measures and instruments as well as different technological solutions in two frontrunner-countries of the energy transition with different structural conditions: Germany and Norway. We apply an interdisciplinary approach, which allows us to assess the policies in place and their incentives as well as the trade-offs between policies, different technological solutions and economic as well as structural realities. The paper answers two research questions: (1) Which policy instruments and measures prevail in Germany and Norway to foster the investment in energy efficient solutions for buildings? (2) Which trade-offs arise between building energy efficiency policy and economic as well as structural realities in Germany and Norway?

This interdisciplinary research provides a new insight to the highly relevant topic of energy efficiency in buildings. It adds a new perspective to the discussion from a comparative approach that sheds light on the German and Norwegian solutions to bring forward building energy efficiency policies. The paper discusses some unsolved trade-offs in the translation of the global climate governance to the national building sector.
Tackling the Barriers to Mitigation and Adaptation Investment - Guidelines for Policy design

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Countries will experience impacts of climate change. The IPPCC’s special report points out that climate change ‘can make it difficult for systems to adapt sustainably without transformational changes’. A transformation towards a low carbon and climate-resilient corresponds to the altering of fundamental attributes of a system including value systems; regulatory, legislative, or bureaucratic regimes; financial institutions; and technological or biological systems. The transitional change towards low-carbon and climate-resilient development appears to be possible, not only technically but also economically, but it requires political will and coordinated action to address behavioural aspects. Given the constraints on the availability of public resources, significant private sector financing will be required to play a role towards a transformation.

The literature has consistently demonstrated that many adaptation and mitigation related projects face obstacles. Those obstacles often threaten the implementation of projects which would be beneficial from societal perspective, but are not attractive for the individual investor. A good understanding of barriers is needed for efficient private investment mobilization.

The paper develops a definition of a barrier to adaptation and mitigation investment according to economic mechanisms that lead to the decreased attractiveness of the investment (relative to the hypothetical case of functioning markets) leading to the market imperfections as well as the impact on the risk and return profile. The decomposition of the barriers along those criteria helps to systematically identify the most relevant investment barriers, e.g., for a given sector in a given country. Then, for the identified barriers the table visualizes two general options for government intervention. One would be to try to remove the barrier by somehow correcting the market imperfection and another option would be to consider the consequence for the risk-return profile and compensate accordingly. This analysis enables to suggest a tool for policy design so support the required policy change.
Private-sector finance for adaptation in developing countries - spelling out the options

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The private sector is emphasised as a source of finance in the UNFCCC climate negotiations, under the new and innovative Green Climate Fund, as well as in the context of the Sustainable Development Goals. This is a significant change from only a decade ago, and research is increasingly focusing on its potential and opportunities in developing countries.

However, less developed countries in particular have historically benefitted least from international private investments. At the same time, they are among those most vulnerable to climate change impacts, particularly due to their high levels of poverty and underdeveloped infrastructure.

This paper presents an innovative framework to assess the net impacts of private adaptation finance. The framework was developed based on a literature review. In contrast to previous research, it does not only focus on opportunities for private financing of adaptation – it explicitly highlights barriers and limits to mobilisation of private finance as well as potential maladaptation caused by private investments. The framework will be tested during a side event at COP21 in Paris with policy makers, researchers and private sector representatives. Following this, the research team will test the framework more extensively through case studies in two east African countries, Rwanda and Kenya in February 2016.

The outcome will improve our understanding of the potential of private finance to support developing countries with their adaptation efforts. This will have implications for discussions around the annual USD 100 billion of climate finance which developed countries pledged to mobilise to assist developing countries with adaptation and mitigation activities. It will also have implications for the Green Climate Fund and the implementation of the SDGs.

Arrangements for a fit-for-purpose climate fund for least developed countries

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The 48 countries classified as least developed countries (LDCs) are the only country grouping to have a dedicated article in the UN Framework Convention on Climate Change (UNFCCC). This is Article 4.9, which
commits all Parties to the Convention to take full account of their specific needs and special situations with regard to funding and transfer of technology (UN, 1992). In an effort to implement this commitment, Parties established the Least Developed Countries Fund in 2001 to support LDCs in their climate change actions. Almost 15 years later however, the fund is in a very precarious situation. Donor attention has turned towards the Green Climate Fund, and the LDCF has been neglected to the point that there are no more resources available. A backlog of projects altogether worth more than $250 million is waiting for funds to be implemented.

The LDCs, meanwhile, continue to be severely affected by increasing impacts of climate change, making their adaptation needs and loss and damage increase. Yet they also remain moral leaders in the global response to climate change. Almost all have communicated low-carbon climate resilient development plans or strategies as part of their ‘intended nationally determined contributions’ for post-2020 climate action. Their capacity to absorb climate finance to support their needs and priorities is very limited however. The LDCs are not in a position to compete for finance from the GCF with other developing countries.

The LDCF has a clear role to play as a dedicated funding stream for LDCs in the post-2020 climate regime. However it needs to take on several reforms to effectively support LDCs’ evolving needs, and attract predictable and sustainable funding. This paper will elaborate practical steps and measures that should be taken in the years immediately following COP-21 to secure the fund’s future according to LDCs’ views.

A Financing Strategy for Community Based Climate Resilient Development

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“Nobody on this planet is going to be untouched by the impacts of climate change”, words from the IPCC fifth assessment report 2014 hammers on the fact that climate change is no more a theoretical concept but a reality. Developing countries such as India with its major share of population dependent on climate vulnerable sectors are prone to the adverse effects. Sustainable natural resource management with an eye on building climate resilience is the most effective solution to counteract the effect of climate change.

Although there is widespread agreement on the importance of adaptation measures to curtail the technical and financial risks, there is poor agreement on the scale of financing required and how it will be generat-
ed. With limited financial resources for adaptation coming from international as well as national sources, gives us a clear indication that we need to increase the efficiency of our financial utilization.

Under the Indo-German bilateral cooperation, the Indian National bank for Agriculture and Rural Development in association with GIZ and KFW is implementing the innovative Umbrella Programme for Natural Resources Management. Objective of UPNRM is to demonstrate the viability of loan-based, community owned approaches to natural resource management. It is envisaged to achieve this by weaving holistic, participatory and financially sustainable livelihood solutions towards improving the adaptive capacity of the rural poor. As a blended financial product of loan and grant (maximum 6-10%) UPNRM currently operates in multiple areas, including land use change, farming systems management, forestry, energy, water/irrigation management, agriculture, fisheries, agro-processing, livestock, fisheries etc.

After seven years with around 300 projects covering $ 75 million of sanctioned funds, UPNRM is evolving as a successful and replicable financing mechanism to support climate smart and gender sensitive business models in the rural development context.
For a long time, critics have argued that trade liberalisation stands in conflict with environmental objectives, mostly due to the associated increase in economic activity and hence higher resource use, production and transport. On the other hand, there is a trend towards legally enforceable trade instruments being used to pursue environmental objectives. Therefore, we observe an increasing interplay between global economic governance and global environmental governance, manifesting itself in a high degree of institutional complexity. Partly due to the sluggish negotiations on the multilateral level, preferential trade agreements (PTAs) have been mushrooming since the 1990s. Roughly one third of the total number of PTAs covers environmental issues. The innovations in the quality of these provisions are striking and have the potential to become a relevant driver of transformative global climate governance as well as to overcome the potential trade-off between economic and environmental or climate goals. While we see a clear trend towards more environmental rules being incorporated in PTAs, we know little about who incorporates them and when, where, how and with whom this occurs. This paper will launch the new database on Sustainable Innovations in Trade Agreements (SITA) on the basis of which we will be able to answer these (and many more) questions in a structured way. The SITA database will comprise detailed data on the design of environmental provisions in all free trade agreements available in full text (≈400) along various dimensions. The coding is done through a double-blind procedure relying on a detailed code book. While this paper is intended to provide an overview of general trends, the SITA database will add much additional value to the debate by subsequently informing more complex research questions regarding the motivation for, diffusion patterns and environmental impacts of green provisions in PTAs and institutional complexity in this context.
Examining Ostrom’s Polycentric Approach to Global Climate Governance

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While international climate negotiations under the UNFCCC have adopted the goal to limit the increase in global temperature to 2°C Celsius, a highly differentiated - but as yet largely uncoordinated - global climate governance system has emerged. Although coordinated global collective action for mitigating climate change sufficient to meet the 2°C goal is still lacking, a multitude of multilateral, minilateral, transnational, national, subnational and non-state action has emerged. By systematizing Ostromean literature, this paper offers a critical specification of Ostrom’s attempt to conceptualize this climate governance reality with a polycentric approach. It claims a high descriptive value of the concept of polycentricity for understanding the horizontal and vertical differentiation of current climate governance, and offers systematic guidance on the main features of the polycentric perspective to enhance the design of the emerging global climate governance architecture.

The paper discusses the basic assumptions of two well-established approaches to climate governance design (‘top-down’ and ‘decentralized’), and contrasts these with the polycentric approach. To systematize the Ostromean literature on polycentric climate governance, four key features and related mechanisms are identified and specified for climate mitigation governance: (1) emphasis on self-organization, (2) recognition of site-specific conditions, (3) facilitation of experimentation and learning, (4) building of trust. After discussing objections to the polycentric approach, the conclusion tentatively evaluates its potential to enhance the effectiveness of climate mitigation and points to central tasks for an efficient design of a polycentric global climate governance regime.

Climate governance in the real world: a ‘schism of reality’.

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As a response to the governance failure, but arguably also for hope, as in the form of sub-state action and transnational initiatives, attention in the literature on global climate politics has recently turned from a focus on intergovernmental negotiations to conceptualizing climate govern-
ance ‘beyond’ or ‘outside’ the UN regime (i.e. Okereke et al., 2009, Bulkeley et al., 2014). Within this new paradigm, but beyond the mainstream’s focus on ‘regime complexes’ and ‘fragmented regimes,’ the notion of a ‘schism of reality’ puts discrepancies and contradictions between UN negotiations and the underlying drivers of global warming at the core of such analysis (Aykut and Dahan, 2015). This is in line with proposals by scholars to focus research on ‘paradoxes,’ (Blühdorn, 2011) and ‘implicit [as opposed to explicit] climate policies’ (Newell and Paterson, 1998). Based on fieldwork at COP21, I propose to assess current climate governance by focusing on its schismatic nature, identifying where contradictions are addressed, and where and why aspects of the schism persist. This includes institutional change in international organizations (World Bank, IEA, WTO), as well as in the UN climate regime itself: first, through the inclusive and bottom-up INDC-process established by the Durban Platform for Enhanced Action; second, through greater consideration of non-state actor agency, and material and technological aspects climate policies in initiatives like the ‘Lima-Paris Action Agenda’.

How do these changes relate to ongoing sustainability transitions? More generally, how can we account for the persistent focus of negotiations on ‘emissions’, and not on fossil fuels (subsidies, extraction) or renewables? Reorienting research in these directions echoes Ulrich Beck’s call for a ‘greening of modernity,’ (Beck, 2010), by shifting attention from the formal output of climate governance to its tangible impacts on the transformation of the institutions of industrialized modernity.

Institutional complexity and its consequences for climate justice: the cases of climate geoengineering, REDD+, and short-lived climate pollutants

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Lund University, Stockholm University and the Stockholm Environment Institute collaborate on a 3-year research project that analyzes institutional complexity for three distinct issues of high policy relevance in global climate governance: a) climate geoengineering, i.e. forms of solar radiation management and carbon dioxide removal; b) reducing emissions from deforestation and forest degradation (REDD+); and c) short-lived climate pollutants like black carbon, methane or hydrofluorocarbons.

Addressing the ‘coherence’ and ‘global justice’ topics of the Berlin Conference, the paper presents first findings of the project regarding the following questions: 1) What is the degree of institutional complexity in the three issue areas of global climate governance? 2) What are the underlying causes of institutional complexity in these areas? To what extent
are the observed degrees based on constellations of power and interests, cognitive gaps or contestations, and problem-structural aspects? 3) What are the consequences for aspects of environmental justice like legitimacy and participation? Which actors benefit from the growing complexity and which ones are disadvantaged or excluded?

With regard to the first theme, each of the three issue areas share the lack of an institutional core with an overarching mandate. But, based on social network analyses and qualitative comparative analyses, we will show in detail that they differ in their level of integration – with different degrees of legal affiliation and thematic clusters – and in the division of labour evolving among institutions. Concerning the second theme, we develop and apply a novel theoretical framework that adapt different strands of institutionalism (neoliberal, sociological, discursive) to the phenomenon of institutional complexity. For the third theme, we provide new insights into how public and transnational institutions influence each other, and how institutional fragmentation widens participatory and power gaps across scales.

**International Treaty Secretariats as Attention-Seeking Bureaucracies: Cornerstones of a Theoretical Framework**

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The secretariats of international treaties are increasingly seen as influential actors in global environmental policymaking. Yet, scholars of International Public Administration still lack a thorough understanding of how and under which conditions they exert influence on the process and outputs of multilateral (environmental) negotiations. So far, most scholars adopt a principal-agent perspective, arguing that bureaucracies hold preferences that deviate from those of their principals, thereby creating problems of oversight and control. According to this view, bureaucracies become influential because they operate "behind the scenes", invisibly, without openly articulating their preferences and policy positions.

We question this assumption by conceptualizing international treaty secretariats as attention-seeking bureaucracies. Rather than acting below the radar of their principals and the public in general, we expect treaty secretariats to actively seek the attention of the parties to multilateral environmental negotiations.

The cornerstones our theoretical framework are: 1) Due to their restricted mandates, we expect international treaty secretariats to be most influential at the stages of problem definition and agenda-setting. 2) Since their role in multilateral negotiations is mainly an instrumental one, they need the attention of the official negotiators in order to become influen-
tial. 3) Consequently, instead of hiding their true preferences, we expect treaty secretariats to advocate more or less openly for their policy positions. 4) They may do so in two ways: a) by directly seeking the attention of negotiators, for example through close cooperation with the chairs or presidency of multilateral conferences; b) by building up support for their policy positions outside of the negotiation arena, thereby putting indirect pressure on negotiators to consider the secretariat's policy preferences. In both cases, international treaty secretariats act as attention-seeking policy advocates or policy brokers, rather than "undercover agents". We illustrate our theoretical framework with anecdotal evidence from the UNFCCC process.
Multi-level reinforcement in European climate and energy governance: mobilizing economic interests at the sub-national levels

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In this article we explain the relatively successful performance of the EU in climate and energy governance by essentially two factors: (1) multi-level reinforcement and (2) the mobilization of economic interests at different levels of governance through low-carbon industrial policy. The article adds to the literature by further developing existing arguments on multi-level reinforcement in climate and energy policy and discussing the role of sub-national actors in this context.

The paper argues that multi-level governance is most advanced in the EU compared to other world regions. It represents a multi-impulse system, which fosters interactive learning from best practice and provides an opportunity structure for innovation and rapid diffusion. This multi-level governance system provides the basis for dynamics of multi-level reinforcement. Rather than the European Emissions Trading Scheme – the central pillar of EU climate policy - it is this interplay of instruments at different levels of governance, which can explain progress in European climate policy over the past decade. As the analysis in the paper demonstrates, these multi-level dynamics are actively supported by the European Commission’s explicitly multi-level approach to climate and energy policy, including an important innovation and industrial policy component.

The authors then go on to stress the point that economic co-benefits of climate protection have been successfully mobilized at various levels of governance, including the sub-national level, in recent times. While in the past, sub-national action was mainly limited to the sphere of citizens and civil society actors, this is now changing. As a result, sub-national levels of governance are beginning to assume an increasingly important role in reinforcing climate and energy governance, initially promoted at the national and EU level. This will be illustrated by examples from both pioneer countries and laggards in terms of national climate and energy policy.
Trading off climate change mitigation and poverty eradication in South Africa: drivers and barriers to institutional change
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The assumption of a trade-off between climate change mitigation and poverty reduction generally goes unchallenged. The members of the negotiations under United Nations established this trade-off in the Framework Convention on Climate Change (UNFCCC), arguing that climate change responses take “into full account the legitimate priority needs of developing countries for the achievement of sustained economic growth and the eradication of poverty” (UNFCCC 1992). Developing countries can call for support under the principle of “common but differentiated responsibilities”, but the attempts to implement Nationally Appropriate Mitigation Actions (NAMAs) haven’t materialized at a large scale yet. It remains unclear how these trade-offs unfold at the national levels in developing countries. The Intended Nationally Determined Contribution (INDCs) are only meaningful if they will actually reach implementation. The implementation of national contributions depends on the success and failure of national climate policies.

This paper disentangles how the trade-offs between climate change mitigation and poverty reduction unfold in the South African climate policy discourse. South Africa exemplifies the challenge to reduce emissions and poverty eradication. The country’s per capita emissions range similar to Germany, while the GDP falls into the World Bank’s category of higher middle income countries. The methodology combines a qualitative research strategy with a discourse network analysis (Leifeld 2012) of discourse coalitions (Hajer 1995) three climate policies. The findings show that distributional conflicts drive coalitions in support or opposition of a climate policy, rather than trade-offs. Potential revenue losses from the carbon tax and carbon budgets mobilized powerful coalitions to postpone their implementation. Immediate gains for a large coalition and international events favored the implementation of the renewable energy program, which is the closest to a win-win situation regarding climate and development in South Africa.

Trading off climate change mitigation and poverty eradication in Mexico: Policies and social networks analysis
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The current paper contributes to understanding the trade-offs between climate policy, sustainable development, fiscal policies, and the accompanying institutional complexities; it presents the analysis of actors in the
climate change arena and their influence in pushing Mexico towards policies that decrease Green House Gas Emissions through the enforcement of recent policies like carbon tax, renewable energies investment, and the General Law of Climate Change; and pair them with policies that may help to reduce poverty. The analysis is performed through the use of network analysis of different key actors. There were conducted face to face interviews of actors in the public and private sectors, academia and NGOs, and their opinions and positions were complemented with the discourse analysis in the media and official documents. To our knowledge this is the first research of this kind in Mexico. Results suggest power forces in opposition of the new laws and policies, this opposition comes from the incentives, decreasing returns or drawbacks that the new laws in action may bring to the status quo or profits. The same actors are present in both, development policies and reduction of greenhouse gas emission policies but they do not coordinate their efforts, they meet frequently but in different inter-ministerial commissions and do not enforce the same policies, there is no coherence in their decisions. There are strong coalitions against carbon tax, the general law of climate change and the renewable energies coming from actors in the industry chambers, whereas the coalitions in support of the laws are mostly represented by the international institutions. The trade-off between the positive aspects of the climate policies and the development policies could be hindered if the actors do no cooperate, coordinate and create synergies among them.

Networking Climate Change in Peru: Coalitions and Synergies between Adaptation and Mitigation
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The wicked problem of climate change encompasses multiple interactions between mechanisms of global climate governance and complex policy processes at the country level. One example is the tension (and synergies) between global mitigation goals and various national priorities related to adaptation and socio-economic development in different sectors. How related policy networks emerge and evolve in member countries of the UNFCCC remains an open but important research question. Understanding the interactions and power struggles among the many actors that influence, and are influenced by, national adaptation and mitigation policy processes can contribute to a better understanding of the different factors that can hinder or foster transformative global govern-
ance for addressing climate change. As an emerging economy that hosts the fourth largest extent of tropical rainforest cover and some of the most vulnerable areas to climate hazards in the world, Peru is a critical country in the global climate governance challenge. This paper explores the power relations and policy coalitions behind national climate change policy processes in Peru, and discusses their implications in terms of synergies between regional and local adaptation, global climate change mitigation and national socio-economic development. We employ a policy network analysis approach with social network tools. We complement the discussion of the results of interviews with 76 policy actors with structured policy document analysis, looking at the coherence between adaptation, mitigation and land-use governance policy outputs at the national level.
Which countries avoid carbon-intensive development?
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This paper identifies a group of 19 countries from Eastern Europe, Latin America, North Africa and South Asia with low emissions (<3.5tCO$_2$/capita), but good development outcomes (>70 years life expectancy). In the context of the transformation theme, it explores whether these countries may serve as examples of low-carbon development policy: first by comparing underlying levels of human need satisfaction to high thresholds of development, and second by estimating current emissions trajectories and comparing these to a per capita allocation from the global carbon budget. Assuming global climate policy proceeds after 2020, current trajectories suggest that nine countries will peak at low enough emissions to avoid exceeding a 2°C budget, and of these, six (Colombia, Costa Rica, Ecuador, Paraguay, Sri Lanka and Tunisia) are delivering good outcomes in at least two domains of human need. However, none are achieving high levels of social needs satisfaction (personal expression, association and representation; and safety from violence and crime). These challenges are discussed in the context of the modernization and world systems theories of development. The results reaffirm the urgency of initiating global climate policy soon after 2020, but highlight examples of low-carbon development already achieved by some nations.

State, society and the environment: The prospects for a green transformation in Costa Rica and Vietnam
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In the new geological epoch of the Anthropocene, different ecological, economic and socio-political pressures come together and raise concerns about e.g. climate change, fossil fuel scarcity, peak oil and energy security, air and water pollution, deforestation and food insecurity at global, na-
tional and local scales. Low and middle income countries are further more burdened by rapid growth of populations and wide-spread poverty.

To react to these conditions and to facilitate effective and legitimate sustainable practices for the future, technocratic adjustment of singular policy measures may not suffice. Instead, more far-reaching transformatory processes across the economic, ecological social and political dimensions will be required. What is needed are socially just and equitable development pathways that integrate social and political concerns beyond physical decarbonisation, the diffusion of environmentally-friendly technologies and market incentives.

Hence, in this paper we first develop a conceptual apparatus and analytical framework to capture “green transformations” that take place in national contexts and that are also embedded in trans- and international processes. Thereby we will contribute conceptually to the conference theme of transformative global environmental governance.

Second, we will analyze the green transformation politics of two frontrunner countries of the global South, namely Costa Rica and Vietnam. After a justification of our systematic case selection we aim at answering the questions, why and how formal commitment to a green transformation is actually turned into practice on the ground. Thus, we will investigate determinants, scales and scopes of policy implementation. In this undertaking, special attention will be paid to the form, interests, impact and (authoritarian respectively democratic) mechanisms of state-society relations in both countries.

**Greening Like A State: Ethiopia’s Green Economy as "High Modernism"**

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The Ethiopian Governments’ vision in its Climate Resilient Green Economy (CRGE) document, to “achieve middle-income status by 2025 in a climate-resilient green economy” while limiting 2030 emissions to around today’s 150 MT CO2e/year, has attracted favourable attention from donors and commentators on green growth. The plan to do this is based on four pillars - crops and livestock, forests, energy, transport – and 60 “initiatives” or “levers” that are cost-effective in terms of $/tonne emission avoided.

This paper provides a critique of the CRGE document, based on close textual analysis with a particular focus on the appendix on livestock. The proposed livestock levers are: a major shift from ruminants to poultry; value chain efficiency improvements; mechanisation; and rangeland management for carbon storage and productivity.
Besides untransparent analyses and costings, programme recommendations at an extreme level of generality, and an absence of engagement with well-known analyses of the Ethiopian livestock sector, especially but not solely the pastoral sub-sector, the document uses a dehumanized language where livestock keepers are undifferentiated and have no agency. The CRGE thus evokes Scott’s (1998) idea of High Modernism: “the aspiration to the administrative ordering of nature and society... raised to a far more comprehensive and ambitious level” usually by an authoritarian state. The paper explores the CRGE’s emphasis on visual mapping of sectors, emissions, “levers”, costs and timelines, as a contemporary transformation of the emphasis on geographical mapping in Scott’s conception of High Modernism, as well as the tendency to “devalue or banish politics”.

The paper uses the case study of the CRGE and its livestock appendix to present a note of caution about GE processes becoming technocratic and ungrounded in the reality of citizens: “high-modernist designs for life and production tend to diminish the skills, agility, initiative and morale of the intended beneficiaries.”

**Imagination as Transformational Capacity – Future-making between Mind and Society**

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Climate change places major transformational demands on modern societies. Yet, little is known about the processes that enable such deliberate transformations, taking account of political and economic structures, the role of technology as well as normative and ideological conditions of a society. Imagination is an important, but so far neglected source of collective transformational capacity, and its absence a significant obstacle to mobilizing societies for change. Without the ability to collectively envision and meaningfully debate realistic and desirable climate futures, societies lack both the motivation for change and guidance for decision-making in a certain direction of change. This paper sketches a multi-level theory of transformational change that takes account of the role of imagination. Defining imagination as linked cognitive-social processes that enable the creation of collectively shared visions of desirable future states of the world, the theoretical framework focuses on the dynamics that can bridge imagination processes in the individual mind and collective imagining that informs social and political decision-making. Power, agency and access to specific communication resources heavily shape this process, favoring the systemic influence of certain actors and limiting that of others. This paper illuminates these differentials in transformational agency with three
brief case studies: the Breakthrough Institute’s efforts to create a new environmental imaginary (eco-modernism), the climate fiction novel *The Water Knife* by Paolo Bacigalupi and the decisions by the city of Portland to prohibit the development of fossil-fuel infrastructure.
On the optimal allocation of wind turbines and photovoltaic power plants in Germany

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For a successful energy transition in Germany it is necessary to know where renewable energy should be harvested. We consider four facets of this problem. (1) In the first step we analyse in a GIS-based analysis where in Germany wind turbines and photovoltaic power plants can be installed and what their potential energy yields and electricity production costs are. Based on these results we determine the cost-effective spatial allocation of wind turbines and photovoltaic power plants over entire Germany so that national production targets are reached at minimum cost. We find that wind turbines should be installed predominantly in the north and solar panels in the south of the country. (2) Wind turbines and photovoltaic power plants incur external costs on the society. In a choice experiment we measure these costs and show that they decline with increasing distance from human settlements. We investigate how the consideration of external costs changes the optimal allocation of renewable power plants and find that this optimal allocation equals the cost-effective allocation from step (1). (3) An unequal allocation of renewable power plants that is implied if only cost-effective sites are selected may be regarded as unfair. In a national survey we explore society’s attitude towards a fair allocation of renewable power plants and find that either a cost-effective allocation is regarded as fair or an equal allocation where all Federal states produce the same amount of renewable energy relative to their potentials. We explore the trade-off between these two fairness criteria and find that both criteria can be fulfilled simultaneously quite well. (4) In the fourth step we consider the costs of electricity grid extension and show that this leads to a more even allocation of renewable power plants across the country and a more even energy mix.
Donations for Adaptation: International Donors’ Influence on International River Basin Organizations in Southern Africa
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In many water basins that are shared by two or more sovereign states, riparians have established international River Basin Organizations (RBOs) to jointly address coordination problems as well as to exploit cooperation potentials that emerge from the transboundary nature of shared water bodies. Many international river basins are however progressively threatened by environmental changes such as alterations in water runoff or loss of species caused by a number of different developments, including population growth, the construction of water infrastructures or climate change. In consequence, RBOs increasingly require capacities to manage the impacts of such environmental changes. Hydropolitics research addressing such adaptation capacities has so far primarily attributed differences in adaptation capacities to the design of water treaties and other institutional factors. Considering the prominent role played by bilateral and multilateral donor organizations in transboundary water management and in supporting international RBOs – particularly in regions of the Global South – this paper addresses the question whether such transnational actors also play a role in adaptation processes. The aim of the paper is to identify first assumptions on the conditions under which donor support to RBOs could potentially support adaptation to environmental changes and contribute to the resilience of international water basins. It does so, by looking at two empirical case studies, including the Orange-Senqu and the Orange-Senqu River Commission (ORASECOM) as well as the Cubango-Okavango Basin and the Permanent Okavango River Basin Water Commission (OKACOM).

Fair water in a changing climate
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Climate change will heavily impact on water and aggravate existing inequalities. These inequalities result from actual physical shortages of water, but not alone. Quite often, they are the result of social conditions (gender, class, religion, ethnicity etc.). The paper deals with normative standards of a fair distribution of water. By doing so, it is critical and constructive. It aims to identify potential injustices (critical) and to argue for more just solutions – in the face of changing environmental conditions. Asking for normative standards also
implies distinguishing between different types of water people need. This distinction plays a crucial role when upholding the right to water in times of physical water scarcity.

The paper’s argument starts with the concept of sustainable development that aims for a provision of fairness and equity across temporal and spatial dimensions. It is about safeguarding that everybody today and in the future has the right to live a life of dignity. The concepts obligates that the necessary natural and social preconditions to live such a life are to be protected and supported. Yet, if one wants to spell out what people need to live a life of dignity, a universalistic ethical approach meets different particular notions of life of dignity. Based on the deontological approach by the social ethicist Alan Gewirth, the paper aims to determine what people need to live a life of dignity and to apply these insights to water and water governance.

Finally, it will shortly discuss implications for a fair distribution of water after the adoption of the SDGs and Paris.

On the politics behind the definition of global governance issues: the case of transboundary cooperation on renewables

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The worldwide promotion of renewables is of utmost importance for a global transformation towards sustainable development and effective climate change mitigation. In recent years, a number of global governance initiatives emerged that explicitly focus on the expansion of renewables, being the most notable ones the establishment of the International Renewable Energy Agency and the launch of the UN Initiative Sustainable Energy for All in 2011 and the adoption of a Sustainable Development Goal on energy in September 2015.

To foster a just and effective global transformation towards sustainable development, it is crucial to analyze the politics behind the definition of global governance issues. Ideas on global governance are highly contested: they comprise different understandings and they are subject to political struggle. Global governance involves very heterogeneous groups of actors with highly diverse backgrounds and views; the influence of actors decides whose ideas prevail at the end. Creating and structuring knowledge and social understandings is an important way of exercising power in global governance, as it influences what policymakers and researchers consider ‘real’ or ‘relevant’. Missing awareness of different problem definitions, by contrast, can easily lead to misunderstandings which hamper cooperation.
This paper analyzes how and why ideas on global renewable energy governance differ. It focuses on two governments that have been leading actors in this field of transboundary policy-making, frequently taking a different stance: the German and the Brazilian governments. Building on a comprehensive content analysis of official government statements and 75 interviews with decision makers and experts in both countries, it argues that contested ideas concern aspects that are of crucial importance in global renewable energy governance. Developing an actor-centered approach to ideational analysis, it suggests that the policy actors’ contexts and self-interests are key to understand contested ideas in global renewable energy governance.

Hydropower as low carbon strategy? Distributional effects of recent African hydropower projects

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In Africa hydropower is on the rise and is often promoted as a low carbon strategy for development. However, in the past hydropower development often took place at the expense of the project affected population (PAP). This paper therefore analyzes the likely distributional effects of the Ruzizi III and the Rusumo Falls hydropower projects which are currently planned in Africa’s Great Lakes region.

The paper finds that in both cases PAP has high expectations that the projects will foster development, employment as well as access to electricity and other services. However, it also shows that considerable uncertainties exist among the PAP with respect to status of the projects, planned compensation procedures as well as benefit sharing mechanisms. While the projects are likely to contribute to low carbon development in urban areas, considerable additional efforts will be needed to ensure that they also truly benefit the project affected population.
Global climate adaptation governance: what is governed and why?
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In the last decade there has been a significant shift in the framing of climate governance. The UN Framework Convention on Climate Change (UNFCCC) has moved from an explicit focus on mitigation, to also include adaptation. Climate change is no longer simply about reducing emissions but also about enabling countries to deal with its impacts – be it on development, migration, or health. Yet most studies of the climate regime have focused on the evolution of mitigation governance, not adaptation. This tendency is partly because adaptation was considered a ‘taboo’ topic in the UNFCCC as many states did not want to concede that climate change was occurring, or did not want it to be considered a substitute for mitigation. In short, global adaptation governance is under-studied and poorly conceptualized.

In this paper, we ask: what constitutes and characterizes global adaptation governance? We attempt to characterize governance efforts in terms of what, who and how adaptation is governed. We examine: the constituent parts of an emerging regime (principles, norms, rules, decision-making procedures), the institutions involved, and how these parts have been manifested in concrete modes of governance (standards and commitments, operations, finance, knowledge and networking). To aid this mapping, we use the mitigation regime as a heuristic for comparison. We find that there is indeed an emerging global regime around adaptation, although characterized by ‘soft’ procedural and facilitative modes of governance. Furthermore the institutional complexity and fragmentation we see in global adaptation governance arises for different reasons than for the mitigation regime. Namely the epistemic ambiguity around adaptation, including its scalar framing, and the power politics around controlling donor funds for adaptation. This paper contributes to our understanding of the shift in framing of global climate governance, from mitigation to adaptation, and the coherence of this regime.
The strategic dimension of international climate finance in climate change mitigation

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International climate finance has become a central element of the UNFCCC negotiations ahead of COP 21. North-South financial transfers aim at supporting emission reductions in developing countries; a critical step toward stabilizing the climate and global decarbonization. However, because the abatement of emissions represents a global public good, self-interested countries have little incentives to voluntarily cut their emissions in the absence of institutions that facilitate cooperation. We propose that climate finance can offer a solution to transform unilateral incentives to abate if transfers are used in a strategic way. If financial payments increase with national climate policy level, each country’s incentive to voluntarily reduce emissions increases. Climate transfers however need to be implemented in absence of an international institution with the authority to enforce a potentially effective transfer scheme. To internalize some of the emission externality, a system of mutually beneficial compensatory measures is necessary which incentivizes (i) individual emission reductions and (ii) the voluntary partaking of donor and recipient countries. How should transfers be designed to achieve these two objectives? Within an analytical model, we study the incentives of countries to participate in an international compensation fund, such as the Green Climate fund, and how the design of compensatory transfers may shape individual incentives. The analysis reveals that the institutional design of transfers is critical to enhancing cooperation. We show that if the payments within a fund are sensitive to individual abatement and to which countries partake in the compensation fund, the strategic transfer mechanism can increase cooperation significantly and lead to significant global abatement. Particular heterogeneity between recipient and donor countries can be critical to enhancing cooperation: for recipient countries transfers need to incentivize significant abatement levels while for donors the valuation of the global public good needs to be large.
Injecting justice into climate finance: Can the Independent Redress Mechanism of the Green Climate Fund help?

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This proposed contribution endeavors to address the issue of global justice in climate finance from an angle which is generally overlooked – except as regards the REDD+ regime –, that of the communities which bear the social and environmental adverse impacts of mitigation and adaptation projects financed by international climate funds. Although political attention has to date been mainly focused on the amount of funds raised, qualitative issues show the daunting task that lies ahead: without transparency of and accountability in climate finance, fragmented and “unmonitorable” climate finance implies the risk of duplicated efforts and ineffectiveness, and increases the social and environmental risks associated with mitigation or adaptation projects. From a global justice point of view, fastening climate finance to other issues they trigger means inter alia that the financing of climate actions must be brought back into the wider context of sustainable development and good governance. Within the framework of the Green Climate Fund (GCF), an Independent Redress Mechanism is being created that will allow the people affected by the projects the GCF funds to hold the GCF accountable for having given the green lights to a project, either public or private, in violation with the GCF’s social and environmental safeguards. Through this example, this contribution offers to highlight what challenges still remain to be dealt with to re-integrate climate finance into the whole of the climate regime complex in order to ensure global justice at the bottom too.

Leveraging municipal finance for low-carbon urban transportation

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Two challenges beleaguer municipalities in the 21st century: Public financing for local public goods runs dry and the environmental impact of urban development causes increasing harm to the well-being of urbanites. The finance of municipal solutions to climate change mitigation, adaptation and other sustainability challenges remains in limbo. Under certain conditions, urban agglomerations are well positioned to foster their local and global environmental objectives by focusing on the heart of each mayor’s heartache: municipal finance. A well balanced portfolio of taxes that increase both efficiency and combat environmental undesired
outcomes could be leveraged to finance sustainable and low-carbon transport systems, which in turn help to alleviate the newly-instantiated tax burdens on citizens. We provide examples, and analyze the conditions necessary to leverage municipal finance for low-carbon transport, identifying urban form as key variable.

We investigate how different location value capture schemes and transport charges can contribute to reducing the environmental footprint of urban development, reduce transport emissions, and increase public financing for public transportation. We account for location specific effects using a two-side spatially explicit framework. We find that a development tax for new housing at the urban fringe with sufficiently high tax rate induce environmental benefits but also causes rent accumulation of existing land owners and could cause a scarcity in new housing. The latter scarcity could be counteracted with a switch from property to location taxes, inducing densification and new housing in the urban core. This switch in tax base then could also capture the increasing rents of prior land owners in the city, reflecting the general increase in the location value due to increase in accessibility. In turn, accessibility itself, but also transport CO2 emissions, would profit most from investments into public transit. We conclude with discussion the trade-offs and political feasibility of this sustainability-oriented policy packages.
Urgency discourse: a factor biasing decision making on energy mega-projects

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In recent years scholars have devoted a great deal of attention to biases in decision-making processes. In particular, there is often a mismatch between policy problem and policy reaction. Policymakers sometime underreact in that they provide a slow and/or insufficient response to increased risk of opportunity; at other times, they overreact when there is an overinvestment of risk. One recent possible explanation for such mismatches concerns the role of emotions and feelings in shaping risk and perception. By manipulating the political atmosphere and creating highly intense emotional reactions, policymakers leverage their ideas or solutions. Yet only a few studies have directly addressed the possibility that emotions could be strategically mobilized by politicians and policymakers. This research investigates the role of psychological arousal of emotions in order to create a “sense of urgency” purported to affect the ordinary decision-making of institutions. This study investigates how and when urgency is employed by motivated players in attempt to coax decision makers to approve their go/no go decisions on large projects. This study traces the linguistic and institutional regularities in the discussions and debates involved in the Israeli decision-making process on the reception and treatment of natural gas and its transportation from offshore gas fields to the national grid. The project is deemed to be of utmost importance to the Israeli economy and climate change policy. However, there are those who vehemently oppose its implementation, claiming that the decision to establish onshore treatment facilities was a shady political deal made without the involvement of environmental actors. For the purpose of identifying the role of urgency framing in the planning process, the study conduct a critical discourse analysis of around 100 official protocols of hearings of governmental committees tasked with formulating the policy on natural gas.
Neoliberal Environmentalism or Environmental Justice in Global Climate and Forest Governance? A Discursive Institutionalist Analysis of REDD+ Monitoring Systems

Fariborz Zelli, Tobias Dan Nielsen, Wilhelm Dubber

Lund University, Sweden

The paper focuses on approaches to measurement, reporting and verification (MRV) of REDD+ (‘Reducing Emissions from Deforestation and Forest Degradation’) activities. The choice of such monitoring systems touches upon various dimensions of environmental justice, in particular sovereignty, social exclusion, and distributive justice. A patchwork of institutions have come to discuss and apply different monitoring approaches – ranging from international climate negotiations and multilateral development institutions to public and private forestry institutions, REDD+ funding initiatives and numerous bilateral agreements.

The paper analyses to what extent these different institutions and the MRV approaches they suggest are influenced by an environmental justice discourse. First, we provide an innovative mapping of the growing regime complex on REDD+ monitoring with its different international and transnational institutions – but also with a series of MRV practices at domestic and sub-domestic levels that we identify through country reports and expert interviews. Second, we introduce major monitoring approaches – remote sensing, field measurement and computer modelling – and discuss their benefits and drawbacks regarding sovereignty and social inclusion or exclusion. Third, we introduce a set of overarching discourses that shape the academic and policy debates on REDD+, including, for instance, technocratic, equity-oriented and neoliberal discourses. Fourth and finally, we bring the three previous steps and typologies together, asking: which institutions and countries allow or promote certain types of MRV approaches and to what extent do these practices reflect the dominance of a certain discourse? This fourth step provides us with a visualization of different discourse coalitions – each consisting of certain MRV approaches, institutions, country practices and discourses.

As a result, we show that the REDD+ monitoring architecture is dominated by neoliberal environmentalism: favouring cost-efficient tools while transferring considerable value gains outside of forest areas. However, a counter-discourse of civic environmentalism is gaining ground that favours more participatory approaches.
'We must find ways to value the forests more alive than dead!' Discourses for a Green Economy in Papua New Guinea

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New environmental development narratives such as the “green economy”, “green growth” and “climate compatible development” have recently emerged at the international level. Yet there is no universal definition of a green economy, and the term is used in different ways by different actors. So who applies these terms and for what purposes are they being used? And to what degree are these discourses reflected in policy outcomes that are a shift away from business-as-usual? This paper considers some of these issues using the case of reducing emissions from deforestation and forest degradation and enhancement of forest carbon stocks (REDD+) in Papua New Guinea. We argue that even though ‘transformation’ is a central concept in discourses of green economy and REDD+, these discourses have not translated into transformational change in forest use and governance in Papua New Guinea due to powerful vested interests that protect the status quo. We use a mixed methods approach to identify who was involved in national REDD+ policy processes in Papua New Guinea during 2007-2012, their worldviews and interests. In our analysis, we distinguish between ‘public’ and ‘policy’ discourse to identify how REDD+ is framed in both public and policy debates, and what this implies for an actual implementation of REDD+ policies and measures. Our findings reveal that although elements of a “green economy” and “climate compatible development” have become embedded in both public and policy discourse on REDD+ in Papua New Guinea, there is no evidence that this has resulted in any significant changes to the practice of forest governance in the country – at least not yet.

Without addressing underlying power structures that support business-as-usual, it is unlikely that countries such as Papua New Guinea can achieve the type of transformative change that a ‘truly’ green economy requires.
A growing number of cities are preparing for climate impacts by developing adaptation plans. However, little is known about how these plans and their implementation affect the vulnerability of the urban poor. We critically assess initiatives in eight cities worldwide (Boston (USA), New Orleans (USA), Medellín (Colombia), Santiago (Chile), Metro Manila (Philippines), Jakarta (Indonesia), Surat (India), and Dhaka (Bangladesh) and find that land use planning for climate adaptation can exacerbate socio-spatial inequalities across diverse developmental and environmental conditions. Our analysis shows that land use plans in the name of climate adaptation or resilience can produce maladaptive outcomes for historically marginalized residents through two types of injustices: acts of commission and acts of omission. We find acts of commission when infrastructure investments, land use regulations, or new protected areas disproportionately affect or displace disadvantaged groups. Conversely, acts of omission refer to plans that protect economically valuable areas over low-income or minority neighborhoods, frame adaptation as a private responsibility rather than a public good, or fail to involve affected communities in the process. This paper lays the foundation for critical studies of urban climate adaptation and responds to calls for empirical research on the justice implications of ongoing land use planning interventions and development controls. We propose a framework for analyzing and summarizing the equity impacts of urban land use interventions in the name of adaptation and we argue that each of four strategies of land use planning – infrastructure provision, enforcement of land use regulations, participation in planning processes, and engagement with the private sector – can exacerbate socio-spatial inequality.

Riding the razor’s edge of science-policy interfacing: frame analysis in research and policymaking on climate adaptation

Eva-Maria Kunseler¹,², Matthijs Kouw¹

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²Institute for Environmental Studies (IVM), Free University of Amsterdam, The Netherlands

Due to the various stakes, values and views of social groups involved with climate change and adaptation, the process of developing the Dutch National Adaptation Strategy (NAS) needs to take a plurality of frames into account. The PBL Netherlands Environmental Assessment Agency (PBL) aimed to inform this process using frame analysis. However, researchers at PBL did not succeed in applying the method as planned. Over the course of the production of the NAS, the hegemonic science-risk frame, which focuses on quantitative identification and subsequent prevention of risks, emerged as the dominant frame. Our case analysis based on participant observation and interviews shows that, even when
frame-reflection was explicitly aimed for, this happened to be downscaled, unwittingly, under influence of tensions, challenges and paradoxes encountered during the essential balancing act that characterizes complex science-policy interfaces. Roles, interaction processes, client needs, internal processes are dynamically shaping and shaped by institutionalised expectations over objectivity, independence, inclusiveness and effectiveness. We argue that what makes frame analysis worthwhile is not so much its presupposed power to lead to the adoption of a multiplicity of frames, but rather its ability to lead to a form of institutionalized critique that refuses to take automatic recourse to a dominant frame (e.g. the science-risk frame). Thus, frame analysis is a crucial instrument in performing the aforementioned craft of science-policy interfacing, and needs to be more firmly integrated into science-policy interfacing for this very reason.
### 22. Forest Governance beyond Incentives

**Time:** Tuesday, 24/May/2016: 9:00am - 10:30am  
**Room:** Sorbonne 2  
**Chair:** Imme Scholz

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**Forest-funding conservation and Brazilians’ willingness to pay**  
**Zorzeta Bakaki, Thomas Bernauer**  
*Swiss Federal Institute of Technology in Zurich, Switzerland*

Over the last decades, Brazil has become particularly vulnerable to climate change due to its fragile and biologically diverse ecosystems - first and foremost, the rainforest. Brazilian authorities seem aware of the threat, but have yet to take comprehensive measures against it as public-goods provision is costly and budget constraints do exist. However, foreign aid might address this by supplementing or substituting the national funding for forest conservation. By employing an embedded survey experiment leading to new public-opinion data, this study examines whether Brazilians are willing to support forest conservation through taxes. In this research, different Brazilian treatment groups receive information about biodiversity and carbon offset policies along with the prospects for foreign aid for forest conservation in Brazil. In turn, they indicate their willingness to contribute in forest conservation with an additional tax. We argue that policies with mainly domestic benefits (biodiversity) encourage public support in comparison to policies with global benefits (carbon offsets). That being said large foreign aid crowds out people's support for policies with global interests. The international funding leads to a public-good game inducing free riding on the efforts of international sponsors. This research has important implications for our understanding of climate-change mitigation policies worldwide.

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**Beyond carrots and sticks in the Brazilian Amazon: a close reading of the REDD+ discourse**  
**Maria Fernanda Gebara**  
*London School of Economics and Political Science, United Kingdom*

Policy instruments can be thought of along a government-to-market based continuum, from direct regulation to policies that facilitate self-regulation (Michaelis 1996; Gunningham e Young 1997; Sterner 2003; Vatn 2005; Schröter-Schlaack and Ring 2012). During the past two decades, the "carrots and sticks" approach has been pointed out as an important combination of rewards and punishment to induce behaviour for controlling deforestation and enhancing conservation (Vedung 1998; Villis et al 2012; Quartuch and Beckley 2014; Henderson et al. 2013;
Borner et al. 2014, 2015). This, however, has distracted the attention of policy makers and practitioners from the importance of other core interventions, such as measures focused on environmental awareness and collective resilience, recognition of rights, technology transfer and technical capacity building, to name a few. In this paper I will provide a close reading of the carrots and sticks discourse in an attempt to offering an historical genealogy of the approach. By analysing empirical evidence from the Brazilian Amazon this paper argues that the carrots and sticks discourse is conditioning people on the ground into limited behaviours, stifling creativity, reducing positive feedbacks and, more importantly, having short-term effects. Finally, it can also be a very blunt and undiscriminating way of changing behaviour – it can easily punish good behaviour and reward bad behaviour.

Multilevel governance, decentralisation and forest outcomes in Vietnam

Anastasia Lucy Yang², Anne Larson¹, Grace Wong Wong¹, Phu Pham Thuy¹, Lasse Loft¹

¹Center for International Forestry Research (CIFOR), Indonesia;
²Thunen institute, Germany

In the wake of international policy agreements in Paris 2015, a cohesive global climate governance is required to smooth progress towards collaborative efforts to combat climate change. Amongst a number of mitigation efforts, reducing emissions from deforestation and forest degradation and enhancing forest carbon stocks (REDD+) is a performance based mechanism for maintaining and increasing forests and supporting local livelihoods. The ability of countries to implement REDD+ will depend on international finance, as well as national commitments to move through the initial ‘readiness’ phase aimed at addressing social, technical and institutional capacity gaps at multiple levels. This study focuses specifically on Vietnam and explores the evolving and recent institutional factors that influence REDD+ efforts, including benefit sharing mechanisms. A total of 100 key stakeholder semi-structured interviews were conducted across two provinces to investigate multilevel capacity and land use decisions making processes from the subnational to local level. Results highlight how the distribution of powers and responsibilities of forests, land use, and REDD+ across multiple levels and sectors in Vietnam influence behaviour and motivation of land stewards. Following a conceptual framework for assessing REDD+ benefit sharing mechanisms we identify the linkages between these institutional factors, motivation and behaviour towards social, economic and environmental outcomes. The results highlight that though commitment and progress in Vietnam have been made to achieving suitable conditions for REDD+
important gaps and challenges remain. Overall government aims on forest protection and development policy are hindered by competing objectives for economic enhancement, and inconsistent and incomplete efforts on forest land allocation. Different capacities, resources and interest at the various levels of government have led to varying cases of procedural and outcome legitimacy and thus shaping people’s motivation to safeguard remaining forest areas.

Forestry after Paris - Can international treaty secretariats create coherence in global forest governance?

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Prior to COP 21, there is much hope that the new climate agreement will address emissions from the land and forest sectors, since this is critical to limit global warming to 2 °C. Indeed, chances are high that REDD+ (Reducing Emissions from Deforestation and Forest Degradation) will be fully integrated into the new climate agreement, since the technical negotiations were finalized in 2015.

While COP 21 is to create clarity with regards to REDD+, the challenge of coherence within REDD+, but also with regards to other forest-related mechanisms at the international level, will likely remain. Furthermore, stakeholders are confronted with the necessity to manage trade-offs between climate change and biodiversity concerns and to ensure equity, efficiency and effectiveness in an inter-organizational setting.

In recent years, international public administrations (IPAs) have received increased attention as autonomous actors in international politics (Busch, 2014). IPAs like the secretariats of the UN Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD) take on such roles as negotiation facilitators, knowledge brokers, mediators and engage in issue-linkage (Siebenhüner & Biermann, 2009; Jinnah 2014). Rooted in IPA studies and social network theory, this research investigates if and in which way secretariats are in a position to connect otherwise disconnected actors and provide coordination among different institutional frameworks, such as land use and forest governance with climate, biodiversity and economic policies.

Are treaty secretariats able to steer global forest governance process towards greater coherence from “behind the scenes”? This contribution addresses this research question by drawing on data gathered with quantitative surveys conducted among UNFCCC and CBD stakeholders, which will be analyzed using techniques of Social Network Analysis (SNA) and compared with results of qualitative interviews with relevant stakeholders.
Assessing the institutional enablers for private sector support to devolved forest policies: the case of REDD+ in Africa.
Joanes Odiwuor Atela
Africa Centre for Technology Studies, Kenya

The role of the private sector in emerging forest governance policies such as REDD+ is widely recognized especially in the context of public-private partnership. Despite the wide support for public-private partnership and its potential to spur collective action in forest governance, such actions can only be achieved within enabling institutional conditions. This is more so because of the diverse interests involved in forests policies and usage in developing countries targeted for emerging global forest policies such as REDD+. This paper draws from case study correspondences and fieldwork to empirically analyze the experiences from four first generation REDD+ initiatives from across Africa and to identify enabling conditions that could leverage private sector potential in forest governance especially in reference to REDD+ in Africa. First, we found that the private sector is key actor in translating REDD+ policies into action, thus resolving policy implementation deficits that has long bedeviled most African countries. The private sector also spurs a business case for managing forest resources in a manner that promotes social and economic co-benefits. Institutional impediments were found to be three fold. The first and main one emanates from national institutional gaps where path dependency, resource centralization and bureaucracy were significant barriers to efficient project delivery. The second one relates to the inherent profit maximization goals of private companies, which results in concerns of transparency in benefit sharing and recognition of local voices in decision-making. The third impediment emerges from the informal and sometimes ‘messy’ local socioeconomic settings that threaten and sometimes stagger private investment. Drawing on these challenges, we make suggestions that could broker business, livelihood and policy structures for full realization of private sector potential in effective and more inclusive forest governance.
At the Nexus of Territory and Identity: the WIM and governing Non Economic Loss and Damage in the UNFCCC

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For years, one of the major overarching concerns for small Island developing states (SIDS) in the United Nations Framework Convention on Climate Change (UNFCCC) negotiations has been the irreparable losses they will face due to the adverse impacts of climate change caused by the lack of commitment on mitigation targets. These concerns eventually materialized into a UNFCCC work stream and codified as the Warsaw international Mechanism on Loss and Damage (WIM) that has been tasked with developing knowledge and recommendations relating to non-economic loss and damage (NELD) amongst other platforms. The most visible sign of such loss from the adverse impacts of climate change for SIDS is sea level rise, which threatens these islands’ physical integrity and core identity. Sea-level rise and the loss of territory have initiated many legal discourses over the meaning of sovereignty if an entire island is lost to sea level rise. However, NELD, in the context of Small Island states and the loss of an island and nation, encompasses the nexus of territory and identity that is an overlap of physical, environmental, social, cultural, human, and political rights and significance. This paper will provide an overview of the development of the loss and damage work stream including the WIM and its development within the UNFCCC. It will identify the two silos of NELD-related categories and demonstrates how they can be seen as a nexus when defined in terms of non-economic rights. Finally, it will propose how the WIM can assist in facilitating legal solutions related to territorial loss.

Non-Economic Loss & Damages: Lessons from the Hindu-Kush-Himalayan region

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International Centre for Integrated Mountain Development (ICIMOD), Nepal

Despite the fact that most vulnerable countries were the main driving forces behind the establishment of the Warsaw International Mechanism
for Loss and Damage, developed countries are mentioned much more often than developing countries/LDCs in relation to Loss and Damages in the IPCC WGI AR5 (Van der Geest & Warner 2015). The current mechanism expands a model that has served to safeguard highly industrialized economies and societies from environmental harm, and fell short of providing a suitable paradigm for the most vulnerable (Wrathall et al. 2015). There are limits to decision-making based on cost-benefit analyses, and non-economic, cultural losses defy quantification and comparability. The notion of Non-Economic Loss and Damages (NELD) constitutes an avenue for conceptualizing an alternative paradigm for both limits to adaptation and adaptation pathways.

This contribution draws on the experience of ICIMOD, the International Centre for integrated Mountain Development. Since 30 years, ICIMOD works for/in the 8 countries of the Hindu-Kush-Himalayas (Afghanistan, Bangladesh, Bhutan, China, Nepal, India, Myanmar and Pakistan). ICIMOD’s works represents a unique form of “transboundary cooperation” that deftly acknowledges the importance of traditional knowledge and resource management practices, particularly the management and conservation of biocultural diversity across the HKH. Conservation values are distinctly represented by a wide variety of globally significant ecosystems such as rangelands, wetlands and forests embedding wealth of biodiversity and rare culture, increasingly jeopardized and threatened by climate change and other drivers of transformation. Loss of identity, biodiversity, ecosystem services and culture (including traditional knowledge) are inextricably interwoven in the HKH and this has ramifications not only for the HKH communities, but for the global community as well. The present contribution systematically explores this nexus, by linking ICIMOD’s experience in the Eastern Himalayas to NELD.

**Human mobility as adaptation to climate change: immigration opportunities as post-disaster humanitarian intervention**

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The frequency and intensity of natural disasters from climate events have been increasing in the last few years. While scientists are careful in causally linking these natural disasters to climate change, the record-breaking extreme climate events such as typhoon Haiyan in the Philippines speak for itself. Formerly a laggard in climate talks, adaptation has now gained footing not just in the UNFCCC but also among different countries. Decision 1/CP.16 also known as The Cancun Agreements in-
vites all parties to the UNFCCC to enhance action on adaptation and undertake measures with regard to climate change induced displacement and migration. It is exactly this COP decision, which motivated the governments of Norway and Switzerland to establish the Nansen Initiative and craft a protection agenda for people who are at risk of disaster-induced cross-border displacement. Despite these efforts, there has yet to be a legally binding treaty that climate change refugees can invoke. In this paper, we will look into the feasibility of immigration opportunities as humanitarian aid for victims of extreme climate events. Inspired by US and Canada immigration relief measures for typhoon Haiyan victims in the Philippines, we use a socio-political approach in constructing an immigration humanitarian model, which we would like to recommend as a potential humanitarian intervention after climate disasters. This recommendation is not only intended to address UNFCCC’s Decision 2/CP.19 (the Warsaw International Mechanism on Loss and Damage) but to also provoke ambition and compassion from countries that are historically responsible for climate change.

Rurality and climate change vulnerability in Nigeria: Assessment towards evidence based even rural development policy
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Climate change affects certain groups of people more than others, depending on where they live and their ability to cope with different climate hazards. People residing in rural areas are particularly vulnerable to climate change because of remoteness, their dependence to a large extent on natural resources for income and livelihoods and limited capacity to adapt to climate change. Despite the growing knowledge base on climate change and its impacts, much remains to be understood about the linkages between climate change and rural development. Also, current climate change vulnerability assessment especially at the international level tend to focus more on the identification of the most vulnerable countries and fail to capture the differences within countries which are very useful in defining the risks posed by climate change and in providing a starting point for identifying measures to adapt to climate change impacts. This paper closes the research gap by assessing the linkages between rurality and climate change vulnerability using states in Nigeria. The purpose is to provide empirical evidence for robust (‘no-regrets’) decision-making policies for climate change adaptation and even rural development Nigeria. To achieve this, rural attributes (based on ecological, occupational and socio-cultural characteristics) were obtained and rurality index computed by aggregating the weighted scores of selected rural characteristics. Also socio-economic and biophysical indicators of
vulnerability were obtained and weighted using Principal Component Analysis and analyzed using integrated vulnerability assessment approach. Finally, regression analysis was used to ascertain the magnitude of rural characteristics on climate change vulnerability. The results show a spatial variation of vulnerability with northern states being more vulnerable because of both higher degrees of rurality and lower adaptive capacity. Consequently measures to improve the adaptive capacity of the rural households and bring about even rural development in the country were proposed.

Climate Change Inferred through Social Analysis, Geography and Environmental Systems (CC-VISAGES)

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Considering findings that climate change mitigation covers a broad range of negotiations on the international scale including development, migration, and securities issues too (Vlassopoulos, 2012), the different perceptions between national governments and their federal states, and between governmental bodies and communities, the different demands from different perspectives must be considered in the policy making process. The failure of the debates was identified as been caused in the lack (or ignorance) of knowledge regarding the different demands from the various stakeholders in the multi-level policy-making process. Perceived justice (Kaufmann, 2012; Maguire & Lind, 2003; Steelman & Maguire, 1999) and the degree of marginalization frame antagonistic demands towards successful climate change governance. In order to provide such a frame, a critical policy analysis (Dryzek, 2009) frame was applied to describe the vulnerability to the climate change related distribution of environmental burdens and environmental goods.

The project developed a comparable human stress index (HSI) on the community level in the three chosen case countries of Brazil, Canada, and Germany. Using six (6) social vulnerabilities (income, education, age, gender, migration, population density) und the Temperature Humidity Index (THI), a Climatological Environmental Justice Index (CEJI) was developed. By the HIS, THI, and CEJI three geographical representation of climate change vulnerabilities for each of the three countries was created through a geographical information system (GIS).

The comparable result is a listing of vulnerable communities for each of the countries. Top vulnerable communities are now analysed at local with help of a comparable, mixed-method approach called Q Oracle (http://www.environmentaljustice.de/q-oracle.php). The findings will be
displayed in community based Public Participation Geographic Information System (PPGIS) that complement to the macro GIS models. Beside the macro-findings, the results of a four months field research in Nanaimo / Canada using the above named method will be presented.
India’s multilevel capacity to harness cities’ potential for climate action

Kirsten Jörgensen

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Rapidly industrializing India is currently, after the US and China, the world’s third-largest greenhouse gas producer emitting 2,407 million tons of CO2 (fossil fuel emissions) in 2013 alone (Global Carbon Atlas 2013) and it will likely overtake the fastest-growing economy in the world, China, in the next decade “as the primary source of growth in global energy demand” (Bloomberg Business 2015). Energy consumption will in particular be driven by India’s rapid urbanization process. In 2031 India’s cities are expected to contribute 75% of the country’s GDP and generate 70% of new jobs created in the country (ICRIER 2015). India’s urbanization processes have so far been unsustainable; characterized by growing numbers of urban slum dwellers, unplanned urban growth, congestion, poor quality of public services, and strong negative externalities (ibid.).

Sustainable city development was shifted higher up the political agenda in India in 2014 when the Government of India launched a technology-oriented approach to the promotion of sustainable and inclusive cities. India’s Smart Cities Mission aims to enable cities to apply technology and information for the ecological modernization and improvement of infrastructure and services.

Considering the implementation of India’s Smart Cities Mission, which includes smart solutions to energy management, this paper will explore India’s multilevel capacity to harness city action in order to allow India to develop in a more climate-compatible manner. Due to federal limitations such as delegated competencies and weak institutional and financial capacity, India’s cities often have difficulties acting as a pioneer or leading by example when it comes to climate change (Beermann et al. forthcoming). Building on documentary analysis and expert interviews to be performed in spring 2016, the paper will explore cities’ potentials for leadership and stimuli in the form of bottom-up approaches in the context of the implementation of India’s Smart Cities Mission.
Cities in the Global Climate Marketplace: Transnational Actors and the Governance of Urban Climate Adaptation in India

Eric Chu

University of Amsterdam, The Netherlands

In cities that are pursuing climate change adaptation actions, transnational actors are critical catalysts for financing programs, generating public awareness, and legitimizing the agenda. However, scholars of urban climate adaptation have yet to understand whether such external interventions have long-lasting effects on the sustainability and institutionalization of adaptation programs, particularly when placed in context with competing urban development priorities across the global South. In this paper, I draw on experiences from three cities in India – Surat, Indore, and Bhubaneswar – to analyze the multilevel political, institutional, and financial dynamics that link local adaptation governance processes with their supporting transnational actors and institutions. Drawing on a comparative multi-scale case study methodology, I find that current urban capacity deficits in India indeed allow external actors to intervene in catalyzing adaptation, but this relationship becomes more dialectical farther into the planning and implementation stages. Urban climate governance relies on processes of translation, which are systems of policy and planning pathways characterized by the coproduction of knowledge, co-creation of options, and inter-institutionalization of standards, practices, and behaviors. A particular actor’s ability to exert authority over how climate adaptation is financed, bureaucratized, and built across the urban landscape then yields different patterns of adaptation. This finding therefore reasserts the role of urban political actors operating within the global climate governance regime and the marketplace for climate finance.

Uncovering Local Impacts – The Influence of Transnational Municipal Climate Networks on Urban Climate Governance

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Cities are particularly challenged by climate change. They are places of intense carbon flows and will have to live up to diverse adaptation demands. At the same time a global treaty that leads to sufficient national legislation and programmes is missing. Many cities have turned to transnational municipal climate networks to improve urban governance of climate change issues. Despite the fact that some of these TMCNs such as Climate Alliance and Energy Cities have been around for more than two decades, there has been no systematic investigation of the networks’ impact on local climate governance. In this article we attempt to
answer the question if and how local climate governance is influenced by a municipality’s membership in TMCNs. Our assessment is based on a survey conducted with all German cities above 50,000 inhabitants with membership in TMCNs, as well as field visits and interviews in German and French cities and observations during network conferences. Our results show that network membership influences local climate governance in many ways of which 1) internal mobilisation, 2) formulating clear emission goals, 3) creating political-administrative log-in, 4) direct exchange, and 5) project support and 5) formulating clear emission goals turned out to be the most influential. Despite its wide appearance in the literature we found little evidence that cities perceive advocacy as an important impact of TMCN activities.

Where the streets have no name: Rethinking the role of cities in global climate governance
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Within a context of growing disillusion about the efficacy of multilateral environmental agreements, cities have come to claim for themselves a position of centrality in global climate governance. Underpinning such claims are trends towards the consolidation of transnational city networks, such as the Cities Climate Leadership Group (C40), the International Council on Local Environmental Initiatives (ICLEI) and the Urban Climate Change Research Network (UCCRN), whose membership activities have entailed advocacy, awareness raising and the dissemination of norms, knowledge and resources aimed at reducing vulnerability to climate change. However, the impact of cities and city networks on global climate governance remains poorly understood, reflecting the myriad ways in which cities and other urban interests may conceivably interact with global climate policy networks and processes. This paper uses the COP meetings in Paris as a touchstone for understanding the role of cities in global climate politics. It starts from the theoretical premise that city engagement in global climate politics has taken three distinct forms: first, cities have created consolidating frameworks that link together and coordinate individual networks, such as the C40 and ICLEI; second, inter-state institutions have created novel points of entry to integrate cities into global climate networks and processes; third, non-state organizations have developed novel tools to facilitate inter-urban comparison, competition, and aggregation. Drawing upon UNFCCC documents, civil society reporting and key informant interviews with individuals and associations directly involved in the meetings, the paper explores the various forms of power and interests that have been articulated by cities and city-networks in the COP process. The paper will contribute directly to
the *multilevel capacity theme* of the conference, using the experience of Paris to develop new theoretical insights about the ways in which city engagement in multilateral climate negotiations may facilitate or foreclose new opportunities for transformative climate governance.

**Cities in (Climate) Change? Political Rationalities of Municipal Climate Governance: Governing by Best Practices**  
**Nanja Christina Nagorny**  
*Goethe University Frankfurt a.M., Germany*

Climate policy has for decades been primarily an international and a national concern. Only recently have municipalities explicitly become involved in climate governance and are establishing themselves as independent actors. In European and nationally funded programs as well as in multi-level city networks a particular focus on the promotion of knowledge transfer and exchange of experiences can be observed. But in spite of the enormous popularity of policy instruments such as *best practices* and *case studies*, little is known about the reasons for and mechanism of the ample dissemination of these technologies of government. Even more important, the broader implications of the focus on the transfer of “best practices” for the political problematization of climate change and for appropriate ways of governing it remain opaque. The project “Cities in (Climate) Change? Political Rationalities of Municipal Climate Governance: Governing by Best Practices” is addressing this research gap. It looks at how climate change is made governable in municipalities by the use and dissemination of purportedly “best climate practices”. The program “Masterplan 100% climate protection” of the German Ministry for Environment and the Climate-KIC Project “Transition Cities” serve as case studies.

The transformation to a sustainable and low-carbon society is today increasingly seen as to be decided in cities as primary places of socio-technical innovation. The sub-national level therefore becomes revalued in climate governance. This „rescaling“ leads to new forms of governance that are more and more concentrated on the urban scale.

The fear of a fast approaching climate ‘apocalypse’ led to the common believe that local climate action can be made more ‘efficient’ by disseminating best practices. As a result governing by best practices became increasingly naturalized and unquestioned. With this input I am therefore aiming at uncovering how and if best climate practices really contribute to transformative governance.
Reflections on China's socialist ecological civilization construction - Perspectives of Social-Ecological Transformation

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The proposal of Socialist Ecological Civilization as "Five in One" layout of building a moderately prosperous society in the 18th congress of CPC and "Green" as one of the development concept of "Thirteen Five" Plan both indicate that ecological civilization has been raised to an unprecedented height in China and the determination of China to go green. This article tries to raise critical ideas in the perspective of Social-Ecological Transformation on the construction of China's ecological civilization by presenting the evolution of China's green philosophy since the open-up in 1978 and analysis of the practices of "Ecological Civilization Plot" and "The First Demonstration Zone of Ecological Civilization" in the multi-level of China. It concludes that the experiences and achievements of ecological civilization are far from satisfaction. As for China, how to balance economic growth and environmental protection, how to effectively promote the demonstration zone mode, how to highlight the "socialist" nature of ecological civilization and go beyond green capitalism, how to enhance the "green welfare" of the public and make sure that the green development does not take place at weaker people's cost, how to tell a green story of China to the world, are challenging issues.

Simple Re-Framing of Climate Policy Will Not Boost Public Support

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Ambitious climate policies require strong public support. In view of the currently very limited public appetite for such measures in most countries, re-framing benefits of greenhouse gas (GHG) mitigation efforts from reducing climatic risks (the conventional justification) to other types of benefits is very appealing. Economic co-benefits, community building, and health benefits are widely discussed candidates. The intuition is that re-framing GHG mitigation measures in such terms could make them personally more relevant and emotionally more engaging and appealing to citizens. Based on results from emphasis-framing experiments (com-
combined N=1664) we conclude that simple re-framing of climate policy is unlikely to boost public support and outline reasons for this finding. We then suggest more complex experimental approaches through which further research might be able identify particular re-framing strategies that are effective. Yet, in view of what we know right now the traditional justification for climate policy (risk reduction) seems to be the appropriate “work-horse” strategy for convincing the public, whereas the added value of other justifications remains unclear.

The politics of green industrial policy
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In this paper, we present the normative concept of green industrial policy, which we define as encompassing any policy measure aimed at aligning the structure of a country’s economy with the needs of sustainable development within established planetary boundaries. We elaborate on why we need green industrial policy, how it differs from conventional industrial policy, why it poses new and significantly bigger challenges to governments in their coordination with non-state actors, and how these challenges can be met. We illustrate these issues with energy policy examples.

What and how we produce and consume is largely shaped by markets. However, markets fail to solve many of the environmental challenges we are facing. Therefore, governments need to intervene, thus reclaiming the primacy of public policy in setting and implementing societal objectives. While safeguarding the sustainability of human life on our planet makes green industrial policy a highly normative undertaking, the economic case for green industrial policy is strong as well – the success stories of such ‘green’ frontrunners as Germany and Denmark, and the strong growth of the Chinese solar panel manufacturing industry, demonstrate the competitiveness potential of the new technologies. However, as shown by decades of discussion on industrial policy, government intervention almost invariably brings about risks of political capture and government failure. Green industrial policy is thus not only governed by the ethical norm of safeguarding sustainability, but also by politics. The risks of failure are magnified by the urgency and scale of today’s global environmental challenges, requiring particularly bold, comprehensive and well-orchestrated government intervention under high uncertainty. By highlighting lessons learned from sustainable energy pol-
icy in industrialized and emerging countries, we show how these risks can be, and have been, managed.

A Reality Check for 'Green Economy' Policy: A Critical Review of Green Growth Policy in South Korea
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Transformation has recently emerged as an alternative framework for sustainable development. Transformation often refers to profound changes in the social-ecological relations. While social movements have usually initiated transformation in the history of environmental policy, several governments have recently advocated a new social-economic model called 'green economy' in response to environmental changes. However, the policies coming under the name of 'green economy' have to be carefully examined as they may not be the genuine article.

The South Korean Government tried to be a forerunner in 'green economy' and they announced the Low Carbon Green Growth Act in 2008. As a result of this Act, the ‘Four Major Rivers Project’ was implemented as Korea's main adaptation scheme. The project consisted of dredging and constructing 16 weirs to prevent floods and alleviate droughts. However, the project severely altered the ecosystems of the rivers while contributing no observable benefit regarding adaptation to climate change. Algal bloom greatly worsened after the project, and the livelihoods of fishermen and farmers depending on the rivers were put at risk. Meanwhile, it became apparent that the scheme had significantly benefited several major construction companies.

Was the Four Major Rivers Project an adaptation attempt that failed, or was it a fake 'green economy' policy from the beginning? To answer this question, the study analyses the institutional and discourse features of the Green Growth Act that made the project possible. Document analysis and interviews with key actors are used to expose the underlying assumptions, interests, frames and concepts with which the Green Growth policy was drafted. Ostrom’s Institutional Analysis and Development framework is also used to understand the interactions of the different actors, as well as for analysing the outcomes and feedbacks that occur during the process.
Understanding modalities of climate partnerships and their contribution to climate governance

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Climate change is one of the priority issues on the current sustainability agenda and a malign type of problem with various conflicting interests that requires a collaborative solution. Public-Private partnerships are a specific form of transformative climate governance as they provide linkages to more benign issues and therefore increase the problem solving capacity of the overall governance system. Three modalities of public-private partnerships are identified in this paper, i.e. instrumental, institutional and regime, which are characterized in turn by specific inputs to climate governance and hence require different approaches to measuring their effectiveness. For instance, climate partnerships perceived from the instrumental perspective, e.g. CDM, are frequently evaluated in terms of fulfilling the target or functions, while studies of the institutional modality of partnerships (e.g. REEEP, GVEP) rely on assessment criteria derived from organizational science, which are mainly concerned with organizational capacities and operational accountability. Finally, studies on the overall climate regime (as a form of meta-partnership) are often linked to questions of legitimacy and accountability.

The paper analyses different approaches to measuring effectiveness of climate partnerships and proposes an assessment framework addressing variations of climate partnerships contributions within identified modalities. The proposed framework is based on three effectiveness standards, which allow assessing each modality of partnerships from various analytical perspectives established in conjunction with the type of partnership contribution, i.e. goal attainment, accountability, legitimacy. The study also provides comparison across the modalities in an attempt to understand competitive advantages of each modality and provide insights on which climate partnership modality delivers more tangible results for tackling climate change issues.
National Policy and Transnational Governance of Climate Change: Substitutes or Complements?

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Many scholars and policymakers see transnational governance as a substitute for lackluster national and international policies. Moreover, the bulk of the literature explains sub- and non-state actors’ participation in transnational governance as a product of the micro-level incentives such actors face from customers, investors, citizens, or civil society groups, as the cross-border networks and diffusion processes that create and spread such incentives. This paper argues that these theories overlook the crucial relationship between national policies and transnational governance, positing a more dynamic relationship between the two. First, we argue that national policies have a positive effect on sub- and non-state actors’ participation in transnational initiatives. Second, we argue that domestic institutions condition the effect that micro-level incentives and their diffusion across border play in participation in transnational initiatives. We test these ideas in the climate regime, using an original dataset that, for the first time, measures cross-national variation in the more than 14,000 sub-state and non-state actors that participate in 75 transnational climate governance initiatives around the world. The results support our conjectures, and therefore suggest we see national policies and transnational governance more as complements than substitutes. Finally, by showing how and when national policies affect participation in transnational climate governance, our results identify important opportunities and scope conditions regarding the role transnational governance can play in addressing climate change.

The Lima – Paris Action Agenda (LPAA): window-dressing or effectively closing the emission gap?

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The ‘Lima – Paris Action Agenda’ (LPAA) was launched by the Peruvian and French COP presidencies, the Office of the Secretary-General of the United Nations and the UNFCCC Secretariat in the run-up to COP 21, aiming at boosting non-state climate action taken by companies, investors, cities and regions. The LPAA is the most formal integration of non-state actions into the UNFCCC to date and questions the exclusive role, capacity and legitimacy of nation states to set global norms in multilateral forums. In this article, we critically examine non-state action under
the LPAA by testing it against the narrative of ‘bridging the ambition gap’, which suggests that non-state actors can mitigate greenhouse gas emissions beyond the national mitigation pledges. Mixing document analysis, participatory observation and quantitative analysis from the Non-State Actor Zone for Climate Action (NAZCA) database and the CONNECT-project, we suggest that there are three important challenges for non-state actors to bridge the ambition gap: commitments are seldom quantifiable or ensuring net emission reductions, geographical and sectorial representation is heavily skewed towards a few regions and industries, and data availability to track progress is poor. For each short-coming we suggest a number of remedies to ensure that non-state climate action is harnessed in an effective and legitimate manner beyond Paris.

Strengthening transnational governance – Effectively aligning non-state actor capacity for sustainable and low-carbon development

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Orchestration, that is measures to align transnational actors with public goals and international agreements, is increasingly deployed as a mode of indirect governance, in global sustainable development as well as in the climate change area. While recent scholarship has described a growing number of such instances of orchestration, the determinants of successful orchestration are not well understood.

This paper presents research results on two widely noted instances of orchestration. In 2002 the UN presented ‘Partnerships for Sustainable Development’ as instruments to help with the implementation of internationally agreed sustainability outcomes. More recently, ‘climate commitments’ have been launched at the 2014 UN Climate Summit to mobilize ‘leaders’ from governments, the private sector and other groups in support of the international climate process. This paper compares these two instances of orchestrations, focusing on three specific questions: i) have orchestrators achieved a balanced representation of non-state and subnational stakeholders; ii) have orchestrators achieved balanced geographic implementation of initiatives, ensuring efforts where they are most needed; and iii) have orchestrated initiatives produced outputs that match their commitments? It is hoped that the comparison between the two cases will allow for a better understanding of the determinants of successful orchestration.

The research comprises one of the largest research samples of transnational governance initiatives yet, combining the Global Sustainability
Partnerships Database (2010), which includes 330 initiatives and the Global Aggregator for Climate Actions (2015), which includes 52 initiatives.

Making Initiatives Resonate: How Can Non-State Initiatives Help to Increase National Contributions under the UNFCCC?

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The international governance landscape on climate change mitigation is increasingly complex across multiple governance levels. Climate change mitigation initiatives by non-state stakeholders can play an important role in governing global climate change and contribute to avoiding unmanageable climate change. It has been argued that the UNFCCC could and should play a stronger role in ‘orchestrating’ the efforts of these initiatives within the wider climate regime complex and thus inspire new and enhanced climate action. In fact, the Lima-Paris Action Agenda supporting cooperative climate action among state and non-state actors was supposed to be a major outcome of COP21.

There is little doubt that successful mitigation initiatives can create a momentum for climate protection. What is missing, is a systematic analysis of how this momentum can feed back into the UNFCCC negotiation process, inspiring also enhanced and more ambitious climate mitigation by states in future iterations of the cycle of nationally determined contributions under the Paris Agreement. This paper aims to close this gap: building on a structurational regime model, the article [1] develops a theory of change of how and through which structuration channels non-state initiatives can contribute to changing the politics of international climate policy; [2] traces existing UNFCCC processes and the Paris Agreement with a view to identifying entry points for a more direct feedback from non-state initiatives; and [3] derives recommendations on how and under which agenda items positive experiences can resonate within the UNFCCC negotiation process.
Combatting Climate Change in the Pacific: Regional Governance and the Pursuit of Climate Security

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This paper analyses the regional complexes of climate security in the Pacific. Pacific Island States and Territories (PICTs) have long been cast as the ‘frontline’ of climate change. Within the grand architecture of global climate governance, the region provides compelling new insights into the ways climate change is constructed, governed, and shaped by—and in turn shapes—regional and global climate politics. We argue that the Pacific is not just ‘any region’, rather from the perspective of PICTs much of the intense speculation and debate over climate policy seems irrelevant and immature given the oft-repeated warnings of the severe consequences of climate change for low-lying islands and atoll countries. While it is widely agreed that climate change requires action at multiple levels of government, studies of climate change in the Pacific have been narrowly focused with limited attention to transnational and regional processes. By focussing on ‘climate security’ as it is constructed in the Pacific, and the ways the concept mobilises resources and shapes the implementation of climate finance, the paper provides an account of the way regional organizations in the Pacific have contributed to the search for solutions to the problem of climate insecurity. Our analysis brings to the fore competing conceptions of climate security, the articulation of policy narratives and the constraints imposed by continued dependence on external powers. Through an exploration of regional governance as a strategy by which small vulnerable states respond to urgent crises, the paper explores both the potential and the limitations of collective action on environmental issues following the United Nations Climate Change Conference (COP21) in Paris 2015.
Conceptualizing Power in Multi-level Climate Governance

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This paper’s contributions to transformative global climate governance is twofold. First, it demonstrates how power can be conceptualized in multi-level climate governance. Second, it develops a power-laden analytical framework for climate policy implementation. Effective climate governance requires action on various levels of decision-making. International regimes, national governments, transnational companies, global non-governmental organizations and subnational networks are just a few relevant stakeholder groups. Whereas multi-level governance enables us to cover the complex relations between these actor groups within multi-level governance arrangements, scholars have done little to explicitly conceptualize power in multi-level environmental governance. Any form of transformative governance requires a deeper understanding of power relations. By translating insights from traditional pluralist power theorists (e.g. John Gaventa, Steven Lukes, R.A.W. Rhodes) into the multi-level governance framework (e.g. Arthur Benz, Liesbet Hooghe, Gary Marks) this study tackles the following research question: How can we investigate the role of power in complex climate governance arrangements? Based on earlier power theories a three dimensional approach is developed. Power is defined as the access to resources and the capacity to use these resources. Hard resources such as constitutional, regulatory and political power as well as soft resources such as agenda-setting and framing are identified as important power categories (dispositional dimension of power). Capacity includes technical, financial and informational capacities (relational dimension). A third dimension involves the macro-societal structures that organize the decision-making process in a complex multi-level governance arrangement (structural dimension). The approach is then being discussed as an analytical framework for mapping how complex power relations affect climate policy implementation. It enables us to identify crucial obstacles like power fragmentation, veto players or insufficient capacity. At the same time, critical limitations include the operationalization of power categories and fuzzy causal relations.
Carbon Governance Arrangements and the Nation-State: The Reconfiguration of Public Authority in Developing Countries
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In recent years, several scholars of world politics have observed a relocation of authority in different issue areas of global policy-making. This development appears to be particularly evident in the field of global climate politics where a number of authors have highlighted the gradual loss of authority by national governments and the emergence of new ‘spheres of authority’ dominated by actors other than the nation-state. In fact, due to the existence of a regulatory gap in this policy domain, various new ‘governance arrangements’ have emerged which operate simultaneously at different levels (some top-down and others bottom-up) to cope with the problem of climate change. However, despite several broader descriptions and mapping exercises as well as the repeated claim that such arrangements have led to new roles and transformed public authority, we have little systematic knowledge about their workings, let alone their impact on political-administrative systems. Given these shortcomings, in this paper we explore how (and how far) different types of globally operating governance arrangements have caused changes in the distribution of authority within national governments and their public administration. We will focus on two stylized governance arrangements: one that operates bottom-up (i.e. Transnational City Networks, TCNs) and another that operates top-down (i.e. Reducing Emissions from Deforestation and Forest Degradation, REDD+). Thus, the primary objective of this paper is to analyze whether new carbon governance arrangements lead to a reconfiguration of public authority across different levels of political and administrative decision-making within the participating nation-states. The paper will present preliminary findings from case studies on Brazil, India, South Africa, and Tanzania with regard to our hypothesis that the top-down governance arrangement (REDD+) generates a trend towards more centralized decision-making, while the bottom-up governance arrangement (TCNs) strengthens decentralization efforts in the field of environmental policy-making.
Designed at the top, challenged from the bottom: The politics of disputes over renewable energy in Ontario (Canada) and Brandenburg (Germany)

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Cutting back on greenhouse gas emissions is a key motivation for governments to launch renewable energy support programmes, alongside economic objectives. Designed at national or provincial level, especially support policies for wind turbines have increasingly met with local resistance once materialising into new energy landscapes. With the literature on anti-wind discourses mainly following a single-case study approach focusing on the reasons and origins of local anti-wind sentiments, this paper takes a fresh approach to compare discourses and institutions of pro and anti-wind in two beacon jurisdictions for wind energy development in North America and Europe: The Canadian Province of Ontario and the German federal state of Brandenburg. Ontario has successfully phased out coal-fired energy generation and is now the leading Canadian province in terms of installed capacity of wind power. Brandenburg has been awarded, for three consecutive times, a price for the best German federal state to promote renewable energies, occupying the second place in terms of installed capacity of wind power in Germany. Both jurisdictions, however, have experienced massive local anti-wind protest which has scaled up from the local level to a broader high profile debate unfolding at provincial/state level. The paper touches upon a major question in interdisciplinary transformation research: Which discourses lead to the adoption of a pro-renewable political agenda and the resulting institutional design of a decision-making system at the provincial/state scale in the first place? How are local anti-wind discourses scaled up to challenge them? Theoretically, the paper draws on Hajer’s argumentative discourse analysis, the notion of strategic institutional design and the concept of depoliticisation. The paper presents ongoing PhD work.
Common but differentiated learning
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Transformation is complex and multi-level governance the admittance of this fact. Our paper presents the lessons learnt from a number of projects, which were / are meant to foster fruitful dialogue and transformative learning among a variety of actors. The projects are united by local climate action as the chosen political arena, our assumption that a level playing field or ‘middle ground’ is needed, and questions such as: How to build efficient coordination structures between horizontal and vertical lines? How to facilitate common but differentiated learning? And how to measure and monitor the ‘fruitfulness’ of such dialogue?
In trying to answer these questions we draw on applied research from transformative governance projects in Europe, Asia and Africa. One example given is the V-LED project, which will – in the context of the post 2015 agenda, the implementation of the Sendai Framework of Action, the adoption of the SDGs, and ‘après Paris’ – promote platforms for exchange on local climate action in four countries with very different political systems: communist Vietnam, post-apartheid South Africa, Kenya and the Philippines. Our research aims at understanding the coordination mechanisms that may lead to the emergence of dialogue, learning and eventually climate action in multi-level governance systems.

Novel shapes of South-South collaboration: Emerging knowledge networks on co-benefits of climate and development policies
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This paper analyzes knowledge networks on “co-benefits” of climate action. The term “co-benefits” refers to impacts of climate change policy on human development and vice versa. Most of the world’s poor live in middle-income countries with emerging economies and growing emissions profiles (Sumner, 2010). This situation requires solutions for integrating developmental and climate change policy objectives (Wlokas et al., 2013). But how do we know how to do this? Research on the matter forms a small body of literature, including the latest Assessment Report...
The assessment reports capture large parts of the explicit research into “co-benefits” that went through academic peer-review processes. The tacit knowledge on “co-benefits” of climate change and development has not yet been examined.

This analysis focuses on knowledge networks in the global South, as integrating climate and development policy matters to middle-income countries with growing emissions and persistently high levels of poverty and inequality. We apply innovative social network and discourse network analysis methodologies to assess collaboration forms and new knowledge contributions on “co-benefits” in knowledge networks between six middle-income countries connected to the Mitigation Actions Plans and Scenarios (MAPS) Programme. We find substantial networks of 92 knowledge holders involved in knowledge creation on “co-benefits”. These networks produced new knowledge in seventeen areas, ranging from integrated assessment modelling to quantification and multi-criteria decision analysis. Yet, knowledge creation on co-benefits can benefit from strengthening the connections between actors in the knowledge networks and practitioners aiming to apply new knowledge to inform climate and development policies. This interdisciplinary analysis adds to the literature in applying well-established concepts of networked knowledge production from the management, innovation, sociology and political science literature to one of the world’s most pressing public policy problems: integrating climate change and development.

A Learning Experience: essentials of transformational approaches in the implementation of INDCs

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A major cornerstone on the way to low-carbon sustainable development on a global scale will be a swift and effective implementation of all countries’ INDCs submitted to the UNFCCC prior to Paris. However, doing so will require transforming development pathways away from currently pervasive carbon lock-ins. This can only be successful if countries take a systemic view on their development agendas, and link mitigation, adaptation and other developmental priorities together for a coherent overarching sustainable development strategy. The ownership for this process needs to be with the countries themselves as such strategies touch fundamentally upon national policy-making and implementation. At the same time, developing countries have access to bi- and multilateral financial and technical cooperation. To enable a systemic, country-led
perspective, development cooperation needs to shift its paradigms away from currently prevalent project-level interventions.

A truly innovative and transformational shift with the objective of pursuing a low-carbon and climate resilient society needs to open up space for experimentation as new ways of doing things need to be put into practice. Experiments will not always be successful, but foster learning on a national as well as an international level on pitfalls and solutions in new approaches to low-carbon sustainable development. Not least, there needs to be a renewed focus on programmatic approaches that link various topical domains for a country-led process, and a critical look at development work that is "doomed to succeed".

Our article draws from systems theory, development studies and recent work on transitions studies and transformational change in the international domain. It links up different theoretical concepts with practical approaches in order to outline a future development agenda that will be owned by developing countries and supported non-invasively by bi- and multilateral development cooperation to foster low-carbon development pathways that are urgently needed to solve the climate crisis.

**How Does Multilevel Climate Governance Work?: A Nexus of Policy Diffusion and Multilateral Aid**

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The failure of Kyoto Protocol has increased expectations on horizontal governance (Keohane and Victor 2011). One candidate governance scheme hinges on policy diffusion facilitated via multiple economic channels between interdependent states. However, few empirical studies have to date examined interactions between horizontal diffusion and multilateral environmental aid, another existing governance scheme. Without accurate knowledge on the interactive effects, assessments of the existing climate governance are incomplete.

In our proposed paper, we will ask the following three interrelated questions. First, regarding diffusion, to what extent does one state’s environmental performance affect that of other state through trade and investment ties? Second, are the diffusion patterns either symmetric or asymmetric? In contrast to the existing studies that assume the symmetry of diffusion, diffusion may be viewed as asymmetric from the perspective of the ubiquity of state power in international relations. Third, how do the diffusion patterns interact with environmental aid? If the diffusion of good (bad) performance is dominant across states, it is said that this positive (negative) diffusion pattern can reinforce (offset) aid.
Drawing from theories of diffusion and of multilevel governance, we will analyze how diffusion works on states’ CO2 reduction performance. Specifically, we will evaluate four diffusion patterns based on competition and learning through trade and investment, by estimating spatial models against OECD CO2 consumption data on 88 states for the 1990-2012 period. We will also assess how the diffusion patterns interact with environmental aid.

Our preliminary result indicates that major states’ negative climate performance influences lesser states more strongly than vice versa. Another result shows that the negative diffusion offsets a positive effect of aid in reducing developing states’ CO2 emissions, hence augmenting the IGOs’ aid tasks to undue extents. These adverse interactions imply that the existing governance is exacerbated by large developed states’ poor performance directly and indirectly.

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Story-tellers or number crunchers: scientific policy advisors and the policy narratives of German energy transition

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Political debate on energy transition in Germany has been shaped by two historically opposed policy narratives. Both share the commitment to global climate protection, but differ strongly in their conclusions for national action. The first narrative pushes for a rapid transition to a renewables-based energy supply, expecting economic benefits domestically from this transition and praising the country for its international leadership role. The opposing narrative is more status-quo oriented, expressing concern about economic risks of the transition and questioning its effectiveness in helping to reduce greenhouse gas emissions globally (Leipprand et al., submitted manuscript).

Scientific policy advice has accompanied the debate from the beginning, with sometimes strongly contradictory statements, indicating that scientists act as value-driven advocates rather than cartographers of alternative policy pathways. This paper draws on the Advocacy Coalition Framework (ACF) and the Narrative Policy Framework (NPF) to study the role of scientific policy advice in recent German energy policy. 1) Which elements of the major energy policy narratives are supported or challenged by the empirical work of scientific advisors? 2) Do scientists themselves explicitly reproduce the policy narrative of a certain advocacy coalition?
We perform a qualitative text analysis of reports written by scientific policy advisors on German energy future and energy transition between 2000 and 2015. We apply a codebook that considers both structural elements of narratives as proposed by the NPF, and the specific content of energy policy narratives in German political debates. To cross-check the results interviews with key experts are conducted.

The paper analyzes the role of science within a national transformation discourse, and highlights the tensions between national and global transformation perspectives. It thus relates to the conference themes of transformation, coherence and multi-level capacity.
Transnational Climate Governance and the Global South
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Alongside the intergovernmental climate change negotiations, a wide variety of climate actions is emerging as cities, regions, businesses, and civil society groups act on mitigation and adaptation, independently, with each other and with national governments and international organizations. Many have hailed this ‘groundswell’ of actions as an important sign of the increasing momentum on climate change. However, critical voices in both policy-making and academic communities have argued that the benefits of such actions may be unequally distributed among developed and developing countries, and raised concerns that some actions may even exacerbate existing imbalances in global climate governance, in particular between the global North and South. This paper aims to empirically test whether these concerns hold true, drawing on a survey of existing transnational climate governance. The paper explores developing country engagement with transnational climate initiatives, distinguishing between initiatives on the basis of their participation (e.g. including developing country actors), focal areas (e.g. mitigation, REDD+, adaptation), and functions (e.g. knowledge sharing, capacity building, standard setting). It argues that the groundswell of transnational actions poses challenges from the perspective of differential treatment of developed and developing countries, but it also presents opportunities for developing countries to help shape the transnational sphere of climate governance. The paper concludes that the concerns raised by developing countries in the context of transnational climate governance are not unfounded, but negative distributive effects have been overstated, while opportunities have been neglected. Analytically, the paper highlights the importance to distinguish between different types of transnational climate governance.
Climate Change Litigation, Liability and Global Climate Governance – Can Judicial Policy-making Become a Game-changer?

Samvel Varvaštian
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Climate change litigation, which is often perceived as an attempt to fill the regulatory gap left by the traditional decision-making legislative and executive branches, has grown intensively in recent years, becoming an important feature of climate governance in the US and a growing trend in some other jurisdictions. However, climate cases often involve a range of complex legal and non-legal issues, such as separation of powers, scientific uncertainty, causation and liability. How effective is the judiciary in climate policy-making and what impact will it have on global climate governance? The paper attempts to answer this question by discussing the role of the judiciary in contemporary climate governance and the specifics of regulatory approaches adopted by courts in dealing with climate cases.

Could Climate Governance Learn from Transitional Justice?

Sonja Klinsky
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Geopolitical changes combined with the increasing urgency of ambitious climate action have re-opened debates about justice and international climate policy. Tensions about historical responsibility have been particularly difficult and could intensify with increased climate impacts and as developing countries face mounting pressure to take mitigation action. A global governance regime capable of achieving sustained, deep mitigation targets and an adequate response to climate impacts will have to integrate backwards-looking claims of historical responsibility, and forward-oriented collective action. However, it is unclear what an arrangement capable of addressing the tension between these might look like.

Climate change is not the only time humans have faced historically rooted, collective action challenges involving justice disputes. Practices and tools from transitional justice have been used in over 30 countries across a range of conflicts at the interface of historical responsibility and imperatives for collective futures. However, lessons from transitional justice theory and practice have not been systematically explored in the climate context.

This paper conceptually examines the potential of transitional justice practices to inform global climate governance. It first argues that there are four similarities to these contexts including: unavoidable interdependencies; inadequacy of existing legal institutions; profound disagreement about ideal relationship between past responsibility and future obligations; immediate importance of social and economic wellbeing im-
provements. It then identifies a suite of common transitional justice prac-
tices; assesses their potential applicability in the climate context; and
uses this analysis to propose several pragmatic components that could
be used to inform the evolving global climate governance regime. This
research emerges out of a larger project built around a series of work-
shops with practitioners and academics from both the climate and transi-
tional justice communities.

Intergenerational climate change burden sharing through bonds
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Climate justice has been discussed in the focal point of law, economics and governance. The implementation of climate stability accounts for the most challenging contemporary global governance predicament that seems to pit today’s against future generations in the trade-off of economic growth versus sustainability. As a novel angle towards climate justice, we propose a behavioral economics solution to elicit future-oriented loss aversion. In an overlapping-generations framework, we solve the climate change abatement aversion in the fear of costs curbing economic growth by building on Sachs (2014). The current generation thereby mitigates climate change financed through bonds to remain financially as well off as without mitigation while improving environmental well-being of future generations. This intergenerational tax-and-transfer policy turns climate change mitigation into a Pareto improving strategy. Sachs’ (2014) discrete model is integrated in contemporary growth and resource theories. We analyze how climate bonds can be phased in a model for a socially optimal solution. We also test if the climate change debt adjusted growth model stays within the bounds of a sustainable fiscal policy by employing nonlinear model predictive control (NMPC), which solves complex dynamic systems with different nonlinearities. Overall, shifting the costs for climate abatement to the recipients of the benefits of climate stability appears as novel, feasible and easily-implementable solution to nudge overlapping generations towards future-oriented loss aversion in the sustainability domain.

Moral Bargaining: Justice Adherence in International Environmental Negotiations
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Uppsala University, Sweden

It is well established that questions of distributive justice are at the heart of environmental negotiations. Furthermore, procedural justice plays an equally important role particularly in large scale, multilateral settings.
While previous research has established a link between justice and effectiveness of negotiations, the mechanisms behind justice behaviour in international negotiations remain understudied. Against this background, this paper will investigate the twofold question: Why do negotiators call upon justice principles in some negotiations but not others; and when they do, why do they emphasize certain principles over others? In order to answer this question, this study will employ a structured focused comparison on five sets of environmental cases, including but not limited to Climate Change negotiations within the UNFCCC framework. Within each set, one factor theorized to play an important role in shaping justice behaviour in environmental negotiations will be analysed. The factors are 1) setting (size) of the negotiations – multilateral vs. bilateral, 2) power balance between the parties – rough equality vs. inequality, 3) domestic constituencies – supporting vs. opposing the justice position advocated, 4) common aversion – reframing the issue in response to a crisis, and 5) scientific (un)certainty – adversary science vs. agreed upon scientific models.

Uncovering factors that shape justice behaviour in international environmental negotiations is relevant for transformative global climate governance on multiple levels. The analysis can help to better identify and explain prevailing differences between parties’ justice notions. Additionally, the comparison between a range of cases provides insights into differences in notions of justice over time and across different issue areas. Better understanding of what motivates negotiators’ choices of justice principles and their acceptance can help to strengthen the link between justice and effectiveness of negotiations. In this way, the paper’s findings will be of relevance from both a research and policy perspective.
Experiments for identifying necessary and missing competencies for a smart and sustainable energy system

Eva Heiskanen, Kaisa Matschoss

University of Helsinki, Finland

The notion that we can learn from experiments is topical in current discussions on societal transitions and reflexive governance for combating climate change. Within a socio-technical transitions approach, strategic niche management (SNM) conceives of local experiments within protected spaces as important initiators of learning and empowerment of new technologies. Transition management—a governance approach—views “local experiments” as central in a societal learning process for sustainability. Several countries—among them Finland—aim to develop a culture of experimentation in order to meet the sustainability and climate challenges of the future.

The present paper presents a new perspective on experiments and learning. Analytical studies on experiments, pilots, demonstrations and living labs show that experimental uses of new technologies can reveal missing competencies. For example, demonstrations of building-applied solar energy technologies show how commissioning, maintenance, operation and use can be problematic due to missing services and missing competencies in existing firms and among users. Thus, demonstrations or experimental uses and combinations of new and innovative technologies can serve as a basis for anticipating what kinds of skills and competencies will be needed in the future on a large scale. Very concretely, they can be used to anticipate professional and vocational training needs and needs for usability design of systems.

We demonstrate our approach with Finnish examples from pilots, demonstrations and experiments in embedding smart energy - solar power and other intermittent energy sources, energy management, smart metering and grids—into real-life environments. Our data consist of 8 case studies, and workshops with the users of research results (public authorities, educational bodies, interaction designers). We show how such experiments can be used to identify missing competencies and anticipate future education and usability needs, i.e., how to co-adapt technologies and users to a climate-constrained future world.
Actors’ beliefs and their effect on the emergence of collaboration networks: the case of the German Energy Transition at the local level

Heike Isabell Brugger
University of Konstanz, Germany

The German Energiewende—energy transition towards a green energy supply—is a unique national project. It represents the German response to at least three policy problems, including: 1) global climate change, 2) overdependence on foreign energy resources, and 3) the wish to opt out of nuclear energy. Most renewable energy projects implemented under this policy take place at the state and national level, however involving communities in the decision making process helps to attenuate controversy arising from NIMBYism. While some counties have made significant progress towards a transition to renewable energies, others lag behind. I argue that this can be explained in part by the formation and maintenance of policy networks among stakeholders at the local level; this is because networks allow actors to more effectively collaborate and find consensus on mutually agreeable strategies. This paper uses two emerging approaches for policy analysis - network analysis and the Advocacy Coalition Framework - to explain network emergence and network evolution in the case of the German Energy Transition at the local level.

The study is based on four German counties, identified through a most-similar-system approach. Relevant stakeholders in these counties—identified through the analysis of newspaper content—were surveyed about their beliefs and perceptions, preferences for collaborative tie formation, and their existing collaboration network. These measures allow for the estimation of different types of policy networks. Comparing these networks using exponential random graph models (ERGM) and quadratic assignment procedure (QAP) allows for an examination of the importance of shared beliefs on network formation, and the extent to which preferences of link formation are actually realized. Furthermore, the comparison of the four cases will help to identify whether the realization of link formation preferences will have an effect on policy outcomes—and therefore on the implementation of renewable energies in the region.
Governing industrial decarbonisation: Understanding the conditions for transformations in energy-intensive natural resource-based industry

Oscar Svensson¹, Roger Hildingsson²
¹Environmental and Energy System Studies, Lund University, Sweden; ²Department of Political Science, Lund University, Sweden

Climate change is currently being reframed from an emissions problem to an energy system problem. In the run-up to Paris the focus of climate governance is changing from mitigation options towards pathways for decarbonising societal structures and social practices that generate carbon emissions. So far climate policy efforts have predominantly been geared towards achieving set emissions reduction targets, while the decarbonisation of key socioeconomic sectors such as energy-intensive natural resource-based industry (ENRI) has yet not been addressed. In the GIST project we study the conditions for decarbonisation in ENRI industries and explore possible pathways for governing industrial transformations.

Sustainability transition research (STR) has over the last decade become a dominant influence setting the agenda for the study of sustainability transitions. However, the transformations of ENRIs have been largely overlooked in STR, although posing a number of characteristics and conditions that put distinct challenges for sustainability transitions. The ENRI sectors are, from a STR perspective, assumed to represent incumbent regimes with strong path dependencies and lock-ins. Considering the capital-intensive, large-scale and long-term investment cycles, it is unlikely to expect wide-spread nisch-cumulation of radical innovation in this industry. Thus, we need a better understanding of regime transformation and a broader set of conceptualisations of the dynamics of industrial transformation.

The objective of this paper is to explore alternative approaches to understand the conditions for governing system innovation, structural change and regime transformations. Our aim is to develop a multi-disciplinary approach for studying the dynamics of industrial transformations based on a review of different theoretical perspectives. We draw on insights from system innovation studies, energy system analysis, structural economics, political economy, institutional theory and policy studies considered in relation to the characteristics of Swedish ENRIs such as iron and steel, cement, petrochemicals and pulp and paper industry.
Leaders around the world grapple with essentially the same political feasibility question in responding to the threat of climate change. How can policies be designed to promote new opportunities in domestic implementation and low-carbon transformations? And how can policy-makers reform and step-up existing policies to meet the long-term challenge of climate change?

The learning effect of the EU experience can be great. This paper explores how domestic experiences from implementing EU 2020 policies have been fed into the negotiations on new EU climate and energy policies for 2030. In this endeavor, theories of EU integration and policy making are combined with implementation theory. Positive experiences from implementation in the form new ‘green’ jobs and innovation opportunities are likely to facilitate support for more ambitious targets based essentially on the same set of policies and issues. Conversely, negative experiences are likely to spur opposition to more of the same policies. Mixed experiences are likely to lead to preferences for repacking, strengthening positive elements and weakening negative elements.

The cases selected are Germany, the Netherlands and Poland which are representative for the main different groups of interests in the negotiations on new EU climate and energy policies for 2030. Data collection has been based on multiple sources, including interviews.
Economic Institutions and Fossil Fuel Subsidy Reform
Jakob Skovgaard
Lund University, Sweden

Fossil fuel subsidy reform has recently been addressed by international economic institutions particularly the G20, the IMF and the OECD. Yet, the three institutions have adopted rather different approaches to fossil fuel subsidies, including defining such subsidies in strikingly different ways. The choice of definition is politically important, as it determines whether a given policy can be characterized as a fossil fuel subsidy. The paper seeks to answer the question of why the three institutions differ in the way they address fossil fuel subsidies. These differences are puzzling given the rather similar norms intrinsic to the three institutions. Answering the question is important for transformative global climate governance for two reasons. Firstly, because reforming fossil fuel subsidies in itself may provide an important contribution to the transformation to sustainable development. Secondly, because studying how economic institutions address fossil fuel subsidies – particularly their framing of such subsidies in environmental or economic terms – provide important insights into the potential for linking global climate and economic governance.

The analysis finds that the G20 defined fossil fuel subsidies in a way that emphasised the negative environmental consequences of fossil fuel subsidies, an approach which was due to a combination of the desire to address climate change in a forum beyond the UNFCCC and US entrepreneurship. The OECD defined fossil fuel subsidies in a manner that focused on the environmental and fiscal consequences of fossil fuel subsidies, an approach which was shaped by frames which were already well-established among OECD staff and by interaction with the G20. The IMF used a definition of fossil fuel subsidies that stressed the macro-economic consequences of such subsidies and which to a large degree focused on fossil fuel subsidies in industrialised countries, an approach primarily shaped by IMF staff.
Deliberating a just future: the role and impact of youth on climate governance
Grace Muthoni Mwaura¹, Kennedy Liti Mbeva²
¹Oxford University, United Kingdom; ²African Centre for Technology Studies, Kenya

Climate change is undoubtedly one of the greatest human development challenges of the 21st century; some have termed it as a ‘super wicked problem’. As the scientific understanding of the scope and nature of climate change has developed over time, so has the evolution of climate governance. A greater number of stakeholders are now increasingly involved in climate governance. Despite ‘youth’ becoming an increasingly important stakeholder in climate governance, few studies have explored the implication of their participation in climate governance. Furthermore, the impact of youth, beyond participation, on climate governance remains unexplored. This is of significant concern given the increasing global youth population particularly in developing countries, the increasing and new political formations of young people at the local, national and international levels, as well as the (mis)identification of ‘youth’ as the most effective proxy for present and future generations. This exploratory research seeks to address this gap by unravelling the role and impact of youth in climate governance. Through the adoption and use of the analytical concept of deliberative governance, within the context of the principle of intergenerational justice, we draw on 20 case studies of youth organisations and networks in Africa, Latin America and Europe, to address the following questions: How is the role of young people in climate governance understood?; What specific impacts have these youth groups / networks had on climate governance and related decision-making processes at national, regional and international levels?; To what extent do the contributions of these youth groups / networks foster the notion of intergenerational justice? By responding to these questions, this paper shall potentially contribute to three key academic and policy areas: the role and impact of youth on climate governance; the role and impact of deliberative democracy on climate governance; and the influence of intergenerational justice on climate governance.
Bringing the Voice of the People into Global Climate Governance: The World Wide Views on Climate and Energy
Angela Jain\textsuperscript{1}, Antoine Vergne\textsuperscript{2}, Christian Kusch\textsuperscript{1}
\textsuperscript{1}Nexus Institute, Germany; \textsuperscript{2}Missions Publiques, France

Problem: There is a democratic gap in global climate governance: Governments negotiate without direct mandate from citizens. The plethora of interest groups cannot entirely alleviate this problem as they also represent narrow subsets of the population.

New tool: The World Wide Views (WWV) method was developed in order to bridge this gap between ordinarily non-engaged citizens and decision-makers. In 2015, Missions Publiques in cooperation with Danish Board of Technology Foundation and CNDP, France initiated the largest global citizen consultation to date on matters of climate change and energy. 9,400 citizens participated in 97 day-long events in 76 countries on June 6\textsuperscript{th} 2015. nexus has been the local partner in Germany, commissioned by the German Government.

Question: In our paper we discuss if global citizen participation can answer questions concerning global justice. WWV showed, this only works out if the rules are the same everywhere: 1_The participants were chosen to reflect the diversity of their respective regions or countries, e.g. by random selection in Germany. 2_They received a booklet containing scientific information that had been edited for clarity and intelligibility well before the events. 3_On the basis of this shared knowledge, the citizens deliberated about the issues at stake at COP21. 4_In order to make their opinions accessible, they voted on 34 pre-defined questions. 5_The results were gathered, made public via an online tool and disseminated to policy-makers at high-level events. Concluding, we see this method as link between bottom-up and top-down forms of participation.

The paper elaborates on the specific assets of the method and explores if WWV is suitable tool for engaging citizens even in complex issues like questions of global justice. We will analyze our experience with the worldwide execution of the WWV events and the dissemination work done until COP21 and thereafter.
Mapping India’s Approach towards Climate Change – A Multilevel Approach

Madhura Uday Joshi¹, Atul Kumar¹,²

¹The Energy and Resources Institute, India; ²TERI University, India

The link between energy consumption and development is irrefutable. Moreover for developing, and under-developed countries, not only is it related to development, but also to the ability of communities to respond to climate change. Multi-pronged and multi-level approaches are required to tackle climate change. In India, these efforts have manifested on the multi-lateral forums as well as domestically. Only through the participation of different actors, across multilateral, national, and local levels can the agenda of sustainable development which looks at mitigating GHG emissions, reducing impacts of climate change while ensuring adaptability, be developed.

Energy and climate governance in India is a multi-level process and is shared between different ministries at the national level, and different bodies at the state level involved in pricing, taxing, licensing, and managing the resources. The geographical variance and expanse, as well as the distribution of powers across different national and sub-national bodies often give a fragmented view of climate governance. This paper aims to examine India’s participation in select multilateral and regional institutions and conduct a functional classification of the issues raised in the different organisations (such as energy security, climate change, sustainable development, environment, etc.) to compare and contrast the consistency and/or the differences in its approach in the various institutions. The second level would analyse the efforts on a national and sub-national level on the identified issues by mapping the views of different stakeholders. The third level involves an analysis of the manifestos and campaigns of major national and select regional political parties to see whether the identified issues at the multilateral and national levels have an echo on the sub-national levels. Such an understanding is crucial to identify whether there is any space being created to foster inclusive and participatory dialogue in designing solutions to help develop resilient responses to climate change.
Accountability in Climate change governance and Caribbean SIDS
Michelle Scobie
The University of the West Indies, Trinidad and Tobago

Accountability is part of the good governance of institutions and regimes. The subject of this paper is nature of accountability in the climate change governance relationships. Context matters for understanding related governance dynamics and this paper presents the findings of research on accountability in climate governance in Caribbean SIDS over the last 18 years. It identified the Caribbean climate governance agents at the regional and local scales. It created an accountability framework that examined two levels (internal/external accountability); four accountability relationships (normative, relational, decision and behavioural) and four accountability mechanisms or processes: certification, monitoring, participation by stakeholders in the overseeing of projects and self-reporting. It analysed how far accountability was appreciated and applied within institutions and in relationships between regional institutions, international partners, government agencies, non-governmental organisations and the private sector to manage climate change adaptation and mitigation. The study found that accountability was valued as a good governance principle but the mechanisms to operationalise accountability were lacking in practice. The absence of structured processes was attributed to the economic and governance contexts of these SIDS. Governance actors had limited resources for governance safeguards. The study recommends processes to strengthen the “culture of governance” within the Caribbean as a whole and specifically within state agencies and civil society.

When Will People Pay to Pollute? Environmental Taxes, Political Trust, and Experimental Evidence from Britain
Malcolm Fairbrother
University of Bristol, United Kingdom

Environmental economists and policy experts recommend raising the price of pollution to polluters, using taxes or emissions trading schemes. Such measures are widely regarded as essential for preventing dangerous climate change. Yet efforts to introduce these measures have proven unpopular with the public in most countries. We need to understand why. This paper presents results from survey experiments investigating conditions under which people are willing to pay taxes on environmentally polluting activities. The experiments presented respondents with one of several different versions of a commonly used opinion question about support for environmental protection, focussing specifically on taxation. The base version read: “How willing would you be to pay higher taxes in order to protect the environment? Not at all willing, not very willing, fairly willing, or
very willing?” The experiment was conducted as part of the UK Understanding Society Innovation Panel, a longitudinal survey representative of households in Britain (N=2236). People proved no more or less willing to pay if revenues were to be spent on environmental protection, while specifying explicitly that the taxes would apply to “things you buy” also had no effect. Naming petrol and electricity as specific products to which higher taxes would apply, however, had a modestly negative effect on support. The most important result, however, was that people’s willingness to pay increased sharply if an increase in environmental taxes was offset by cuts to other kinds of taxes. This positive effect of revenue-neutrality, however, was substantially undermined by framing it as only a government “promise” rather than a fact. This result represents strong evidence for a causal effect of political (dis)trust on environmental attitudes. Convincing people that governments will keep their promises on revenue-neutrality is therefore an important task, and daunting challenge, for environmental policymakers and advocates.
Consumption-based accounting and intended nationally determined contributions (INDCs): What are the implications for greenhouse gas emissions in 2030?

Marco Sakai\textsuperscript{1,2}, Stavros Afionis\textsuperscript{1,2}, Kate Scott\textsuperscript{1,2}, William Lamb\textsuperscript{3,4}, Andy Gouldson\textsuperscript{1,2}, John Barrett\textsuperscript{1,2}

\textsuperscript{1}Sustainability Research Institute, School of Earth and Environment, University of Leeds, United Kingdom; \textsuperscript{2}ESRC Centre for Climate Change Economics and Policy (CCCEP), School of Earth and Environment, University of Leeds, United Kingdom; \textsuperscript{3}Tyndall Centre for Climate Change Research, School of Mechanical, Aerospace and Civil Engineering, University of Manchester, United Kingdom; \textsuperscript{4}Mercator Research Institute on Global Commons and Climate Change (MCC), Berlin, Germany

Ahead of the Paris Climate Conference (COP21), Parties to the UN Framework Convention on Climate Change (UNFCCC) have been communicating their pledges to reduce greenhouse gas emissions in the form of Intended Nationally Determined Contributions (INDCs). Yet, studies have indicated a mismatch between the ambitions embodied by these INDCs and the overall objective of staying within the global carbon budget that is consistent with a 2°C temperature target.

These analyses have compared INDC targets against projections based on the UNFCCC’s currently employed production-based accounting (PBA) method, which measures emissions generated at the point of production, i.e. emissions physically produced within the jurisdiction of a given state. This paper adopts a different approach by comparing INDC targets against projections based on the consumption-based accounting (CBA) alternative, which accounts for emissions at the point of consumption, thereby attributing all emissions occurring in the course of production to the actual consumers of goods and services. Given their global impact, the INDCs of Major Economies Forum (MEF) members are scrutinized, as they currently account for over 80 percent of global consumption-based cumulative emissions. Taking into account the growth of emissions embodied in trade, we find that major economies will consume an even greater share of the carbon budget, thus leaving the planet’s poorest countries with hardly any emissions to operate towards achieving high levels of life expectancy, securing access to basic needs and sustaining continued economic growth.
Our findings indicate that far more ambitious action is needed of MEF nations. Doing so, however, would require achieving negative emissions early in the century, as well as committing significant assistance to developing nations. It is therefore imperative that the forthcoming climate treaty is negotiated not only on the basis of avoiding dangerous climate change, but also on ensuring an equality of development opportunities across the world.

Understanding energy services through a human needs lens: a proposed framework
Lina Isabel Brand Correa, Julia Steinberger
University of Leeds, United Kingdom

The context of climate change poses great challenges to modern developed societies, amongst which is to maintain current levels of well-being without having a negative impact on the Earth’s ecosystems. The challenges are even greater for developing societies, which have yet to satisfy basic human needs for a growing population and which are likely to suffer the most adverse environmental consequences as a result of the multidimensional inequalities they face (IPCC, 2014). In this context, energy can be seen as one of the links between environmental impact and human well-being: energy is the main source of greenhouse gas emissions (IEA, 2014), and the services provided by energy (such as heating, power, transport and light) are vital to support human development (UN SE4ALL, 2014).

However, the links between energy supply chains and socioeconomic systems are yet unclear. It has been argued that objective, as opposed to subjective, approaches to understanding and measuring human well-being are more in line with sustainability goals, particularly in terms of intertemporal responsibilities and upper limits to consumption (O’Neill, 2015, 2008). Therefore, we explore the possibility of using an objective human well-being lens to assess the role of energy services in the satisfaction of basic human needs. We do so by establishing a conceptual framework that allows us to compare the performance of different societies in terms of energy use and human well-being (objective variables, comparable across societies), but also analyse the specific ways in which energy services are delivered and human needs are met (culturally determined variables, not comparable across societies).

Analysis following the proposed framework would identify key areas for prioritising action in relation to both the improvement of energy services delivery and human needs satisfaction. This approach moves away from traditional assessment tools of energy systems and social function. Therefore, it can be transformative.
Reducing animal-product consumption to decelerate climate change

Susanne Stoll-Kleemann, Uta Johanna Schmidt
Ernst-Moritz-Arndt University Greifswald, Germany

Livestock contributes 14.5 percent to the worldwide greenhouse gas emissions, which is predominately due to the methane emission during cattle husbandry. The worldwide emission share and volume will increase over time due to continuing prosperity in industrialized countries and further demographic and economic growth in developing and transition countries like China, resulting in an increased demand for animal-based products. To meet this demand, intensive agriculture with ongoing deforestation of rainforests and drainage of wetlands is necessary and aggravates the known consequences of climate change (e.g. biodiversity loss and food insecurity).

Based on this issue, we argue that – together with minimizing food wastage – a reduction in meat- and dairy-product consumption has the potential to reduce climate change and its consequences significantly.

Our research includes an analysis of possible avenues to reduce the production and consumption of animal products predominately in industrialized countries. We present the outcomes of a systematic meta-analysis of over 140 studies about economic and psychological mechanisms, which could become suitable leverage points for this change in production and diets.

Results indicate that the deep cultural integration of animal products in the majority of human diets, low prices for animal products, as well as cognitive dissonance - the unconscious denying of uncomfortable facts in order not to change habits or to admit grievances - are factors retarding the reduction of animal-product consumption.

We suggest that political and economic measures (by internalizing environmental and social costs or by abolishing existing subsidies) are of paramount importance to give animal-based food their true production prices. Furthermore, expanding the infrastructure for a plant-based diet, including appropriate nudges and educational measures are essential tools to increase people’s awareness for this issue of concern.

Global climate governance should therefore foster the reduction of animal-product consumption to a level consistent with planetary boundaries.
Food Security Governance and Equity Under Climate Change: A Comparative Historical Analysis

Andre Joshua Nickow

Northwestern University, Illinois

In this paper, we contribute to ongoing attempts to understand the differing effects on equity of alternative food security governance systems under climate change. We define equity as the distribution of power and resources across contextually relevant social axes. Our analysis unites two conceptual approaches—adaptive social protection (ASP) and food systems. ASP represents a framework for understanding our dependent variable, i.e., food security governance, by uniting three approaches to practice that emerged separately but that many scholars agree could benefit from integration: social protection, disaster risk reduction, and climate change adaptation. While ASP advocates have made great progress in applying their framework to national strategies, they tend to analyze the effects of ASP-related programs on the lives of the poor as a whole, rather than distinguishing between the specific aspect(s) of livelihood-relevant economy they influence. Food systems scholars on the other hand, argue first that the livelihoods of the rural poor depend centrally on food systems, and secondly that processing/packaging, distribution/retailing, and utilization are just as important to take into account as food production. We thus refine the granularity of previous research on the equity effects of ASP by looking at how a given governance system influences each of the four elements of its respective food system.

To facilitate this task, we apply qualitative cross-case and within-case methods of causal inference drawn from comparative-historical analysis to secondary documents on food security, climate adaptations, and social protection programs. In particular, we draw on two comparisons: Bangladesh/Pakistan, and Ethiopia/Kenya. For each case, we describe national-level food security governance regimes and trace the effects of each regime on the four components of the country’s food system. Findings will inform hypotheses for future policy-oriented research on pro-equity practices in national-level food security governance systems, their effects, and how these effects vary across contexts.
Lunchbreak Session: Roundtable Discussion and List-serve Launch - Researching the Groundswell of Climate Actions

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<td><strong>Room:</strong> Oxford 2</td>
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<td><strong>Session Chairs:</strong> Sander Chan, Thomas Hale, Oscar Widerberg</td>
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Galvanizing the Groundswell of Climate Actions, through its data and analysis work stream, seeks to expand research on sub- and non-state climate actions in order to support effective policymaking at all levels.

This lunchtime roundtable discussion will introduce participants to key issues relating to data and analysis of sub- and non-state climate actions. Researchers and organizations working on climate actions will have the opportunity to briefly present their work to colleagues so that participants will understand the ‘state of the art’ across the field.

The event will also see the launch for a new Galvanizing the Groundswell of Climate Actions list-serve for data and analysis, to facilitate researchers and analysts to exchange information online.
# List of Participants

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(University of Cape Town, South Africa)
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Volunteers at the 2016 Berlin Conference

The number of tasks that are needed to help make this conference run smoothly are not manageable without the help of volunteers. We are lucky to have a diverse and international team of volunteers from Berlin, Bonn and beyond to help with all aspects of the 2016 Berlin Conference. We would like to thank each and every one of the volunteers for their dedication, enthusiasm, and contributions to making this conference a success.

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Financial support

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