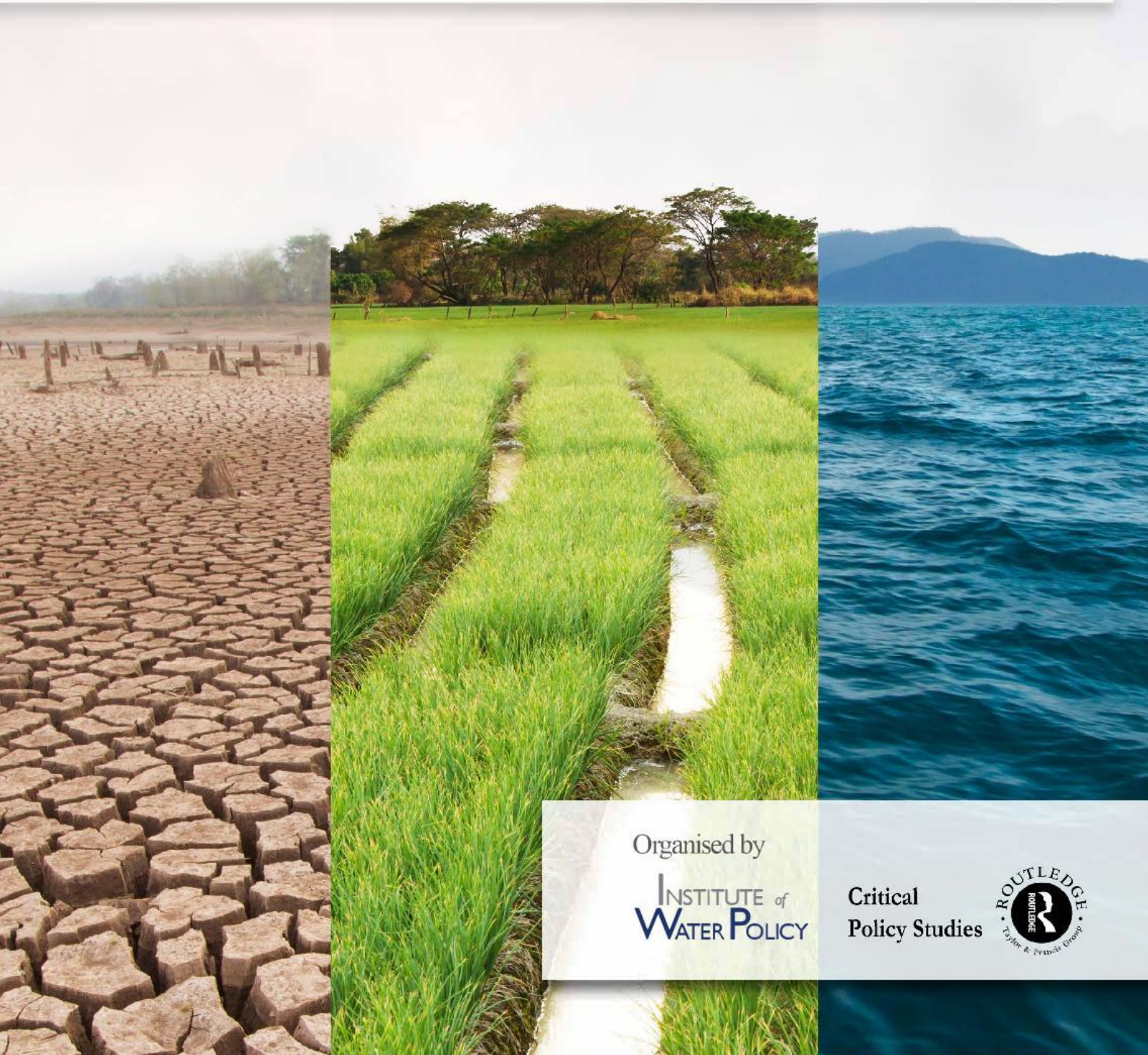


Environmental Governance: Policy Discourse, Deliberative Practices, and Public Participation

29 – 30 January 2020

Li Ka-Shing Seminar Room 1-2



Organised by

INSTITUTE of
WATER POLICY

Critical
Policy Studies



Environmental Governance: Policy Discourse, Deliberative Practices, and Public Participation
29 – 30 January 2020 | Lee Kuan Yew School of Public Policy, National University of Singapore

This conference focuses on the interplay among policy discourses, deliberative practices, public participation and environmental governance. It examines how policy publics, politicians, citizens and other communities can influence governmental decisions, and vice versa. In particular, it focuses on these interactions in the context of the uncertainties that have been created by the rise of populism and the apparent irrationalities across different governance regimes, including the phenomenon of post-truth politics.

The conference draws attention to various environmental crises, especially those related to climate change – the challenge of this century. Granted that strong responses from ordinary citizens are required, including environmental movements, effective environmental governance also depends on knowledge and expertise. However, these processes are fraught with scientific and policy uncertainties, and they take place within a turbulent political environment, including its multiple confrontations with politics of climate denial and post-truth. It is therefore not surprising that both the problems and their sustainable solutions are often wicked and messy.

By bringing together scholars across the disciplines of environmental studies, public policy and political science, this conference seeks to foster productive discussions on new approaches to environmental issues and their intersection with governance practices. The conference spans 7 Panels, and deals with the political and policy issues related to environmental governance. The panels are: **Environmental Governance: Discourse, Sustainable Practices and Democratic Systems; Governing Water Policy; Environmental Knowledge and Policy Expertise; Participation, Local Knowledge and Cultural Practices; Environmental Struggles and Political Resistance; Citizen Participation and Deliberation; Post-Truth and Environmental Policy Expertise.**

The final day of the conference will involve an informal, closed-door discussion, guided by remarks and reflections from the conference keynote and convenors. All invited speakers and conference presenters are welcome to attend this session, and encouraged to contribute their questions, observations and insights. General questions that will guide our discussion include: What does “Critical” mean in relation to environmental governance and policy? How does it relate to the conference panels, and to the knowledge shared during the presentations? What conclusions can we draw from the conference as a whole?

CONFERENCE CONVENORS

Associate Professor Leong Ching Ching
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Professor Frank Fischer
Institute of Advanced Sustainability Studies
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Environmental Governance: Policy Discourse, Deliberative Practices, and Public Participation
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29 JANUARY 2020 (WEDNESDAY) – Day 1	
8:30 – 9:15	REGISTRATION
9:15 – 10:00	Opening Address and Keynote
9:15 – 9:30 (15 Minutes)	Leong Ching Lee Kuan Yew School of Public Policy Opening Address
9:30 (30 Minutes)	Frank Fischer Institute of Advanced Sustainability Studies, Potsdam Humboldt University, Berlin “Environmental Governance and the Climate Crisis: The Challenge of Post-Truth Politics”
10:00 – 12:00	Environmental Governance: Discourse, Democracy and Practices
Chairperson	Tim Luke
30 min Plenary	Tim Luke Virginia Polytechnic Institute and State University Environmental Governance: The Social Construction of Sustainable Degradation
20 min	Yukio Adachi Kyoto University Can the political system of democracy effectively tackle pressing emergencies due to global warming?
20 min	Maria Proestou, Katrin Daedlow and Peter H. Feindt Humboldt-Universität zu Berlin How the emerging bioeconomy state is shaping bioeconomy discourses
20 min	Vignesh Murugesan University of Waterloo Risk Perception, Urban Climate Change Policy Discourse and Habitus
30 min	QUESTIONS & ANSWERS
12:00 – 13:00	LUNCH
13:00 – 14:50	Governing Water Policy
Chairperson	Leong Ching
30 min Plenary	Leong Ching Lee Kuan Yew School of Public Policy Publics, Narratives and behaviour: conformity and the willingness to drink recycled water
20 min	Farhad Mukhtarov Erasmus University Rotterdam “Bring in the Dutch”! How the Netherlands brands its water sector and what this means for policy travel studies
20 min	Valentina Zuin Yale-NUS College Pro-poor reforms in Maputo, Mozambique: impact on consumers and the water utility
20 min	Rebecca Peters & Nabil Haque University of Oxford & Stony Brook University Enforcement or evasion? Institutions and the political economy of pollution regulation in the Greater Dhaka Watershed
20 min	QUESTIONS & ANSWERS
14:50 – 15:00	TEA BREAK
15:00 – 16:50	Environmental Knowledge and Policy Expertise
Chairperson	Benjamin Cashore
30 min Plenary	Benjamin Cashore Lee Kuan Yew School of Public Policy Bringing the Environment Back In Overcoming the Tragedy of the Diffusion of the Commons Metaphor
20 min	Colette Einfeld Australian National University The use of knowledge and evidence in policy Communities as ‘expert’ experts
20 min	Kardelen Günaydin University of Kassel From infamous denial to mundane obstruction: think tanks and the utility of climate change related policy (instrument) debates
20 min	Kris Hartley Education University of Hong Kong Wicked environmental problems and the policy sciences epistemic
20 min	QUESTIONS & ANSWERS
17:00	END OF DAY

Environmental Governance: Policy Discourse, Deliberative Practices, and Public Participation
29 – 30 January 2020 | Lee Kuan Yew School of Public Policy, National University of Singapore

30 JANUARY 2020 (THURSDAY) – Day 2	
8:30 – 9:00	REGISTRATION
9:00 – 10:50	Participation, Local Knowledge and Cultural Practices
Chairperson	Navdeep Mathur
30 min Plenary (Presenting Remotely)	David Schlosberg The University of Sydney Sustainable Materialism and Material Participation
20 min	Hemant Ojha University of Canberra and Institute for Study and Development Worldwide Techno-Developmentalist <i>Doxa</i> and the Himalayan Vulnerability to Climate Change: Rethinking Deliberative Politics for Transformative Resilience
20 min	Geoffrey Nwaka Abia State University Local knowledge for environmental protection and climate change adaptation in Africa: Towards Decolonizing Climate Science
20 min	Kelvin Lee Jian Ming Singapore University of Social Sciences Identifying Difficulties with Cultural Valuation of the Environment
20 min	QUESTIONS & ANSWERS
10:50 – 11:00	TEA BREAK
11:00 – 12:40	Post-Truth
Chairperson	Yukio Adachi
20 min	Richard A. Forrest Hiroshima University of Economics When Truth Fades: The Challenge of Safeguarding Historical Sustainability Lessons
20 min	Peter Tangney Flinders University Examining the roles for expert judgement and technical reason in climate policymaking: A heuristic turn for a post-truth age
20 min	Indi Ruwangi Akurugoda & Manjula Lankanath Karunaratne University of Ruhuna The impact of post-truth politics in forest governance in Sri Lanka: Promoting local knowledge in forest policy process
20 min	Woo Jun Jie Education University of Hong Kong Fake News and Policy Intelligence: Determining truth and facticity in a post-truth world
20 min	QUESTIONS & ANSWERS
12:40 – 13:30	LUNCH
13:30 – 15:00	Citizen Participation and Deliberation
Chairperson	Miranda Schreuers
30 min Plenary	Miranda Schreuers Technical University of Munich Strengthening Citizens' Voices in the Process of Dealing with Climate Mitigation and Adaptation: Comparisons between Europe and Asia
20 min	Piyapong Boossabong Chiang Mai University Participatory environmental governance in climate change: Lessons for building resilience from Khon Kaen, Thailand
20 min	Yen-Wen Peng National Sun Yat-sen University Passive vs. Active Approaches to Information Disclosure– Lessons for Environmental Governance from the Shihmen Reservoir and its Catchments Management Project
20 min	QUESTIONS & ANSWERS
15:00 – 15:10	TEA BREAK
15:10 – 16:40	Environmental Struggles and Political Resistance
Chairperson	Laureen Elgert
30 min Plenary (Presenting Remotely)	John Barry Queen's University Belfast Climate Breakdown, Political Turbulence and Conflict Transformation
20 min	Navdeep Mathur Indian Institute of Management Ahmedabad Post-truth Governance as Hydroterrorism: Discursive conflict and social movements In India's Water sector
20 min	Laureen Elgert Worcester Polytechnic Institute 'Buen vivir' in Ecuador: the Constitution and Popular Resistance against Extractivist Development
20 min	QUESTIONS & ANSWERS
17:00	END OF DAY

Environmental Governance: The Social Construction of Sustainable Degradation

Timothy LUKE

Department of Political Science

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This paper critically explores major puzzles in "environmental governance." From the interplay of policy discourses, deliberative practices, participatory publics, expert analyses, market dynamics, and cultural values, which have defined environmental governance since the United Nations Conference on the Human Environment (Stockholm Conference) during June 1972, it is difficult to deny many ironies in these social interactions and the political questions they spark. That is, why did this international initiative, and many subsequent, interventions to advance orderly sustainability and development goals for ideal "environmental governance" in the late Holocene instead only amplify the anarchic realities of sovereignty in the international system during the early Anthropocene? It is clear that rebranding the endangerment of rapid climate change as the advent of Anthropocene has not "changed everything." Despite decades of effort by policy publics, politicians, citizens and other communities to influence governmental decisions about ecological preservation, and, in turn, states to steer these different stakeholders to embrace environmental protection, a strict reading of environmental governance, in the final analysis, finds never-ending stories for mystifying the "creative destruction" of Earth to point of experts now advancing various schemes for a "democratic," a "good" or a "just" Anthropocene. Instead of more positive sustainable development outcomes, environmental governance has presided over, if not produced, mostly negative trends pushing toward greater sustainable degradation across the planet. Accepting faux solutions in mass culture, global markets, and major states for combating climate change through periodic UNFCCC-sanctioned global COP-out protocols to measure, monitor and then (mis)manage national greenhouse gas emissions to meet far distant goals for meaningful GHG reductions long after they could matter internationally is only one case in point. Hence, this study asks how and why have the social constructions of "actually existing environmental governance," from the United Nations Environmental Project in the early 1970s to the Earth System Governance Project during the Twenty-Teens, guided expert discourses and permitted state practices in ways that foster and legitimate the sustainable degradation of the environment? In particular, it asks if these ineffective political interactions, placed against the empirical and operational uncertainties that sound science must concede in its workings, can be separated today from the increasing prevalence of climate denialism, populist backlash, nationalistic resistance, and institutionalized irrationalities across different governance regimes, including the phenomenon of post-truth politics?

Timothy Luke is University Distinguished Professor of Political Science at Virginia Polytechnic Institute and State University. His research focuses on the intersections of environmental political theory, international politics, social and political theory as they relate to global governance, political economy, and cultural politics. He serves on the editorial boards of *Capitalism Nature Socialism*, *Critical Social Policy*, *Current Perspectives in Social Theory*, *Fast Capitalism*, *International Political Sociology*, *New Political Science*, *Peace Studies Journal*, *Public Knowledge Journal*, *Spectra*, *Telos*, and the *minnesota review*. He is an associate editor of *New Political Science*, and also a founding editor of *Fast Capitalism* with the Center for Theory at the University of Texas. His books include *Anthropocene Alerts: Critical Theory of the Contemporary as Ecocritique* (Telos Press Publishing, 2019); *Gun Violence and Public Life*, Ben Agger and Timothy W. Luke, eds. (Paradigm, 2014); *Putting Knowledge to Work & Letting Information Play*, Timothy W. Luke and Jeremy Hunsinger, eds. (Sense Publishers, 2012); *A Journal of No Illusions*: Telos, Paul Piccone, and the Americanization of Critical Theory, Ben Agger and Timothy W. Luke, eds. (Telos Press, 2011); *There is a Gunman on Campus: Tragedy and Terror at Virginia Tech*, Ben Agger and Timothy W. Luke, eds. (Rowman & Littlefield, 2008); *Museum Politics: Powerplays at the Exhibition* (University of Minnesota Press, 2002); *Capitalism, Democracy, and Ecology: Departing from Marx* (University of Illinois Press, 1999), *The Politics of Cyberspace*, co-edited with Chris Toulouse (Routledge, 1998), and *Ecocritique: Contesting the Politics of Nature, Economy, and Culture* (University of Minnesota Press, 1997). He also is the author of *Shows of Force: Politics, Power, and Ideology in Art Exhibitions* (Duke University Press, 1992); *Social Theory and Modernity: Critique, Dissent and Revolution* (Sage, 1990); *Screens of Power: Ideology, Domination and Resistance in Informational Society* (University of Illinois Press, 1989); and *Ideology and Soviet Industrialization* (Greenwood, 1985).

Can the political system of democracy effectively tackle pressing emergencies due to global warming?

Yukio ADACHI

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School of Public Policies, Kyoto Prefectural University, adachi.yukio.84s@st.kyoto-u.ac.jp

As persuasively argued by Frank Fischer, we are running out of time to make the kind of changes needed to avert a very serious climate crisis, even potential catastrophe (Fischer, 2016). Still, under such circumstances, elected leaders of most democracies including Japan have failed to come to grips with these realities, which could undermine confidence in the political system and weaken belief in democracy. In fact, more and more people are losing hope of avoiding tragedy through conventional democratic procedures. As a result, environmental pessimism has made a remarkable comeback!

The aim of this discussion paper is to examine if and how it is possible for the political system of democracy to effectively tackle long-term public problems that are wicked in nature, having incomplete, inconsistent, or contradictory elements, taking climate crisis as an example. To be more specific, it first overviews political/institutional measures thus far advocated and partly put into practice for correcting the myopic tendencies of market-oriented liberal democracy, then sheds light on critical but long-ignored need to radically strengthen and upgrade the future-shaping will and capacities of the 'central minds of government' (Dror, 2001) or governance elites.

Measures or approaches for improving long-term democratic governance are roughly classified into two categories. The first is those that aim to reduce the chance of myopic policies being devised and implemented by means of limiting or curtailing the powers of politicians endowed with official authority for policy-making. The second is those for challenging short-sightedness in democracy by means of strengthening/upgrading the will and capacities of the government elites to carry out their inherent mission to plan a sustainable future, rather than--or, to be more precise, in addition to--imposing stricter restrictions on their behaviors.

Research into measures of the second category is still in the primitive stage. Only a handful of studies have focused on how to improve the future-building will and capacities of government elites, which contrasts with vast research literature on the political/institutional measures for monitoring and controlling the powers of the central minds of government, such as: what on earth does it mean to have the will to shape the future? What kinds of capacities are required of the central minds in government in order to successfully weave a sustainable future in the face of deep uncertainties, multiple complexities, and severe conflicts of values and interest? What are the ethics and philosophical insights required of those who are mandated to play a pivotal role in unremittingly improving long-term democratic governance?

Yukio Adachi started his academic career as a student of political philosophy, having shifted his research interest into public policy studies in general, guidelines for policy design in specific, via intensive study of the theories and practices of argumentations and deliberations. He has published extensively over a wide range of theoretical and ethics-related issues facing policy professionals, among which are, to mention just a few, how to deal with complexities, uncertainties, and ideological conflicts among key policy actors, how it is possible for us contemporaries to make responsibility to future generations and eco-system a 'living ethics' to be substantiated by public policies, how to improve our capacity for context-specific policy designs. He recently published two books; *Transition Management for Sustainable Development*, United Nations University Press, 2014 (with K.Ueta), and *Policy Analysis in Japan*, Policy Press, 2015 (with S. Hosono and J. Iio). He contributed a chapter entitled 'The Policy Analysis Profession' to Marleen Brans et al (eds.), *Routledge Handbook for Comparative Policy Analysis*, Routledge, 2017. His current research interest is in formulating measures (or, policy-packages) for increasing opportunities of 'resilient' prescriptions for effectively tackling long-term policy problems, that are 'wicked' in nature, such as global climate change, public debt, and public pension plans for the elderly being adopted and implemented.

How the emerging bioeconomy state is shaping bioeconomy discourses

Maria PROESTOU, Katrin DAEDLOW and Peter H. FEINDT

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Bioeconomy has become an inevitable part of the sustainability discourse and the global environmental agenda. 49 nation states have adopted bioeconomy strategies and the governance of the bioeconomy has become the topic of academic analysis and debate. However, systematic analysis of the quickly increasing state activities and state resources devoted to the development of the bioeconomy is lacking. Against this background, this paper formulates the assumption that we witness the emergence of a bioeconomy state as a regular part of the state apparatus with potentially far-reaching implications for other policy areas and elements of the state. Leaning on Duit et al.'s (2016) definition of the environmental state, a bioeconomy state possesses a distinct set of bioeconomy-related institutions and practices dedicated to the sustainable management of bio-based production systems and to the intersection of society and bioeconomy matters.

Against a research agenda on the bioeconomy that is dominated by economists and engineers, we intend to 'bring the state back in' to the research on the emerging bioeconomy. A fully-fledged bioeconomy state regulates bioeconomy matters by designing national bioeconomy policies, integrates bioeconomy policies with environmental, agricultural and land policies, shapes bioeconomy discourses, and influences the intersection of society, policy and bioeconomy through its administrative apparatus and authoritative decision-making. The proposed paper emphasizes the role of the bioeconomy state in shaping bioeconomy discourses that at the same time contribute to and are an expression of the capability of the developing bioeconomy state. Drawing on Germany as a generic example, we elaborate how the concept of the bioeconomy state helps to understand the emergence of bioeconomy discourses as a key dimension of bioeconomy politics and a driver of policy and institutional design. We reflect the limitations and perspectives of the bioeconomy state concept for understanding bioeconomy discourses, and outline an agenda for future research.

Risk Perception, Urban Climate Change Policy Discourse and Habitus

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An extensive literature on public perceptions of risks when it comes to environmental challenges like climate change exists. However, risk perceptions of public officials who draft plans, build narratives and influence policy decisions from within the administration have not been given due attention. To address this research gap, this paper theorizes a relationship between risk perception, policy discourse and actions taken to enhance climate resilience. The equations and dynamics of this relationship are informed by the preliminary findings from the semi-structured interviews with the municipal officials in the city of Courtenay located in Vancouver Island and an analysis of the city's planning and policy documents. These interviews gave insights about their risk perception and the factors affecting them, while the analysis of the documents enabled the identification of proposed and ongoing actions by the city. The level of risk perceived by the officials in the city was found to align with the nature of the policy discourse and the planned course of action to a greater extent. In this context, the ability of Bourdieu's habitus lens to explain the social and institutional structures and processes that create and perpetuate perceptions about climate change, shape the climate change policy discourse, and motivate actions is demonstrated in this paper.

Vignesh Murugesan's research focuses on psycho-sociological factors affecting planning for urban resilience. His Master's thesis research at the University of Waterloo looks at the relationship between climate change risk perception of municipal officials and resilience planning in mid-sized communities in Canada. Previously, he was awarded the Junior Research Fellowship by the Council of Scientific and Industrial Research (CSIR-India) and he held the fellowship at the Indian Institute of Technology Indore (IITI) between 2016 and 2018. He also holds a Master of Science degree in Applied Geology from Pondicherry University, India.

Publics, Narratives and behaviour: conformity and the willingness to drink recycled water

LEONG Ching

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One of the many adverse effects of climate change is to decrease the reliability of traditional drinking resources. For cities and water-stressed regions, an increasingly important policy option is recycled drinking water (RDW). RDW is highly treated wastewater that experts have deemed safe, cost effective, and a sustainable solution against water shortages. Yet, the successful implementation of RDW has remained constrained owing to the psychological “yuck” factor that limits public acceptance.

Policy design has largely focused on information campaigns to increase public acceptance of RDW. While information campaigns have found success, policy scholars are exploring extra-rational factors such as social norms to further motivate acceptance. One such social norm is conformity, which have been shown to increase public participation in voting, charity and green initiatives.

In a choice experiment we conducted involving 200 students in NUS, we show that conformity is a stronger motivator than information for people to choose RDW. This provides evidence that policies designed to improve acceptance of RDW can harness the power of social norms and public narratives to be more effective. This has important relevance as well towards other climate change policies that are met with public resistance.

Leong Ching is Associate Professor of Public Policy at the Lee Kuan Yew School of Public Policy and Dean of Students at the National University of Singapore. Leong Ching's work lies in making sense of apparently irrational environmental behavior, whether in refusal to use recycled water, underinvesting in water utilities, or decision making in building dams and managing rivers. She uses narratives, perceptions and stories to understand collective public behavior as well as environmental identities. Her field research is focused on water institutions and governance in Asia.

“Bring in the Dutch”! How the Netherlands brands its water sector and what this means for policy travel studies

Farhad MUKHTAROV

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Policies travel across various boundaries moved by donors, bureaucrats, consultants and other agents. Apart from being an essential part of an inter-connected world, the travel of policies is a multi-billion business for public and private sectors alike. Taking The Netherlands as an example, whose export of water technology and expertise has amounted to 8,1 billion USD in 2016, we interrogate the problematic nature of the profit motives in the provision of global public policy goods such as climate resilience and water security. The Dutch water sector’s international success is based on a state-sponsored, well-coordinated, and multi-pillar branding and marketing campaign to help Dutch water-related businesses penetrate global markets. As a result, parties traditionally working in the Netherlands, get their foot in the door internationally, selling among others, governance models for integrated water planning and deliberative policy-making, or “*poldering*” as in Dutch. Critics have argued that this push has ignored local contexts and knowledge and, in some cases, adversely impacted marginalized communities in recipient countries. We interrogate commercialization of water policy transfer and pose two questions. Firstly, how do incentives to package and sell water policies internationally affect water security and climate resilience in recipient localities? Secondly, what are the broader implications of commercialization of policy transfer to the emerging field of “policy travel studies” that concerns itself with the travel of policies across boundaries. We conduct interviews with diverse stakeholders in The Netherlands and apply discourse analysis to major policy documents in order to shed light to these two questions.

Farhad Mukhtarov is Assistant Professor of Public Policy and Governance at International Institute of Social Studies (ISS), Erasmus University Rotterdam, and Adjunct Senior Research Fellow at the Institute of Water Policy (IWP), Lee Kuan Yew School of Public Policy, National University of Singapore.

Pro-poor reforms in Maputo, Mozambique: impact on consumers and the water utility

Valentina ZUIN

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Over one billion people gained access to piped water supply between 2000 and 2015. However, piped water access on premises in Sub-Saharan Africa is the lowest of all SDG regions, and is declining: only 56% of the urban population in the continent had access to piped water on premises in 2017, compared to 65% in 2000. Increasing water access via private connections is difficult for many of the continent's utility providers: they have limited investment capacity, and they often need to increase efficiency and recover costs while servicing poor and low-consuming consumers. Unconnected households may also choose not to connect to the water utility network for reasons that include low quality utility service, water charges, and high connection fees.

This paper focuses on understanding the impact of pro-poor water reforms implemented between 2010 and 2019 in Maputo, the capital of Mozambique. Specifically, it attempts to understand how the reduction of the connection fee and the possibility of paying for it in installments allowed households to obtain piped water access on premises, using data collected in 1300 households in six poor neighborhoods in peri-urban Maputo in 2010 and 2012, before and after such policy change was introduced. Further, it investigates the broader sectoral impacts of this reform over time from the perspective of the water utility, using data from sector reports and interview with key informants conducted by the author in 2019.

Private connection coverage more than doubled in Maputo between 2009 and 2017. Reducing the connection fee facilitated water access for low income households, though poorest households were still unable to connect. Such quick increase in the number of connections had two important implications on the water sector. First, as the number of private connections increased, quality of service decreased significantly, as water availability did not increase. Second, the increase of domestic connections among largely low-income, and relatively low-consuming consumers, resulted in major financial challenges for the system. These findings are in line with those of other authors who argue that social and financial goals cannot be achieved in tandem, and existing literature on the limited ability of tariffs to deliver subsidies to the poor.

Valentina Zuin is interested in making cities more liveable and sustainable, especially for the poor. Her specific interests include water and sanitation planning and policies, informality, slum upgrading and sustainable urban service provision in developing country settings. Asst Prof Zuin holds a PhD in the Emmett Interdisciplinary Program in Environment and Resources from Stanford University, and a Master's in Urban Planning from Massachusetts Institute of Technology (MIT). She has a Bachelor's degree in Public Administration and International Institutions Management from Bocconi University in Milan Italy. Before joining Yale-NUS as a Postdoctoral Fellow in 2017, Asst Prof Zuin was an Assistant Professor of Environmental Studies at Ashoka University in New Delhi, India. Asst Prof Zuin's research and teaching are influenced by her 10 years of experience living and working in developing countries cities in Sub-Saharan Africa, Latin America, and South Asia. Asst Prof Zuin has worked in various capacities for international non-governmental organisations (NGOs), multilateral donors, and developing country governments.

Enforcement or evasion? Institutions and the political economy of pollution regulation in the Greater Dhaka Watershed

Rebecca PETERS & Nabil HAQUE

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In Bangladesh, the abundance of water as an unrestricted industrial input contributes to the growth of the ready-made garment (RMG) and tanneries industries, which rely on water in their production processes. Although wastewater management is a significant factor for improving water quality and human health, especially for poor populations depending on rivers for their lives and livelihoods, attempts to formally manage industrial water pollution through regulation have not yielded intended improvements. A political economy analysis suggests that the constraints of regulation to achieve intended public purposes may emerge from weak state dependence on private sector growth, resulting in a tendency to align state interests with those of industry (Yeager 1991). To understand these interests, this interdisciplinary work qualitatively develops quantitative findings by Haque (2018, 2017) through the framework of political deals to examine the role of underpinning structural ideologies, incentives, and constraints to explain the political, economic, and social forces influencing water pollution regulation (vom Hau 2012; Pritchett et al. 2018). These findings illustrate that whereas guidelines for fines for pollution are usually informed by theories of firm behaviour, Bangladesh does not apply a coherent policy governing penalty rates for the type or severity of violations. By shifting the focus of analysis from state law to a wider range of norms and mechanisms through which power is asserted or achieved, this paper advances the argument that existing policy approaches have not resulted in water quality improvements because they have not sufficiently challenged the political-business 'deals' environment. To achieve greater pollution deterrence, we conclude by suggesting that the forthcoming National Industrial Water Use Policy should be informed by the conditions that led to normalized non-compliance, the political economic limits of regulation, and the 'feedback loop' from economic conditions to the pressures on policy-implementing institutions.

Bringing the Environment Back In: Overcoming the Tragedy of the Diffusion of the Commons Metaphor

Benjamin CASHORE

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Ostrom's work challenging prevailing metaphors about how to solve "tragedies of the commons" had two profound impacts. First, it demonstrated that working inductively from the nature of the problem in question can generate innovative policy solutions to enduring problems. Second, the CPR metaphor straightjacketed scholarship and pedagogy by reinforcing the conversion of environmental problems into economic challenges. To overcome this tragedy, we identify four problem conceptions: Type 1 (Commons), Type 2 (Optimization) and Type 3 (Compromise) and Type 4 (prioritization). We argued that Type 1, 2 and 3 conceptions dominate the vast majority of applied scholarship for the last 30 years, as well as the thinking of those government, businesses and the United Nations officials trained in these approaches. The tragedy is that policy tools are narrowed to those that view enhancing human material interests as the solution, rather than the cause, of the super wicked problem of global climate change. As a corrective we argue that Type 4 problems require very different policy tools, such as "path dependency analysis", that turns attention to uncovering "easy to pull" but "hard to reverse" policy levers. We argue that that finding policy triggers capable of building transformative pathways that reflect our profound collective humility and long-term interests in averting ecological catastrophes, is the fundamental challenge facing humanity.

The use of knowledge and evidence in policy Communities as ‘expert’ experts

Colette EINFELD

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The coal seam gas industry (CSG) is at the centre of intense debate and conflict worldwide. Concerns about climate change, employment, land use, and sustainable energy vie for prominence between and within industry, community and government groups with each drawing on their preferred sources of knowledge and expertise. This paper focuses on how local communities negotiate the use of knowledge and expertise in their engagements with the CSG industry and policy makers. We draw on research from a three-year project exploring an Australian energy company, AGL’s, decision to divest in gas exploration and production.

We found that communities feel compelled to access and use scientific knowledge and deploy technical experts, including from within their community, to be heard. In addition, other actors will use knowledge strategically, including excluding the use of certain sorts of evidence on the grounds that it is ‘divisive’, regardless of its relevance. Consequently, we argue communities and activists have become proficient in ‘instrumentalising’ evidence in their attempts to influence other publics and government policy.

We suggest that constructs of ‘lay’(community) and ‘technical’ (expert) knowledge are unhelpful in practice as they place boundaries on the type of knowledge and evidence that communities’ contribute, leading to further tension and conflict. We show how communities blur the boundaries of ‘lay’ and ‘technical’ knowledge in practice influencing policy through the contribution of both. We also offer practical insights for communities and policy makers on how to create space for community participation and how to negotiate knowledge and expertise in technical, scientific areas where the impacts and outcomes are unknown.

Colette Einfeld is a research and evaluation specialist with over ten years’ experience working with government, industry and not-for-profits. Her PhD is focussed on the use of Nudges and Behavioural Insights in public policy. She also works on research projects exploring the community/ government/industry interface.

From infamous denial to mundane obstruction: think tanks and the utility of climate change related policy (instrument) debates

Dieter PLEHWE & Kardelen GÜNAYDIN

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The role of think tanks in the promotion of climate change denial is well known (Dunlap and McCright 2015). But think tanks also play an increasingly important role in the climate change policy opposition in a number of different ways. Bonds (2016) presented a typology of elite responses to climate change including 1) limited climate mitigation, 2) climate adaption/privileged accommodation and 3) climate opportunism (business opportunity, e.g. exploiting the arctic). In this paper we look at the history of German energy conversion from fossil fuels to renewables with a particular focus on the role of academic and partisan think tanks involved in undermining what had originally been a quite ambitious and comprehensive conversion program. Fed by neoliberal concepts of market conformity and efficiency concerns, think tank researchers have supplied studies and arguments to undermine subsidies for the whole range of renewable energies. A prominent role is played by a high level academic research institute, RWI - Leibniz-Institut für Wirtschaftsforschung (Rheinisch-Westfälisches Institut für Wirtschaftsforschung). For more than a decade researchers at RWI have been at the forefront of attacks on the instrument choice in Germany's climate change related energy policy. In conjunction with business campaigns organizations, interest groups and neoliberal partisan think tanks, efforts are made to undermine ambitious transformation strategies. Unlike the infamous climate change denial strategies and officially committed to climate change related political goals and commitments to prevent global warming beyond critical points, the instrument focused debate of RWI and the discourse coalition of which it is a part amounts to a strategy of delay, obstruction, and emptying of policy content. Bonds (2016) typology can be expanded by such primarily destructive or substitutive strategies, because they aim at controlling if not undermining (limited) mitigation. The paper argues that we need to pay more attention to such mundane practices of feigning contributions, deflecting attention from policy substance to policy instruments and other ways of policy obstruction. The border between infamous denial and profane obstruction strategies is blurred; because both denial forces and forces that acknowledge global warming utilize obstruction arguments focused on market and competition concerns. It remains unclear to which extent both strategies are driven by the same or by different lobbies, and to which extent they are the result of normative and science philosophical commitments immanent to neoliberal world views. Since the global neoliberal movement is divided on the issue of anthropogenic climate change, the relationship between denial and obstruction forces focused on market concerns nevertheless cuts across the landscape of both corporate lobbies and neoliberal networks.

Wicked environmental problems and the policy sciences epistemic

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This article applies foundational ideas from the policy sciences literature – in particular Lasswell’s intelligence function – to understanding governance of wicked problems in complex settings. We argue first that instrumental rationalism serving the modern sustainability discourse succumbs to a streetlight-effect by focusing only on measurable problem constructs, marginalizing other knowledges outside the gaze of quantifiability and limiting efforts to holistically understand policy challenges. We consider how the policy sciences framework illuminates this phenomenon. Second, we argue that wicked problems mandate a more robust incorporation of alternative epistemics (e.g. indigenous, local, and so-called “folk” wisdom and practices). In efforts to liberate policymaking from the clutches of political wrangling and knowledge contestation, the rationalist epistemic and its high-modern derivatives blind themselves to lived experience in service to an elite capitalist agenda. We consider whether the policy sciences framework and ideas of Lasswell can be revived and reframed to problematize this phenomenon, in anticipation of a research agenda about climate crises, wicked problems, and competing truth claims.

Kris Hartley is an Assistant Professor in the Department of Asian and Policy Studies at the Education University of Hong Kong. He currently researches the epistemic foundations of modern policymaking with a focus on environment, technology, and the sustainability discourse. Kris is also a Nonresident Fellow for Global Cities at the Chicago Council on Global Affairs and an Affiliated Scholar at the Center for Government Competitiveness at Seoul National University. In 2019 he served as a Visiting Academic at the Institute of Policy Studies at Universiti Brunei Darussalam, and in 2020 he will serve as a Fulbright Scholar at the School of Public Policy at Chiang Mai University in Thailand. With over a decade of public and private sector experience, Kris has worked with the United Nations, ASEAN Secretariat, and central and local government agencies. He has consulted on a variety of topics including compact growth strategies, sustainable development, transportation planning, and earthquake recovery. Kris’s research projects are connected by the overarching theme of new public policy models for the 21st century, and his research has been published in the *Journal of Environmental Management*, *Environmental Development*, *Annals of the American Association of Geographers*, *Telecommunications Policy*, *Geoforum*, and others. He is an associate editor at the journal *Policy Design and Practice*. Kris holds a Ph.D. in Public Policy from the National University of Singapore and a Master of City Planning from the University of California, Berkeley. He can be found online at www.krishartley.com.

Sustainable Materialism and Material Participation

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Locked into a rationalist epistemic, policymaking has veered towards a governance model dominated by technocrats and structurally dismissive of “other knowledges” that fall outside the gaze of quantifiability. With a self-evident perception of its own legitimacy, the rationalist epistemic has produced stately policy interventions resembling in scope the high-modernist and totalizing visions of mid-20th century social and economic planning. Seeking to tame wicked problems in environmental governance using similarly rational interventions reflects a well-worn but discredited legacy of paternalistic and utopian policy logic. While aspirational initiatives like the SDGs bring much needed attention to sustainability issues, there is a need to transition from solutions-based thinking to more adaptive predicament-based thinking, in which policy acknowledges its limited ability to empiricize and rationalize complexity. In this paper we theoretically apply the policy sciences literature – in particular Lasswell’s “intelligence function” and Brunner’s “permanent revolution of modernizing intellectuals” – to a discussion about the future of environmental governance. We argue first that the logic of instrumental rationality succumbs to the streetlight effect by focusing only on what can be measured. This marginalizes “other knowledges” in ways that limit efforts to holistically understand sustainability policy challenges. Second, we argue that the emergence of wicked problems mandates a more robust incorporation of alternative epistemics (e.g. other knowledges, indigenous practices, and so-called “folk” wisdom). In its ill-fated effort to liberate technocratic rationality from the clutches of political wrangling and knowledge contestation, the high modern epistemic blinds itself to lived experience – at its own peril. The policy sciences framework and ideas of Lasswell in particular can be revived to problematize this phenomenon in anticipation of an extended research agenda about sustainability, wicked problems, and impending battles over truth claims in general.

David Schlosberg is Professor of Environmental Politics in the Department of Government and International Relations, Payne-Scott Professor, and Director of the Sydney Environment Institute at the University of Sydney. He is known internationally for his work in environmental politics, environmental movements, and political theory - in particular the intersection of the three with his work on environmental justice. His other theoretical interests are in climate justice, climate adaptation and resilience, and environmental movements and the practices of everyday life - what he terms sustainable materialism. Professor Schlosberg's more applied work includes public perceptions of adaptation and resilience, the health and social impacts of climate change, and community-based responses to food insecurity. He is the author of *Defining Environmental Justice* (Oxford, 2007); co-author of *Climate-Challenged Society* (Oxford, 2013); and co-editor of both *The Oxford Handbook of Climate Change and Society* (Oxford, 2011), and *The Oxford Handbook of Environmental Political Theory* (Oxford, 2016). His latest book, *Sustainable Materialism: Environmental Movements and the Politics of Everyday Life*, is due out with Oxford in 2019. Professor Schlosberg has been a visiting scholar at the London School of Economics, Australian National University, Princeton University, University of Washington, and UC Santa Cruz, among others.

Techno-Developmentalist *Doxa* and the Himalayan Vulnerability to Climate Change: Rethinking Deliberative Politics for Transformative Resilience

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Stretching 2500 kilometers from Myanmar to Afghanistan, the Himalayan region hosts the planet's third largest ice mass feeding melt water to Asia's 10 large river systems, which support not only the livelihoods of over two billion people, but also two of the fastest growing economies of India and China. In recent years, the social and ecological systems in this region have become highly vulnerable from rapid, human-induced climate change and natural disasters, with impacts amplified by economic transformations, demographic shifts, political crises, and transboundary resource conflicts. For over six decades, the region has received significant international development assistance to improve livelihoods, reduce vulnerability and social disadvantage, and foster 'good governance', primarily guided by Western development and conservation worldviews which we term "techno-developmental *doxa*". These *doxa* have become even more potent over the last ten years with the demands for urgent interventions under the climate change and disaster management. In this paper, we argue that techno-developmental projects to improve human condition and build resilience have themselves become part of the vulnerability-producing system in the Himalayas. More specifically, climate resilience projects have undermined learning processes and knowledge practices in relation to climate change adaptation in this highly vulnerable region. Drawing on our longitudinal field research and science-policy engagement in the Nepal Himalayas, and also engaging critically with the wider knowledge on the Himalayan environment and development, we demonstrate that techno-developmental framing of knowledge has crippled communities' access to resources, recognition of individual and community rights, and the ability to stay resilient under changing political and environmental contexts. Isolated cases of any good practices are easily co-opted by the larger regime of techno-development in the region. We then reflect on our attempts to reframe theoretical and methodological approaches to deliberative politics around Himalayan sustainability across scales and among sectors, and highlight emerging lessons. We conclude that critical action research, research-informed policy deliberation, and collaborative ethnographic work have the potential to unleash transformative changes in the practice of governance and climate resilience building.

Local knowledge for environmental protection and climate change adaptation in Africa: Towards Decolonizing Climate Science

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Africa contributes least to but suffers the most from the disastrous consequences of climate change. How can the continent cope better with the worsening threats of flooding, droughts and other emergencies that result from extreme weather conditions. In this regard, indigenous knowledge may prove to be “the single largest knowledge resource not yet mobilized in the development enterprise.” This paper considers how indigenous/local knowledge and practice can be used to support natural resource management, environmental protection and climate adaptation in Nigeria and other African countries. Although poverty may sometimes force people to use resources unsustainably, most traditional African societies have deeply entrenched ideas about environmental protection and sustainability because their livelihood depends largely on the land and on the stability of the ecosystem. They believe that land and other forms of nature are sacred, and are held in trust by the present day users on behalf of dead ancestors and future generations. Chief Nana Ofori Attah of Ghana once told a colonial official that ‘land belongs to a large family of which many are dead, a few are living, and countless hosts are yet unborn’. These local communities have over the years developed intricate systems of forecasting weather systems in order to prevent and mitigate natural disasters; traditional techniques of soil management, pest and disease control, adopting suitable crop and animal varieties, and other coping strategies that have ensured traditional resilience. The paper recognizes that the unprecedented scale of climate change today may have undermined the reliability of many traditional indicators for predicting the pattern of climate variability, and techniques for preventing and adapting to climate induced natural disasters. There is a need for those who hold and use traditional knowledge to partner more actively with scientists and practitioners in order to co-produce updated knowledge for better climate risk management. This way, the traditional and modern knowledge systems will be made to complement and enrich each other. While Africa stands to gain from global science and international best practices, the paper argues that Africa should search within their own knowledge systems for appropriate ideas and approaches; that indigenous knowledge offers a model for rethinking and redirecting the development process, and a way to adapt more effectively to climate change. Development agents, researchers and donors, who often assume a knowledge or capacity vacuum in Africa, should instead try to tap into the vital resource of indigenous knowledge for locally appropriate ways to ensure climate resilience and sustainable development.

Identifying Difficulties with Cultural Valuation of the Environment

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This paper seeks to identify problems with cultural valuation of the environment. Global importance has been given to cultural valuation as an important policy consideration as recognized in the Millennium Ecosystem Assessment (MEA) initiated as early as 2001. Various scholars have emphasized the role of cultural valuation as a counterweight to the utilitarian approaches that tend to dominate the environmental valuation literature. However, cultural valuation continues to face challenges in adoption even today two decades after it was introduced by the United Nations through the MEA. Nevertheless, it is not always clear that critics of cultural valuation have fully understood what cultural valuation is and how it is to be implemented. This paper seeks to provide a more nuanced description of cultural valuation as a field, as well as to identify its criticisms that do not always give an organized treatment of the field. In doing so, this paper hopes to help pave the way forward for improvements to be made to cultural valuation in reality.

Kelvin Lee is a Lecturer with the Singapore University of Social Sciences teaching political economy of the environment, specifically climate change. Kelvin had worked as Teaching Assistant and Research Assistant at the National University of Singapore focusing on political science and environmental economics. He was Analyst briefly at the Energy Market Authority. Kelvin was Researcher at the Asia-Pacific Economic Cooperation before embarking on his PhD in Political Science at the Australian National University where he graduated in 2018. His research interests are in political economy, international relations, comparative politics and political sociology

Climate Breakdown, Political Turbulence and Conflict Transformation

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This presentation begins from the proposition that the planned retreat from a carbon based economy is an essential component of addressing the root causes of climate breakdown. The climate science within the context of a potential 'tipping point' within many countries on addressing the climate and ecological emergency might be said to suggest that the transition away from carbon energy is inevitable. But how just, inclusive and equitable this transition might be is not guaranteed. With its origins in the trades union movement in the 1970s, the policy strategy of a 'just transition' – as outlined for example in the preamble of the 2015 Paris Climate Accords and the 2018 Silesia Declaration – and allied ideas such as 'eco-social transformation', a 'green new deal' and the divestment movement – stands as an energy transition pathway which can address some of the hard political and distributive issues of the transition to a low carbon economy. A Just Transition frame can address head on dominant and comfortingly narratives 'win-win' and 'greening business as usual'. The reality is that moving to a low carbon or post-carbon economy and society means the end of the fossil fuel energy system (which includes but goes beyond electricity and transportation but has major implications for the food system for example). This throws up a host of complex issues ranging from the role of the state (national and local) in managing or coordinating the transition, issues of democratic voice and procedure, the opportunities around reframing fossil fuels as carbon resources, to divestment and reinvestment energy strategies. Central to all of these, and something under acknowledged in the literature, is to recognise that conflict transformation will frame and characterise the low carbon energy transition, since while leading to a net benefit to society as a whole, this transition will produce 'winners' and 'losers' in the process. Hence the need to bring together the literature on conflict transformation and energy transitions to further flesh out both the 'dirty politics of low carbon energy transitions', critically examine trades union discourses and policies, and finally the role of the state in just transitions through analysing state-coordinated processes of just transitions of the carbon energy sector in Ireland, Spain, Germany, China and Scotland.

John Barry is Professor of Green Political Economy in the School of History, Anthropology, Philosophy and Politics and Director of the Centre for Sustainability, Equality and Climate Action at Queens University Belfast. His areas of research include green moral and political theory; green, post-growth and heterodox political economy; the politics, policy and political economy of climate breakdown and low carbon energy transitions. His books include, *Rethinking Green Politics: Nature, Virtue and Progress* (1999); *Environment and Social Theory*, 2nd edition, (2007); and *Citizenship, Sustainability and Environmental Research* (2000). His co-edited books include *The International Encyclopaedia of Environmental Politics* (2001), *Sustaining Liberal Democracy* (2002); *Europe, Globalisation and Sustainability* (2004), *The Nation-State and the Global Ecological Crisis* (2005), *Contemporary Environmental Politics* (2006), *Global Ecological Politics* ((2011), and *Environmental Philosophy: The Art of Living in a World of Limits* (2013). His latest book is *The Politics of Actually Existing Unsustainability: Human Flourishing in a Climate-Changed, Carbon-Constrained World* (2012, Oxford University Press). He is currently working on a book provisionally entitled *The Greatest Story Never Told: Unsustainable Economic Growth as Ideology, Myth and Religion*.

Post-truth Governance as Hydroterrorism: Discursive conflict and social movements In India's Water sector

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This paper turns towards a critical discursive examination of how post-truth governance in India's water sector assuages the anxieties of large industrial interests and supporters of the ruling regime, while diverting attention away from the way in which the agrarian crises resulting in widespread farmers suicides, destruction of coastal systems, and a generalised scarcity of water for the underserved continue unabated. Social movements that have sought to create counter-narratives that positions the State as "hydroterrorist", at once reimagining the democratic apparatus as inconsequential to the interests of the deep state, and visibilizing the spaces of contestation around water. I seek to provide an examination of post-truth governance as it has emerged in the current decade reinforced by new forms of digital governance and surveillance architecture in India. Using the logic of policy deliberation (Fischer 1995, 2006), I organise the conflicts that take place around notions of 'virtual resources' that produce Fantasies (Lacan/Gunder 2005) for water and other infrastructure projects in support of an alternative ideological order that seeks to resolve conflicts framed in terms of nation-building and legitimate citizenship. I show that such an emerging form of governance through concrete schemes and projects reshapes the broader context of climate crises towards an ethno-nationalist and authoritarian system.

‘Buen vivir’ in Ecuador: the Constitution and Popular Resistance against Extractivist Development

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‘Buen vivir’ was enshrined in Ecuador’s 2008 constitution, and widely understood as a tidal shift away from neoliberalism and extractivism, toward an alternative model of development. This seems to be largely lip service, as policies that support large-scale resource extraction remain a distinctive and prominent part of Ecuador’s development plan. Correa famously told the Ecuadorean people, ‘we cannot be beggars sitting on a pile of gold’, supplementing a long history of oil extraction with a series of large gold, copper, and silver mining projects. President Lenin Moreno won office in 2017, and shows no sign of relenting in Ecuador’s development trajectory. A new mining policy drafted just this past May, opens up around 33% of the country’s entire territory to mining concessions.

Using the constitutional courts, however, communities have fought Quito’s expansion of extractivist concessions, and the risk, they charge, they pose to local environments and water sources. Recently, hundreds from the Waorani nation of Ecuador’s Amazon region celebrated their victory in the Ecuadorian courts, to halt the auctioning of oil drilling concessions on Waorani land. The New Yorker called this an ‘uncommon’ victory; Al Jazeera called it a landmark case, and precedent setting; Mongabay and Cultural Survival called the victory historic. The crux of the court’s decision invoked the 2008 constitution and the concept of buen vivir: the government had not adequately or authentically consulted the community about oil extraction. In the Spring of 2018, news broke of another case of ‘when the impossible happens’, when the Andean communities of Molleturo demanded, and won the closure of the Rio Blanco mine.

These cases have not gone unnoticed. A leading industry publication warned investors in March, 2019 that Ecuador’s ‘hopes’ of becoming a mining superpower are under question because of instability and ‘radicals foes’. Will this momentum and confidence in rejecting the extractivist model and foreign capital dependency of neoliberal development create a post-development state? Or will mining interests and state power and coercion create a new version of the older neoliberal state?

Strengthening Citizens' Voices in the Process of Dealing with Climate Mitigation and Adaptation: Comparisons between Europe and Asia

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The IPCC and the United Nations warn that greenhouse gas emissions are rising at rates that are likely to take us well beyond the 2 degree C target if rapid changes to drastically reduce reliance on fossil fuels are not soon undertaken. At the same time, efforts to bring about change through for example, the closing of coal fired power plants or the transformation of transport systems are meeting with considerable societal and political resistance. On the one hand, young and old people alike are taking to the streets in protests calling for deeper and faster changes. Fridays for Future, Extinction Rebellion, and traditional NGOs are calling on states, businesses, and people to do far more to halt what they view as an existential risk. On the other hand, we see citizens and associations protesting the closing of fossil fuel factories or mobilizing against the raising of automobile fuel prices. In my talk I will examine top-down and bottom-up efforts at bringing about change and consider why calls for top-down solutions alone will not suffice. Examining cases of social protests for and against climate mitigation policies, the importance of reconceptualizing how we deal with difficult choices that go beyond mutual gains (co-benefits) and that will require major restructuring of our economic, agricultural and social structures will be discussed. Comparisons across countries in Europe and Asia will be made.

Miranda Schreuers (PhD, University of Michigan) is Professor of Environment and Climate Policy in the School of Governance, Technical University of Munich. Her research focuses on the governance of climate change, low carbon energy transitions, and sustainable development from comparative and international perspectives. She is currently Vice Chair of the European Environment and Sustainable Development Advisory Councils (and was formerly Chair), International Director of the Board of the Institute of Global Environmental Strategies (Japan), member of the Advisory Board of the Swiss National Foundation's NSF Research Program 71 on the Swiss Energy Transition, and co-chair of the National Committee to Monitor the Nuclear Waste Management Site Location Search in Germany. She has served on numerous governmental advisory bodies in Asia, including the China Council for Environment and Development, and Europe advising on energy transition, climate governance, and sustainable development. She has published widely on environmental and energy matters in leading academic presses, for policy makers, and more general audiences. She is currently also member of the Advisory Council for the Sustainable Development of Catalonia (CADS).

Participatory environmental governance in climate change: Lessons for building resilience from Khon Kaen, Thailand

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To cope with climate change requires democratic governance practices, as only partnerships, networks and other informal collaborations are seen to be able to effectively deal with the challenge. Democratic deliberation is seen here as a productive method for paving the way toward such governance practices. This paper will illustrate this through the innovative participatory experiences that emerged in Khon Kaen, Thailand. It is a process in which the municipality works with the wide-range of stakeholders within the city in planning climate change mitigation and adaptation through processes of participatory governance facilitated by a university-based think tank. The paper will draw a lesson how the participatory governance could enhance resilience in the face of climate change. It will also address the challenges emerged from the practice.

Piyapong Boossabong is an assistant professor at the CMU School of Public Policy, Chiang Mai University, Thailand. His focus is on deliberative policy analysis, urban food systems and environmental governance. He received a Ph.D. in policy and planning studies from University College London, UK. Recently, he contributes to Oxford Handbook of Deliberative Democracy, Routledge Handbook of Urbanization in Southeast Asia, Cities in Asia by and for the People, Integrating Food into Urban Planning, Journal of Policy Studies, Journal of Critical Policy Studies, Journal of Comparative Policy Analysis, and Journal of City, Culture and Society.

Passive vs. Active Approaches to Information Disclosure— Lessons for Environmental Governance from the Shihmen Reservoir and its Catchments Management Project

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Information disclosure is a core democratic value in contemporary society and environmental governance. In 2006, when the Taiwanese Legislative Yuan passed the Special Act Governing the Management of Shihmen Reservoir and Its Catchment Area— which was the legal basis for the 8-years Shihmen Reservoir and its Catchments Management Project —information disclosure was also included as one of the objectives. The Shihmen project has been extended and eventually completed in 2017, yet the results of its implementation in terms of information disclosure is not properly assessed. Indeed, how exactly shall such results be evaluated is a question to be explored, both for the Shihmen Project and other environmental projects and policies that seek public participation.

This paper suggests a distinction between passive and active information disclosure. The former refers to the traditional, manager-oriented approach, namely publishing the stipulated items on websites or releasing data upon request. The latter emphasizes a user-centered approach that considers the characteristics of the targeted and potential users as the essential basis for designing the mechanism to publish information. This paper elaborates how the practice in Shihmen only reflected a passive approach to information disclosure, and what an active approach that embodies the principles of timeliness, accessibility, and sufficiency would look like.

When Truth Fades: The Challenge of Safeguarding Historical Sustainability Lessons

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Sound environmental policy-making requires access to appropriate relevant knowledge. It is therefore essential for society to develop capacities to identify and utilize information that is accurate (including ascertaining criteria for "accuracy," including lack of bias and consideration of all pertinent factors). Nevertheless, we are witnessing an ever-growing explosion in the volume of textual and audio-visual material available through the internet, paralleling increased ease for internet users to generate, alter, and transmit materials. Moreover, lack of accurate comprehension of important historical incidents relevant to sustainability considerations would lead to risks of misunderstanding or misrepresenting the nature and severity of evolving environmental issues. Environmental governance thus increasingly faces the need to address concerns related to "alternative facts" in a so-called "post-truth" era. Ways must therefore be found to ensure the coherent transmission through time and space of accurate information, including ethical standards to guide policy-relevant communications.

This presentation will explore issues related to these concerns, illuminated through a consideration of evolving representations of post-war Japan's Minamata Disease, one of history's most important cases of industrial pollution. Forrest (2019) identified significant concerns regarding the accuracy and integrity of readily available audio-visual internet content related to the Minamata case. If the trustworthiness and significance of relevant information or narratives were to be further degraded or become inaccessible, valuable knowledge to inform and achieve sustainability in the future could be jeopardized. It could thus be seen that the history of Minamata Disease in Japan, as well as other important historical experiences, could be considered a valuable cultural heritage of the world, with the potential for aiding comprehension of sustainability issues and informing policy options. The creation of a global repository of key information, including case studies relevant to environmental sustainability, could be one approach to addressing relevant challenges.

Richard A. Forrest teaches courses on the environment, Japanese social issues, and English communication at Hiroshima University of Economics. He received a B.A. in Asian Studies and a M.A. in Japanese Studies from the University of Michigan. He also earned a Master of Public Policy degree (Environmental policy concentration) from the University of Maryland, and conducted doctoral research on climate change advocacy processes at Freie Universität Berlin (A.B.D.). He worked for over two decades with environmental and international development NGOs, and has authored numerous articles on environmental policy, citizens' organizations, and Japan's domestic and international policies. Current research interests include citizen participation in decision-making and the communication of scientific knowledge. (More information at Google Scholar: <http://bitly.com/2gb7pLB>)

Examining the roles for expert judgement and technical reason in climate policymaking: A heuristic turn for a post-truth age

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Climate change experts struggle to influence public decision-making on multiple fronts: when characterising policy problems; when maintaining their privileged status in the eyes of public representatives; in their prescriptions for decision-making processes; and, when prescribing a rapid transition away from fossil fuels. This paper surveys the first three of these advocacy failures to highlight an ongoing difficulty associated with expert advice on climate change. Contemporary scientism continues to presuppose a sort of rationality from well-informed citizens and their representatives that frequently does not prevail, particularly in policymaking contexts. It may be (as is sometimes but infrequently noted) that this presumption arises from their neglect of the accumulated wisdom of political and policy studies literature. Whatever the reason, experts' privileged influence and their prescriptions for public decision-making have frequently served tangential, and even, orthogonal lines of reasoning relative to the political rationalities prevailing for climate change. This paper proposes that experts should now embrace a heuristic turn in their reasoning and advocacy on climate policy. This conceptual shift will not cure the climate crisis, but it may de-escalate the polarised knowledge politics surrounding proposed solutions. A heuristic turn would encourage experts to reflect on the precise utility of their preferred precautionary means-ends reasoning when discussing environmental crisis in the context of economically rational scepticism. It would finally acknowledge the limits to risk-based and linear-instrumental rationality when advising government. It would promote reflexivity under uncertainty, re-examine Mertonian ideals for scientific conduct and update those norms for expertise in a 'post-truth' age.

The impact of post-truth politics in forest governance in Sri Lanka: Promoting local knowledge in forest policy process

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Post-truth politics have taken the controlling power of electoral and policy processes of many countries all over the world despite of their developed or underdeveloped status. Sri Lanka is a developing country with a strongly centralized government structure where public opinion is highly affected by nationalist influences. This has resulted in people's irrational acceptance of centrally-led government and non-participation in public policy processes.

As an island country and a biodiversity hotspot, Sri Lanka experiences bad impacts of environmental degradation. The forest cover has decreased from 40% to 29.7% during the period from 1940 to 2017. The government has declared new policies to increase the forest cover up to 32% by 2030 and to develop forest-based tourism. This study focuses on Sri Lanka's forest governance issues and potentials of promoting local knowledge in forest policy process towards achieving economic and conservation goals. It asks why the forest governance in Sri Lanka experiences certain difficulties in achieving successful policy outcomes and investigates the potentials of locally-led development and conservation.

This research was based on qualitative data gathered using unstructured and semi-structured interviews with officials and representatives of the departments of forest and wildlife conservation, Central Environmental Authority, Tourism Development Authority, provincial and local government bodies, environmental non-governmental organizations and community-based organizations. Additional data were collected through observing the study sites, Sinharaja and Kanneliya rainforests in Sri Lanka.

The findings indicate that the forest policies and responsible institutions do not base on research data and local knowledge in achieving economic and conservation goals. There is no policy or institutional integration. To achieve economic and conservation goals, the forest policy process needs to be based on research data and local knowledge, and not on post-truth politics.

Indi Ruwangi Akurugoda did a PhD in Political Science and Public Policy at the University of Waikato, New Zealand and later obtained a post-doctoral writing scholarship awarded by the Faculty of Arts and Social Sciences, University of Waikato. She is a senior lecturer in Political Science attached to the Department of Public Policy, University of Ruhuna, Sri Lanka, working in the areas of local government, community development, conservation and NGO politics. Her publications include books, articles and research papers. She has also contributed towards volunteer conservation and community development projects in Sri Lanka and overseas.

Manjula Lankanath Karunaratne is a senior lecturer attached to the Department of Geography, University of Ruhuna, Sri Lanka. He obtained his Bachelor of Arts Degree (Hons. in Geography) in 2008. Later he completed an MSc degree at the University of Agder, Norway and an MSSc degree at the University of Kelaniya, Sri Lanka. He is interested in developing innovative methods to harmonize anthropogenic activities with biodiversity conservation and ecosystem services. His research interests are conservation geography, biogeography and politics of conservation. He raises his voice as an environmental activist

Fake News and Policy Intelligence: Determining truth and facticity in a post-truth world

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Described as a “scourge” that could disrupt public discourse and threaten social order, the issue of ‘fake news’ has risen up the public agenda to capture the attention of policymakers and legislators across the world. In response, policymakers have increasingly sought to address these issues through the use of fake news legislations, such as Singapore’s Protection from Online Falsehoods and Manipulation Act (POFMA). While such policy tools may contribute to policymakers’ ability to identify and manage fake news, important normative-ideological questions have also been raised over the role of the state in determining the facticity of information. In this talk, I will discuss the policy and socio-political implications of POFMA, based on Harold Lasswell’s work on ideological and technical intelligence. In doing so, I hope to explore and interrogate the bases of truth and falsity in policymaking today.