



hopefulNESS 2017

The 13th Nordic Environmental Social Science Conference

6 - 8th June 2017

University of Tampere, Finland

Abstracts

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Programme

Monday 5 June 2017

19.00 – Informal get-together: exhibition & refreshments, University main building lobby

Tuesday 6 June 2017

08.00 Registration opens

09.00 – 09.30 Welcome by organizers; Vice rector Harri Melin

09.30 – 10.15 Key note 1: Prof. James Meadowcroft

10.15 – 11.00 Key note 2: Dr. Josephine Mylan

11.00 – 11.30 Coffee

11.30 – 13.00 WG session I

13.00 – 14.00 Lunch

14.00 – 15.30 WG session II

15:30 – 16:00 Coffee / Possibility for mini-excursion: Biodiversity experiment on University building roof

16.00 – 17.30 WG session III

18.30 A group walking to welcome reception leaves in front of University main building

19.00 Welcome reception, City of Tampere, at museum centre Vapriikki

Wednesday 7 June 2017

09.15 – 10.00 Key note 3: Prof. Esther Turnhout

10.00 – 10.45 Key note 4: Dr. Morgan Meyer

11.00 – 12.30 WG session IV

12.30 – 14.00 Lunch; 13:30 Possibility for mini-excursion: Botanical walk around the campus

14:00 – 15:30 WG session V

15:30 – 15:45 Coffee

15.45 – 17.15 WG session VI

18.30 A group walking to conference dinner boats leaves in front of University main building

19.00 Boats leave from Laukontori marketplace to conference dinner at Viikinsaari Island

22:30 Boats leave from Viikinsaari back to Laukontori

Thursday 8 June 2017

09.15 – 10.45 WG session VII

11.00 – 11.45 Key note 5: Emer.prof. Yrjö Haila

11.45 – 12.00 Announcing NESS 2019

12.00 – Lunch

Tuesday 6 June

8:00 - 9:00	Registration Main building lobby												
9:00 - 9:30	Welcome (conference opening) Lecture hall A1												
9:30 - 10:15	Key note 1: Prof. James Meadowcroft Lecture hall A1												
10:15 - 11:00	Key note 2: Dr. Josephine Mylan Lecture hall A1												
11:00 - 11:30	Coffee break												
11:30 - 13:00	Working Group Sessions 1												
Room	A2a			C6		A08	A31	A32	A2b		C1	D14	D12
WG	1.1. Environmental protection, regulation and governance: hope(less) for a sustainable future?			4.1. Framing energy: between hope, hype and hopelessness		7.1. Interventions in prolonged environmental conflicts	8.1. Sustainability Transformations in Place	8.3. Theorising sustainability interventions: practice, consumption, technology and organization	9.1. Local climate experiments – Hopeful monstrosities and/or useful solutions?		9.3. Governing risk society – climate change adaptation policies and measures in a comparative light	10.1. Co-production of knowledge for sustainable futures	11.1. Is strengthening spatial thinking the new hope for sustainable marine governance? Constructing a critical social science perspective
13:00 - 14:00	Lunch												
14:00 - 15:30	Working Group Sessions 2												
Room	A2a	A05	A06	C6	A07	A08	A31	A32	A2b	C2	C1	D14	D12
WG	1.1. Environmental protection, regulation and governance: hope(less) for a sustainable future?	2.1. Expectations of Bioeconomy - Pathways to sustainable futures or reframing the regime?	3.1. Promoting sustainable food consumption	4.1. Framing energy: between hope, hype and hopelessness	5.1. Beyond romanticism – Is there hope of change by urban DIY activism?	7.1. Interventions in prolonged environmental conflicts	8.1. Sustainability Transformations in Place	8.3. Theorising sustainability interventions: practice, consumption, technology and organization	9.1. Local climate experiments – Hopeful monstrosities and/or useful solutions?	9.2. Post-COP21: Transition to sustainable well-being in Nordic welfare states	9.3. Governing risk society – climate change adaptation policies and measures in a comparative light	10.1. Co-production of knowledge for sustainable futures	11.1. Is strengthening spatial thinking the new hope for sustainable marine governance?
15:30 - 16:00	Coffee break; mini-excursion 1												
16:00 - 17:30	Working Group Sessions 3												
Room	A2a	A05	A06	C6	A4	A07		A32	A2b	C2	C1	D14	D12
WG	1.1. Environmental protection, regulation and governance: hope(less) for a sustainable future?	2.1. Expectations of Bioeconomy - Pathways to sustainable futures or reframing the regime?	3.1. Promoting sustainable food consumption	4.1. Framing energy: between hope, hype and hopelessness	4.2. Energy transitions for sustainable futures	5.1. Beyond romanticism – Is there hope of change by urban DIY activism?		8.3. Theorising sustainability interventions: practice, consumption, technology and organization	9.1. Local climate experiments – Hopeful monstrosities and/or useful solutions?	9.2. Post-COP21: Transition to sustainable well-being in Nordic welfare states	9.3. Governing risk society – climate change adaptation policies and measures in a comparative light	10.1. Co-production of knowledge for sustainable futures	11.1. Is strengthening spatial thinking the new hope for sustainable marine governance?
18:30	Walking to Vapriikki from University Main Building												
19:00	City reception												

Wednesday 7 June

Wednesday 7 June													
9:15 - 10:00	Key note 3: Prof. Esther Turnhout Lecture hall A1												
10:00 - 10:45	Key note 4: Dr. Morgan Meyer Lecture hall A1												
11:00 - 12:30	Working Group Sessions 4												
Room		A2b	A05	A06	C6	A07	A08	A31	A32		C2	D14	
WG		1.2. Natural resources law and regulation for the global and local hope of a sustainable future	2.2. Green transformation -Policies, solutions, experiments and methodologies for a sustainable future	3.2. Towards sustainable food systems	4.1. Framing energy: between hope, hype and hopelessness	5.4. The Smart City: panacea or poison for sustainable urban future?	7.2. Gender and Power in Natural Resource and Wildlife Management	8.2. Transitions in the nexus of natural resources, climate change and sustainable production	8.3. Theorising sustainability interventions: practice, consumption, technology and organization		9.3. Governing risk society – climate change adaptation policies and measures in a comparative light	10.1. Co-production of knowledge for sustainable futures	
12:30 - 14:00	Lunch 13:30 mini-excursion 2												
14:00 - 15:30	Working Group Sessions 5												
Room		A2b	A2a	A05	A06	C8	A07	A08	A31	A32	C2	D14	
WG		1.2. Natural resources law and regulation for the global and local hope of a sustainable future	1.3. Law and Policy interaction in the governance of the Baltic Sea	2.2. Green transformation -Policies, solutions, experiments and methodologies for a sustainable future	3.2. Towards sustainable food systems	4.2. Energy transitions for sustainable futures	5.4. The Smart City: panacea or poison for sustainable urban future?	7.3. Challenges of conservation: Collaboration, conflict, knowledge, and equity	8.2. Transitions in the nexus of natural resources, climate change and sustainable production	8.3. Theorising sustainability interventions: practice, consumption, technology and organization	9.3. Governing risk society – climate change adaptation policies and measures in a comparative light	10.2. Globalization and the Right to Research	
15:30 - 15:45	Coffee break												
15:45 - 17:15	Working Group Sessions 6												
Room			A2a	A2b	A05	A06	C8	A07	A08	C6	A31		
WG			1.3. Law and Policy interaction in the governance of the Baltic Sea	1.4. Environmental Human Rights and Hope for the Future	2.2. Green transformation -Policies, solutions, experiments and methodologies for a sustainable future	3.2. Towards sustainable food systems	4.2. Energy transitions for sustainable futures	6.1. The contribution of social work and social policy to ecosocial transition towards sustainable future	7.3. Challenges of conservation: Collaboration, conflict, knowledge, and equity	7.4. Urban wildernesses: new paradigms of conservation	8.2. Transitions in the nexus of natural resources, climate change and sustainable production		
18:30	Walking to Laukontori from University Main Building												
19:00	Boat leaves for conference dinner												
22:30	Boat leaves back from Viikinsaari Island												

Thursday 8 June

9:15 - 10:45	Working Group Sessions 7												
<i>Room</i>			<i>A2a</i>	<i>A2b</i>		<i>A06</i>	<i>C8</i>	<i>A07</i>		<i>C6</i>			
WG			<i>1.3. Law and Policy interaction in the governance of the Baltic Sea</i>	<i>1.4. Environmental Human Rights and Hope for the Future</i>		<i>3.2. Towards sustainable food systems</i>	<i>4.2. Energy transitions for sustainable futures</i>	<i>6.2. Working nature: The future of greening work</i>		<i>7.4. Urban wildernesses: new paradigms of conservation</i>			
11:00 - 11:45	Key note 5: Emer.prof. Yrjö Haila Lecture hall A1												
11:45 - 12:00	Announcing NESS 2019; closing conference Lecture hall A1												
12:00	Lunch												

KEYNOTE LECTURES

Tuesday 6 June, 09.30 – 10.15, room A1

Confronting the limits of the environmental state

James Meadowcroft, Carleton University, Department of Political Science

Over the course of half a century developed states have built up complex arrays of institutions, policies and programs to manage environmental impacts. On one level this has been remarkably effective -- cleaning up some of the more obvious environmental problems. But on another level gains remain fragile and the broader deterioration of global ecosystems continues unabated. This tension between mission and performance has led to increasing interest in the structural barriers that may limit what environmental states can achieve. At a time when economic dislocation and political turmoil are calling into question key elements of the established political order, such reflection is particularly pertinent. Thus an exploration of the potential and the limits of environmental states forms the focus of this talk.

Tuesday 6 June, 10.15 – 11.00, room A1

Consumption in Transition

Josephine Mylan, University of Manchester, Sustainable Consumption Institute

Staying within the Earth's planetary boundaries will require transitions in the way societal functions such as food, shelter and mobility, are fulfilled. Focusing on the role of consumption in transitions, the talk will highlight aspects that are often downplayed in the sustainable consumption literature - which frequently focuses on ethical consumers or grassroots initiatives. These aspects include: 1) ongoing dynamics in mainstream patterns of consumption, 2) diversity in daily life practices, 3) consumption beyond the household, 4) the role of firms in shaping sustainable consumption, and 5) the directionality of change (e.g. via 'qualities'). Drawing on multiple research projects, I will illustrate these points with examples of innovation in meat consumption, laundry, lighting and fruit juice.

Wednesday 7 June, 09.15 – 10.00, room A1

Globalizing biodiversity: representation, order, and the politics of knowledge

Esther Turnhout, Wageningen University, Environmental Sciences, Forest and Nature Conservation Policy Group

Centralized states and science have something important in common: they both require order to function. This is one reason why, in spite of the many complaints about the supposed gap between science and policy, they actually get along very well in many areas. One of these areas is biodiversity conservation. Here, various elaborate classification systems function as technologies of order, making possible the political treatment of specific, scientifically sanctioned, conservation priorities and preferences. In this talk, I will draw on examples in Ecosystem Services literature and on the Global Assessment of biodiversity and ecosystem services, which is currently being developed under the auspices of IPBES (the Intergovernmental Panel on Biodiversity and Ecosystem services) to illustrate how biodiversity knowledge and global biodiversity governance are made to align in practice. Specifically, I will demonstrate what orderings are at work to enable the global representation of biodiversity and how, at the same time, these orderings are continuously tweaked and resisted. I will conclude by discussing these simultaneous practices of ordering, tweaking, and resisting as sites where the politics of biodiversity knowledge plays out and, consequently, also as the sites where the democratization of biodiversity knowledge may take shape.

Wednesday 7 June, 10.00 – 10.45, room A1

Domesticating sustainability: the fabric of participation

Morgan Meyer, Université Paris-Est Marne-la-Vallée, Institute for Research and Innovation in Society

There are today many examples of collaborations between amateurs and professional scientists: in the fields of natural history, astronomy, epidemiology, medicine, biology, environmental science, and informatics. To describe these collaborations, there is a plethora of terms used such as ‘co-production,’ ‘participation,’ ‘citizen science,’ or ‘community-based research.’ But rather than using and reiterating these notions, I will problematize the very notion of participation. To do so, I will draw upon three current examples: do-it-yourself biology, the auto-construction of agricultural tools, and open source ecology. I will argue that the ‘fabric of participation’ deserves more attention. First, we need to focus on the sites of participation: in what kinds of places, buildings, and spaces does participation happen (be it laboratories, workshops, garages, field-work sites, etc.)? Second, we need to focus not only on results but also on processes: how is participation produced, tinkered, constructed? Third, what is the texture of this participation? What kinds of tools, materialities and networks are made and mobilised? Domesticating science and experimenting with biology and ecology outside institutional frames raises interesting questions and debates about the boundaries, sociabilities and materialities of scientific practices.

Thursday 8 June, 11.00 – 11.45, room A1

We Should (and Could) Learn to Let Biodiversity Take Care of Itself

Yrjö Haila, University of Tampere, School of Management, environmental policy

Concern over the loss of biodiversity is a staple element in environmentalist literacy. Without denying the urgency of the concern, I criticize the framing of the concern: the all-encompassing style collapses together all sorts of variation in living nature. This leaves no space for critical distinctions. Just take a look at Article 2 (Use of terms) of the Rio Convention: the phrasing is singularly useless for deciding what to do in any specific situation.

The essence of biodiversity is not a list of species or other entities, rather, what matters is the continuing functionality of life-supporting processes. These take the form of reproductive cycles, on many different levels of organization. To preserve biodiversity, we should take care of conditions in which critical reproductive cycles maintain their integrity. The status of human-modified habitats requires re-evaluation. We can begin from symbolic transitions such as forming a novel relationship with our companion creatures. As an example: “Weed” is used in conservation contexts as a pejorative. – But what are weeds? They are creatures that like the changes that we humans have brought about in the environment they share with us. So, why not like successful weeds instead of hating them? By their presence, weeds show that everything we humans do is not detrimental to everything alive.

But in cultivated lands weeds need to be held in check, of course, similarly as malaria-spreading mosquitos need to be held in check in wetlands close to human communities. Qualifications and distinctions are needed, whether we are faced with original natural conditions or human-modified environments. Ultimately, what is known as the biodiversity crisis means that we humans interfere too strongly with the life-support systems of the biosphere. Against this background, the essence of the current biodiversity crisis is sink scarcity: ecological systems cannot cope with the deteriorating effects of human actions. Searching for a model from ecological conditions as they were in times past is no solution. A forward looking alternative builds upon two orientations: first, prevent outrageous crimes; and second, support considerate stewardship. I'll offer empirical support for these aims.

WORKING GROUPS

TRACK 1: LAW AND REGULATION

1.1. Environmental protection, regulation and governance: hope(less) for sustainable future, Room A2a

Convenors:

Heta Heiskanen, University of Tampere, heta.heiskanen(at)uta.fi

Sanna Kopra, University of Tampere, sanna.kopra(at)gmail.com

Tuesday 6 June, 11:30 - 13:00

Ecological restoration as a Boundary object: Experiences from a Norwegian example in the Dovre Mountains

Aasetre, Jørund & Dagmmar Hagen

Ecological Restoration is a multidisciplinary enterprise involving different branches of science and different professions. The science of restoration ecology is considered a multidisciplinary branch of conservation biology, involving nature sciences (e.g. biology, ecology, hydrology, geology), and also management science and social sciences (e.g. sociology, social geography, economy, legislation). Performing ecological restoration projects as a management strategy also involves professions such as public administration, developers, construction workers and other practitioners. This make coordination a challenge because different professions may have different perceptions of what ecological restoration should be, and how it should be implemented in real situations. Even so, when performing these projects these different professions have to find a common ground of understanding. They have to find some kind of mutual understanding that make common actions possible.

In the field of Science and technology studies, the concept of “boundary objects” have evolved. “Boundary objects are objects which are both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites.” (Star & Griesemer 1989) Boundary objects, are socially constructed and shared perceptions. In our perception, also ecological restoration can be analysed and understood as a boundary object.

At Hjerkinn, the Dovre Mountain, Norway a large restoration project is going on, aiming at restoring a former military firing range for future nature protection and civil use. In our research, we analyse how the different professions involved in the project build up a sufficient mutual understanding to get the project running. Of interest is to what degree the perceptions of the different professions overlap, how big differences still exist between them, and how this might influence the output of the restoration.

Fragmentation or harmonization: role of the European Court of human rights in development of greening of human rights

Heiskanen, Heta

This paper will discuss, is the overlapping mandates of different institutions in environmental context problematic or have the European Court of Human Rights (ECtHR) had a harmonizing effect? In order to assess the impacts of substantive fragmentation, the core is to analyze, how the ECtHR has currently used different legal sources in environmental context and whether it has harmonized the standards in Europe or contributed different standards. This paper will illustrate that the ECtHR has not taken its mandate to environmental claims as self-evident and automatic. It has reminded in its judgments that

often the case could be processed alternatively by another organ. Even in the cases, where the ECtHR has given green rulings, it has shown the awareness on the existence of other competent institutions. The ECtHR has made active references to instruments such as Århus Convention.

Tuesday 6 June, 14:00 - 15:30

Wind-farm acceptance for sale? An evaluation of the Danish wind-farm co-ownership scheme

Johansen, Katinka

The Danish Renewable Energy Act (REA) features financial incentive structures with direct local-level implications (Sperling et. al 2010; 5445). Specifically 4 REA policy measures aim for greater local engagement in and acceptance of wind-farm projects (Anker & Jørgensen, 2015: 24). Arguably the most influential of the four is the Danish wind-farm co-ownership scheme. This compulsory scheme demands that wind-farm developers offer ownership of at least 20 % of the wind-farms to local citizens via wind-farm shares.

Through the analytical lens of Distributive Justice, DJ, in this study we scrutinize potential re-distributional and compensating effects of the co-ownership scheme via data from a large-scale survey (N=1983). Data is collected at potential near-shore wind-farm sites during the 2016 Danish near-shore bid for tender.

Empirical evidence suggests that 1) most potential OPSS-investors already support proposed wind-farm projects. Many project opponents will not engage themselves in something they “are against in principle”. Consequently the overall mitigating effect of the scheme can be questioned. Furthermore: Data suggests that 2) demographic facts, such as gender and age, influence the general appeal of the scheme. More importantly: 3) OPSS is not equal for all: Those with fewer economic resources are subject to de-facto economic discrimination as OPSS presupposes investment liquidity. Finally, and most importantly, 4) potential monetary gain does not appear to justly compensate the core of what is actually feared lost by many project stakeholders. Thus survey data underscores that economic re-distribution alone is not enough: Real world facts and complications, such as demographics, preconceived project perceptions and personal values, get in the way. In sum data suggest that the co-ownership scheme, in its current shape and form, at least, is not a tick the box exercise instantly compensating locally perceived burdens of wind-turbine proximity among wind-turbine host communities.

Mount Fuji’s Listing as a Cultural World Heritage Site: Challenges of Fragmented Governance

Jones, Thomas & Kati Lindström

Heritage management is often fragmented, and Japan is no exception with considerable horizontal fragmentation between municipal, prefectural and central government agencies. For example, the Ministry of Environment (MoE) is the legally-designated administrator of national parks but their institutional objectives are often inconsistent with those of other state agencies, such as the MAFF (a significant landowner) and MEXT (responsible for cultural heritage). This poses serious challenges for management of large mixed type heritage where objects are not easily classified as natural or cultural.

Mount Fuji, UNESCO World Cultural Heritage since 2013, consists of a serial nomination of sites within Fuji-Hakone-Izu National Park that overlaps with the administrative territory of 15 municipalities and two prefectures. This complex combination of multiple stakeholders can have the unintended side-effect of pitting government agencies against each other, and against private stakeholders such as mountain huts who maintain certain trails. The nomination process was challenged by the legislation and established procedures that struggle to accommodate natural landscapes functioning as cultural objects of worship and art. The fragmented management style was typified by subordination to business interests and avoidance of disrupting the status quo. One solution was to focus on sites that were already listed under national law. Site maintenance is typically split between several departments and institutions that are subjected to regular rotation of human resources.

However, the UNESCO listing process opened a window for greater cooperation. After tentative listing in 2007, a cross-cutting committee was formed in 2009 to standardize place names, and remove unnecessary or inferior trail signs. The simplified system of colour-coded, multi-lingual signs along 4 main trails symbolizes how the 'carrot' of UNESCO inscription provided an incentive to galvanize diverse stakeholders into collaborative action, but it is difficult to envisage how the momentum can maintain cross-cutting partnerships now that inscription has been achieved.

World society and global climate responsibility

Kopra, Sanna

Climate change has given momentum to the development of cosmopolitan responsibility, and civil society is increasingly active in its calls for global climate responsibility. This paper studies non-state actors' contribution to the global practice of climate responsibility from the theoretical and normative perspectives offered by the English School of International Relations. The paper applies the English School concept of world society, which refers to universal society of humankind, and pays attention to agency and social structures of world politics as well as normative elements of global climate change practices. First, the paper investigates the social environment and mechanisms through which non-state actors can initiate and shape international practices of climate responsibility. On the one hand, the wide number of non-governmental climate initiatives and organizations indicate the UNFCCC's weakness to resolve climate crisis and states' failure to shoulder their climate responsibility, calling for alternative approaches; On the other hand, active participation of non-state actors demonstrates that the world society is very convinced of the urgency of climate change and without its participation, climate change mitigation is likely to fail. From the English School perspective, fragmentation and diversification of climate governance is not necessarily a weakness but demonstrates a 'thick' interpretation of climate responsibility globally. Private and public initiatives outside the UNFCCC do not only offer multiple and potentially more efficient channels to organize and enact climate responsibility, but they also engage the broader participation of both state and non-state actors. Second, the paper proposes that traditional state-centric view of international society, which assumes that only states have international (environmental) rights and responsibilities, should be supplanted by cosmopolitan notions of environmental responsibility. The paper explores to what extent, and how, contemporary climate practices recognize, define and distribute cosmopolitan climate responsibility. A critical question is whether or not climate responsibility will develop as a "standard of civilization" which defines and validates practices of "civilized" members of international society, as well as world society, in the future. Finally, the paper also discusses how the existing climate change architecture could, and should, be reformed in order to encourage affluent individuals to reduce their carbon emissions in an effective manner.

Tuesday 6 June, 16:00 - 17:30

International Organizations and National REDD+ Strategy - the case of Mozambique

Palmujoki, Eero & Pekka Virtanen

The paper studies how the practices of climate change governance take place in national REDD+ (Reducing Emissions from Deforestation and Forest Degradation) programme in Mozambique. It examines how international organizations (UN REDD, FAO, World Bank and SADC) practices as well as Mozambican national practices form national REDD+ governance. The paper takes advantage of and critically examines Theodora Schatzki's view of the development of governance as of uneven front of change. Hence the national practices and international organizations practices form an evolving mosaic of continuity and change. This approach stems with the new Paris climate agreement which emphasizes freedom of choice in reaching climate mitigation goals.

In addition to theoretical literature and research addressing environmental governance and forest policies, including REDD studies, the paper is based on official documents by the key international organizations and relevant Mozambican authorities and non-governmental stakeholders, including critical interventions.

Mother Earth as a Subject of Law and its Judicial Challenges

Vallejo, Santiago

This proposal will aim the juridical analysis of the foremost theoretical foundations that are supporting the hypothesis of recognition of legal standing and defense of Rights of Nature, as mechanisms to expand the scope of environmental protection at global level. For this purpose, it will be carried out an examination since three approaches: ethical, lawful, and mainly judicial. First of all, Ethical perspective will involve the examination of theories supporting the notion of the planet as a living being, and not anymore merely like a habitat in which people dwell and keep a supply Secondly, it will be stated that Mother Earth possesses certain rights, which must be recognized and protected, including its own existence. In this sense, there is a key antecedent within the text of the Ecuadorian Constitution of 2008. Indeed, in the second paragraph of article 10, one is able to read: "Nature shall be the subject of those rights that the Constitution recognizes for it". This reference has been used explicitly in recent Ecuadorian Court Resolutions Finally, one cannot ignore that protection of Nature against potential violations of its rights denotes the implicit faculty to bring judicial proceedings to avoid them. Nevertheless, in order to guarantee access to justice it will be essential the accurate determination of the peculiarities and the scoping of legal representation of Nature, due to the fact that it is not yet well-defined its juridical personhood. To conclude, the analysis of the theoretical recognition of Rights of Nature will allow sharing and promoting a progressive alternative to avoid potential or effective aggressions to ecosystems, which could generate encouraging results, above all in terms of due process of law.

The role of regional collaborative arrangements for forest water governance

Mancheva, Irina & Charlotta Söderberg

The need for collaborative arrangements to improve the management of water, including forest waters, has been stressed by both legislation and research literature. The EU Water Framework Directive (WFD) calls for a collaborative bottom-up approach to water management from a river basin perspective. This implies an important role for the local-regional level of governance, as river basins often exceed local boundaries. Such regional level collaborative arrangements might be instigated both from the top and down, as required by the WFD, and from the bottom-up by local stakeholders, organising to solve locally perceived water issues. An example of the latter is the regional Fishing Boards, formed to improve the management of fish and their water habitats. While implementing the WFD in Sweden, Water Councils were formed by the state at regional level according to river basins, to serve as fora of deliberation. The Water Councils include relevant stakeholders within the river basin and are thus, albeit top-down initiated, expected to represent a bottom-up perspective to water management. Using Collaborative Governance Regimes theory, research questions include: In what ways does it matter whether such a collaborative arrangement is top-down or bottom-up instigated? How do their goals and means differ in relation to forest water? Are certain factors such as principled engagement, shared motivation, or leadership a challenge when collaboration is top-down initiated? What are the prerequisites for a collaborative arrangement to be functional and fulfil its goals? Through studying these two collaborative arrangements which both tackle forest water issues, this paper discusses the challenges in different forms of collaborative governance. Can top-down instigated collaboration at regional level become legitimate and effective in bottom-up forest water governance or does it remain the state's straw man if certain key factors are missing?

1.2. Natural resources law and regulation for the global and local hope of a sustainable future, Room A2b

Convenors:

Jukka Similä, University of Lapland, jukka.simila(at)ulapland.fi

Kai Kokko, University of Helsinki, kai.kokko(at)helsinki.fi

Niko Soininen, University of Eastern Finland, niko.soininen(at)uef.f

Wednesday 7 June, 11:00 - 12:30

Landscape strategies for sustainable forest management

Forsberg, Maria

According to the latest evaluation, it will not be possible to meet the Swedish Environmental Objective Sustainable Forests by 2020 with current or planned policy instruments. This is in part due to the lack of landscape strategies and environmental considerations in felling. According to the Swedish Forest Agency, it is a general dilemma in conservation that landscape connectivity is not considered. Today, forest biodiversity in Sweden continues to degenerate and as a consequence, Sweden is not in compliance with international and EU obligations to protect species and habitats.

As stipulated in the Habitats Directive, EU Member States are obliged to establish a strict protection regime for listed species and their habitats, such as breeding sites and resting places. In many cases, these far-reaching provisions are difficult to reconcile with ongoing land use such as forestry. The EU Commission has suggested a pragmatic interpretation of the rules; as long as the continued ecological functionality of a site is maintained, the deterioration of a single habitat do not in itself constitute a deviation from the prohibitions.

In practice, a landscape approach is required in order to establish ecologically functional habitats. In the Commission guidelines, the Commission highlights the Finnish and the French approaches as useful examples of how to implement the provisions on species protection in forestry. The French forestry plans go beyond the protection of current species and habitats. They also target the long-term viability of species populations, taking into account their conservation needs over time as well as space.

This paper explores and analyzes different strategies in EU Member States to implement the Habitats Directive and a landscape perspective in forest management. The overall aim is to compare and study the pros and cons of various instruments to delineate useful management options for a sustainable forestry.

Wind-farm acceptance for sale? An evaluation of the Danish wind-farm co-ownership scheme

Johansen, Katinka

The Danish Renewable Energy Act (REA) features financial incentive structures with direct local-level implications (Sperling et. al 2010; 5445). Specifically 4 REA policy measures aim for greater local engagement in and acceptance of wind-farm projects (Anker & Jørgensen, 2015: 24). Arguably the most influential of the four is the Danish wind-farm co-ownership scheme. This compulsory scheme demands that wind-farm developers offer ownership of at least 20 % of the wind-farms to local citizens via wind-farm shares.

Through the analytical lens of Distributive Justice, DJ, in this study we scrutinize potential re-distributional and compensating effects of the co-ownership scheme via data from a large-scale survey (N=1983). Data is collected at potential near-shore wind-farm sites during the 2016 Danish nearshore bid for tender.

Empirical evidence suggests that 1) most potential OPSS-investors already support proposed wind-farm projects. Many project opponents will not engage themselves in something they “are against in principle”. Consequently the overall mitigating effect of the scheme can be questioned. Furthermore: Data suggests that 2) demographic facts, such as gender and age, influence the general appeal of the scheme. More importantly: 3) OPSS is not equal for all: Those with fewer economic resources are subject to de-facto economic discrimination as OPSS presupposes investment liquidity. Finally, and most importantly, 4) potential monetary gain does not appear to justly compensate the core of what is actually feared lost by many project stakeholders. Thus survey data underscores that economic re-distribution alone is not enough: Real world facts and complications, such as demographics, preconceived project perceptions and personal values, get in the way. In sum data suggest that the co-ownership scheme, in its current shape and form, at least, is not a tick the box exercise instantly compensating locally perceived burdens of wind-turbine proximity among wind-turbine host communities.

Mitigation banks, compensation funds, permittee responsible compensation – a legal investigation of ways to perform ecological compensation

Laas, Kristjan

A part of the Swedish governmental strategy for governing natural resources is to use ecological compensation to counteract negative effects of development projects. Ecological compensation can be performed in a number of different ways. This article focuses on compensation of ecological functions – in depth analysis will be made with regard to the specific ecological challenges related to seagrass compensation. Three main ways of organizing the compensation measures will be compared, mitigation banking, compensation funds and permittee responsible mitigation. The aim is not to find the one solution but rather to discuss in depth what the legal (and ecological) implications of the three compensation mechanisms may be.

The different choices carry different advantages and weaknesses. Mitigation banks do have the advantage of avoiding interim loss and reducing risk of failure. But they need someone to perform the compensation beforehand and that does require certainty of future compensation demands – something which is not at hand in present Swedish environmental management. In lieu-fees or compensation funds can make large compensation projects possible even when the impacts are many and small. It is probable that this would enhance the competence of the people carrying out the compensation measures. A major question with compensation funds is what will happen should the compensation fail. Who will be responsible for further compensation measures? There is a risk that developers only buy themselves out of the responsibility to compensate their impacts. Permittee responsible compensation, where the developer is responsible for performing compensation measures, does clearly put the responsibility of reestablishing ecological functions on the damaging part. One drawback is that the monitoring and follow-up become much more time consuming and therefore possibly less frequently carried out.

Unsettling commodity chains: private collective action in the oil palm industry and the promise of hybrid governance

Tuhkanen, Heidi & Rasmus Kløcker Larsen, Maria Osbeck, Elena Dawkins, Ha Nguyen, Agus Nugroho, Toby Gardner, Zufahmi & Paul Wolvekamp

The implementation of private market based regulation, intended to offer alternative governance arrangements for complex, global commodity chains, has been shown not to be inadequate for achieving sustainable industries, especially in the context of producer countries. Standards, such as the Roundtable for Sustainable Palm Oil (RSPO), rest on the premise that achieving collective action is possible among competing stakeholders. Social movements, corporate groups and to some extent governments continue to step up commitments to these standards as means of achieving sustainability goals, despite the of research testifying to the considerable challenges of achieving this very ambition. In this research we aim to understand the underlying perspectives of commodity chain actors themselves on the performance of

private collective action in standard implementation to give us insight about more effective and desirable governance options. We inquire into how actors in the commodity chain themselves frame the 'implementation problem' and the limitations of (their own) private collective action, as well as into the implications of these insights from practice for the way we theorize strategies for making commodity chains more governable. We focus on the oil palm sector as a case study and present novel empirical material from the views of a cross-section of key actors in commodity chains linking growers in Indonesia with retailers in the European Union. Beyond contributing to the scholarly literature, we also seek to provide some constructive feedback to the industry, NGOs and policy makers. We argue that work must proceed on all three fronts identified by commodity chain actors: addressing the 'market failures', strengthening government regulations and improving implementability in corporate networks.

Wednesday 7 June, 14:00 - 15:30

Bringing back environmental flows: The case of salmon and the lack of legal adaptivity in Finnish rivers

Belinskij, Antti & Niko Soininen

Most of the large Finnish rivers were licensed and built for hydro power after the second world war. The need for energy triumphed over all the other interests leading to a significant decrease in migratory fish species, such as salmon. Throughout their operation, hydro power plants and their licenses have enjoyed strict protection against administrative or legal review that would result in significant economic losses to the plant operator. In this way, the Finnish legal framework has been highly resistant in the face of bringing back environmental flows and restoring migratory fish species to the Finnish rivers. Nevertheless, the Finnish Government's clear aim is to introduce fish passages and the natural reproductive cycle of migratory fish species in built and regulated rivers that block the ecological continuum.

Considering significant normative inputs stemming from the EU Water Framework Directive, this presentation discusses possible avenues for restoring environmental flows into the Finnish rivers in line with the obligations set in the directive. The presentation argues that the interpretation of Finnish water law in relation to environmental flows and ecological continuum is outdated and too conventional. Finnish water administration has not reacted quickly enough to the changes in circumstances caused by the development of EU law, and the declining importance of hydropower for the Finnish energy policy. We argue that the Finnish water law already contains the necessary tools for reviewing existing fishery regulations in water permits but these tools are not capitalised on in practice.

It must be noted, however, that the review of fishery regulations in water permits is a multidimensional and river-specific task. Technically, a fish passage and restoration measures as well as monitoring of the success of measures may be required. Cooperation between authorities and hydro power companies is recommended but authorities must also be able to take necessary measures in the case of unsuccessful cooperation.

Imperative Reasons of Overriding Public Interest and Nature Values

Salokannel, Veera

Natura 2000 network of protected areas, covering over 18% of the EU's land area, is the backbone of European biodiversity protection. At the same time when ecologists consider protection to be insufficient, Natura 2000 hamper or may hamper many development projects, which are important for the economy. Due to the impacts based regulation in the Habitats Directive (92/43/EEC) this applies also to project which are located in the vicinity of the Natura 2000 areas. However, public authorities may give a derogation from the protection to a project or plan causing negative impacts if two conditions set out in the Habitats Directive are met. First, there should not be alternative solution available and secondly, the

authority may consider whether there are imperative reasons of overriding public interest which justify the project. In this situation, compensatory measures are also required. Overriding public interest are to be interpreted strictly in the context of Habitat Directive. This means that projects lying entirely in the interest of companies or individuals could not be permitted. At first sight it seems that overriding public interest are strict and rarely achievable but on the other hand, large industrial projects create jobs and have a positive effect on the economic development of the area. Creating jobs are in many cases considered to be a public interest. In the context of Habitat directive, the derogation procedure is a mixture of legitimacy consideration and balancing ^{different} interests.

In this paper I aim to analyse what kinds of interests constitute overriding public interest in the sense of the Habitats Directive. In Finland, no such derogation has been granted yet, although one derogation procedure has been initiated. Regional Council of Lapland has suggested compensatory measures in its regional land use plan. In the land use plan two projects (artificial lake and tourist center extension) will affect directly on Natura 2000 sites. Other similar projects are likely to come. The mining project of Anglo American in the Viiankiaapa protected area (FI 130 1706) is highly likely to initiate another derogation process during coming years. These cases are used as illustrative examples of possible situations where derogation rules are applied.

Improving Dispensation Procedures to Promote Biodiversity

Zetterberg, Charlotta & Guillaume Chapron, Anna Christiernsson & Yaffa Epstein

Several of Sweden's environmental objectives related to biological diversity are considered unlikely to be achieved by 2020. According to the Swedish Environmental Protection Agency's report, half of the species and three quarters of the habitat types that Sweden is obligated to protect by the Habitats Directive do not have favourable conservation status. Policy instruments such as laws and regulations aim to meet these obligations, but have thus far failed to do so. Possible reasons for this failure may be that the environmental laws or goals themselves are insufficient to protect biological diversity, that these goals are not adequately considered in relation to economic interests in decision making, or that they are not adequately enforced. The Environmental Code must be applied in such a way that biological diversity is preserved. Nevertheless, activities that are potentially harmful to nature or species may be allowed under special circumstances. In our study we will examine how these strong environmental protections are applied by the county boards in granting dispensation from protective measures. We will analyze in particular how Code's general rules of consideration on precautionary measures, siting decisions, and determinations of appropriateness should be interpreted. We will further analyze how county boards have interpreted the grounds for dispensation including such terms as "special circumstances" and "strictly controlled circumstances". The study utilizes environmental law theory and method.

1.3. Law and policy interaction in the governance of the Baltic sea, Room A2a

Convenors:

Lena Gipperth, University of Gothenburg, lena.gipperth(at)law.gu.se

Marko Joas, Åbo Akademi University, mjoas(at)abo.fi

Henrik Ringbom, Åbo Akademi henrik.ringbom(at)abo.fi

Wednesday 7 June, 14:00 - 15:30

The Development of Participation Structures and the Role of Scientist in the Baltic Sea Environmental Regulation

Bohman, Brita

Many perspectives can be chosen to address the issues of effectiveness in legal governance. Effectiveness can be discussed in terms of outcome - compliance or actual environmental change. It can also be assessed in terms of process, and then focus more on structures for developing policies, and for example the legal response-mechanisms to environmental change.

The Baltic Sea Area provides a suitable case to apply such perspectives and theories on since there are well-developed institutional structures in place for cooperation and legal steering. The Baltic Sea is moreover threatened by a number of environmental problems, eutrophication being the most significant environmental harm. Eutrophication is also a complex problem, resulting mainly from diffuse sources and with a non-linear response to such pollution pressures, which challenges both the regulatory approaches and the assessment of effectiveness of governance.

It is as a response to these environmental problems in the Baltic Sea that international institutional structures, with the Helsinki Convention and EU law as a main foundation, have formed. The Baltic Sea institutional structures are sometimes contested, however. They have undergone significant management changes and are to large extent based on ecosystem approach and goal-oriented legislation. The ecosystem approach, while being hard to define in exact legal terms, is characterized by a general call for flexibility, adaptive review mechanisms and focus on environmental status as indicators for regulatory measures. Tied to all these features of ecosystem approach are elements of different forms of participation and scientific evaluation. Perspectives on effectiveness in regard to the ecosystem approach is thus mainly on process, and here participation plays an important role. The purpose of the current paper is therefore to describe and assess the development of structures for different forms of participation and the increasingly significant role of scientist in the regulatory approaches in the Baltic Sea.

The International Regulatory Framework of the Baltic Sea Region: Characteristics and Complexities

Engström, Viljam

Cooperation in the Baltic Sea Region (BSR) covers many societal areas. These areas are diverse both in terms of actors involved, and in respect of regulatory levels. The only international treaty that targets the BSR specifically, the Helsinki Convention, is restricted to environmental protection. However, BSR-specific initiatives can also be found at the EU level, most notably in the form of the EU Strategy for the Baltic Sea Region.

If two trends were to be identified as characteristic of the BSR regulatory framework, these would be the Europeanization of BSR initiatives on the one hand, and a diversification of the regulatory framework on the other. There would seem to be (at least) two sides to both developments. While EU involvement is commonly applauded because of the competence to make binding decisions and the compliance mechanisms available, at the same time EU law can pre-empt member states from acting. And while non-binding decisions taken for example by the HELCOM can 'harden' and enter the legislative process,

multilevel governance/regulation can also give rise to legitimacy concerns. In extension the question also arises how the Europeanization and diversification of the regulatory framework affects the traditional intergovernmental processes for creation of obligations for BSR states.

The present paper seeks to identify characteristics of the BSR international regulatory framework. It sets out to identify the actors through which BSR concerns can be addressed, and discusses the regulatory features of their acts. Tracing the peculiarities of the BSR normative landscape will help understand the interrelations between different sources and forms of BSR regulation. However, the complex picture that arises also reveals points of concern.

Towards Less Toxic Antifouling Techniques for Leisure Boats in Three Baltic Sea Countries

Gipperth, Lena, Helle Tegner Anker & Ari Ekroos

Baltic coastal ecosystem is vital for a wide range of organisms, i.e., fish, algae and invertebrates. It is also important as feeding grounds for pelagic fish and a source of pleasure for the human population. Some 3.5 million leisure boats in the Baltic Sea use the coastal areas for recreational boating. A great majority of these boats use toxic compounds to prevent fouling organisms to attach to the boat hull (antifouling). Today, the most commonly used biocide in antifouling paints is copper oxide but other prohibited compounds such as TBT is still being released to the environment during hull cleaning and maintenance work.

The legislation related to antifouling paints and practices addresses a range of different actors and has varying legal implications on different regulatory levels. This paper presents how the use of antifouling paints for leisure boats is regulated in Denmark, Finland and Sweden, including relevant EU legislation. All three countries appears to apply a somewhat fragmented or patchy approach to the separate matters related to antifouling paints, for example, environmental quality (e.g. water quality), chemical products (e.g. authorisations or restrictions) and waste handling.

Based on studies of the practice of boat owners, marinas and paint producers this paper aims at identifying and analysing barriers and driving forces for the introduction of alternative antifouling techniques for leisure boats. It will also propose alternative governance approaches and structures that could facilitate the overarching objective of less toxic antifouling methods. This may include non-regulatory approaches, as well as various types of incentives or disincentives. The legal framework for applying such measures as well as the interplay between public and private regulation will be important elements.

The Baltic Sea Region – Governance Through Networks

Grönholm, Sam

Scholars that have had the Baltic Sea Region (BSR) environmental governance as a study subject have called for better cooperation and interaction across governance scales and policy sectors, in order to respond to the common environmental challenges of the region. The BSR governance framework has been scrutinized and criticized of often being too sectorial, compartmentalized and fragmented.

The objective of this article is to study the broader BSR governance. The article aspires to understand more fully the key features of the BSR governance, in particular examining the determinants of the governance, which potentially contributes to the issues of concern often associated with the BSR governance; lack of cross-sector cooperation and lack of policy interaction across governance scales.

Studying the features of BSR governance transpires via analysing operative networks in the region. Networks constitute the fundament on which the governance of the region is based upon. Networks in the BSR have emerged around specific issues such as climate protection, around broadly defined interests by key BSR governance stakeholders, e.g. local self-governments, or based upon geographical

principles. The point of departure of this article is to describe, compare and analyze the general characteristics of operative networks in the BSR.

The expected outcome of this article is a broader understanding of the strengths, the shortcomings, the similarities and the dissimilarities between BSR networks, in terms of policy activities, but also in relation to key network features. This in turn is expected to enable to deliberate in general terms on the key features of the BSR governance, and understand more fully the determinants of the governance framework that potentially contributes to the issues of concern often associated with BSR governance.

Wednesday 7 June, 15:45 - 17:15

Towards a Sustainable Energy Policy in the BSR

Hermanson, Ann-Sofie

The states surrounding the Baltic Sea have developed environmental policies in their own contexts. There were also joint efforts already in the 1970s to protect the environment, as manifested in, for example, the Baltic Marine Environment Protection Commission – the Helsinki Commission HELCOM and the Convention on the Protection of the Marine Environment of the Baltic Sea Area – the Helsinki Convention in 1992.

Today the Baltic Sea has almost become an internal Sea of the EU, with Russia as the only exception. The European Union Strategy for the Baltic Sea Region from 2009 was, e.g. the first macro-regional strategy in Europe. In general, EU policy-making is open to, and also involving, networks of different stakeholders. In my suggested paper, the Baltic Sea Region is in focus in discussing sustainable development and exploring the state of energy policies.

An essential factor in striving to achieve a sustainable development is without doubt energy production and consumption. The EU sustainable energy policy indicators, general guidelines and methodologies for developing national energy indicators, have been useful in providing better understanding of the common cause in the region. Not only sustainability and climate change mitigation is at stake, security issues are relevant in this case.

Governance of Transboundary Water Commissions: Comparison of Operationalizing the Ecosystem Approach in the North American Great Lakes and the Baltic Sea

Jetoo, Savitri & Marjo Joas

The Laurentian Great Lakes and the Baltic Sea are two large transboundary water systems in North America and Europe respectively. Despite the geographical differences, these water bodies share a similar history, with each signing a transboundary governance agreement in the early 1970s due to concerns of water pollution. In 1972, the Great Lakes Water Quality Agreement was signed between Canada and the United States of America amidst concerns about the 'dying' Lake Erie. This led to the establishment of the International Joint Commission (IJC), the transboundary institution tasked with oversight of this agreement. At the same time in Europe, negotiations were ongoing for a transboundary agreement amidst concerns about increasing pollution to the Baltic Seas and in the era of the Cold War. This culminated in a transboundary water agreement at the end of the cold war in 1974, the Helsinki Convention, which established the Helsinki Commission (HELCOM) as the oversight body. Whilst these commissions can be seen as successes because they were effective in bringing the key national players to the table, the continued degradation of these transboundary water ecosystems would suggest that they are not successful in applying the ecosystem approach to governance, as called for in both transboundary agreements. This paper investigates the effectiveness of these transboundary water commissions in operationalizing the ecosystem based approach to governance by assessing their adaptive capacity, the governance capacity for dealing with change. It uses a framework for adaptive

capacity from the literature and assesses the performance of these transboundary commissions against these principles. It then identifies gaps and makes recommendations that can inform policymakers.

The Role of Permits in Regulating Livestock Installations and Manure Spreading: Lessons from Denmark and Finland

Kauppila, Jussi & Helle Tegner Anker

Livestock production and intensive application of manure is a major source of water pollution – not least in the Baltic Sea. In particular, careless spreading of manure on fields may cause heavy loads of nutrient emissions into ground and surface waters. Livestock installations and handling of manure as a necessary side product of livestock are often regulated through a mix of different instruments. In the EU, environmental permits are widely applied to regulate emissions from livestock production. However, the scope and function of livestock permits remains a controversial legal and regulatory question: should the permit only cover livestock installation (as a point source) and leave the application of manure (as non-point source) to be dealt with by general legal standards and economic instruments? This question is further stressed by the structural change in livestock farming and agriculture (specialization, increased farm size), technological developments around handling and using manure, but also political ambitions related circular economy. Drawing from recent experiences in Denmark and Finland, we analyse the role of permits in regulating livestock production and management of manure.

The Ecosystem Approach to Management in the Baltic Sea Region: Prospects for Upscaling Local Experiments

Kern, Kristine & Sara Söderström

The ecosystem approach to management (EAM) is a policy principle and management tool of pronounced importance in European environmental politics. In the Baltic Sea region (BSR) the approach has developed in line with a progressive environmental management from hot-spot solutions to new holistic agendas. This paper examines the development and the prospects for upscaling the EAM approach in the BSR. The analysis is based on an analytical framework for upscaling local experiments in regional environmental governance. It is assumed that upscaling of local experiments needs to take into account not only environmental leaders but also laggards. The paper focuses, first, on (i) agency, which adheres to the overall governance setting and the agencies in charge of the environmental problems; (ii) substance, which refers to the regional approaches in the area from single issue management to larger visions of environmental protection; and (iii) territoriality, which addresses the use of administrative or ecological boundaries for environmental governance. Second, the paper then asks and analyses how (successful) experiments can be transferred within the BSR multi-level system, not only from leaders to leaders but also from leaders to midfielders and even laggards. It is found that the institutional arrangements in the BSR support the development and upscaling of EAM, although there is still a lack of cross-border cooperation and cross-issue collaborations in many areas. The paper suggests institutional changes which help organizations in the BSR to develop and implement EAM approaches, in particular by new approaches to adaptive management and participation.

Thursday 8 June, 9:15 - 10:45

From Regulatory Gaps to Broader Governance of the Baltic Sea

Ringbom, Henrik & Marko Joas

Laws in different forms and at different levels represent the principal policy tool available to public authorities to govern (environment, people and activities). Yet, regulation is not the only steering mechanism available to influence societal change. Any governance analysis of the Baltic Sea which only

focuses on laws and their implementation will necessarily provide an incomplete picture. This is particularly so with respect to the Baltic Sea, where so many other actors than legislators operate in parallel, at governmental and non-governmental level alike.

While the focus in this paper is on the interaction between various kinds (and layers) of laws, the last part of this concluding section also addresses the broader question of how other forms of (multi-level) governance structures find their space to operate within and between the existing (international, regional and national) rules. As to the relationship between law and other forms of steering mechanisms it is probably not controversial to assume - as a starting point - that gaps and uncertainty in regulation increases operating space for other (non-legal) policy tools and steering mechanisms to influence the behaviour of states, sub-national governments and individuals.

Our aim is thus to analyse how and where regulatory gaps occur, and to what extent these are covered with other governance instruments.

The Baltic Sea Environment and the European Union: Analysis of Governance Barriers

Tynkkynen, Nina

The EU enlargement brought the Baltic Sea into the sphere of EU environmental policymaking. Currently the sea, with the exception of Russia, is an EU inland sea. Yet, the state of the Baltic Sea environment is deteriorating at an alarming pace. My paper describes the evolution of the EU governance of the Baltic Sea environment, focusing on governance barriers. It explicates the barriers with the help of four differing analytical lenses. The findings demonstrate how the choice of the analytical lens influences the construction of governance barriers and the respective intervention strategies. Such understanding can help policy practitioners in their search for successful measures to improve the governance situation of the Baltic Sea.

HELCOM Response Time to Contaminants in the Baltic Sea

Valman, Matilda, Carolina Enhus & Katja Broeg

The Baltic Sea has a large catchment area housing 85 million people, and is thus subjected to various anthropogenic pressures and emissions of contaminants into the marine environment. During the late 1900s the Baltic Sea heavy contaminant loads due to the industrialization has been a growing concern. Especially the harmful effects of chemical pollutants like DDT, PCBs, and mercury on survival, fertility and reproduction success of the white-tailed sea-eagle, where early on an alarming issue in the region. Despite this, very little is known about organizational response time to emerging contaminants in the Baltic Sea. Here, we quantify the organizational response time by studying HELCOM's relation to changes in the environment as well as changes in policy context. This is done by looking at when a subset of contaminants are first introduced in the Baltic marine environment, second when these contaminants are detected and put on the agenda within the HELCOM organization, and lastly if and when policy action is taken by HELCOM. We show that the policy process within HELCOM sometimes is pretty fast (regarding PFOS), and other times it moves more slowly; at the same rate as many international or state-level policy processes. These policy processes often take several years – sometimes even decades – from initiation to policy. This difference in speedy responses imply that communication within the HELCOM organization varies, but we also see that influence from other organizations fluctuates over time (such as the EU), making HELCOM response less predictable than we had predicted.

The Ecosystem Approach and Multi-Level Governance in the Baltic Sea

Westholm, Aron

The ecosystem approach has become a common tool in environmental governance over the last decade. Within a EU context this is most clearly accentuated through the adoption of the Marine Strategy Framework Directive (MSFD) and the Directive on Maritime Spatial Planning (MSPD). Two central principles of the ecosystem approach, as defined in the Convention on Biological Diversity, are that ecosystem management should be performed at the lowest appropriate level, and that the ecosystem approach should be undertaken at the appropriate spatial and temporal scales.

Studying the EU directives that cover marine waters and include a mention of, or are supposedly consistent with, the application of an ecosystem approach, it becomes clear that there is no coherent definition of what the appropriate management level or spatial scales are. In addition to this, in a Baltic Sea context, cooperation regarding the marine environment is taking place under the aegis HELCOM. However, the intergovernmental cooperation framework VASAB covers spatial planning issues. Furthermore there is, inter alia, the Common Fisheries Policy that also needs to be taken into account. Such a multi-level mosaic of governance tools creates challenges for a functional environmental management and sets high demands for regional cooperation.

This paper investigates spatial discrepancies between different marine governance tools in the Baltic Sea, and discusses how the multi-level governance framework, applicable to the Baltic Sea, can facilitate, or possibly impede, the successful application of an ecosystem approach. To study this, the investigation focuses on management levels and spatial scales of governance, and through the theoretical framework of legal geography studies the implications of different choices concerning these matters.

1.4. Environmental human rights and hope for the future, Room A2b

Convenors:

Ashley Dodsworth, University of Bristol, [ashley.dodsworth\(at\)bristol.ac.uk](mailto:ashley.dodsworth@bristol.ac.uk)

Markku Oksanen, University of Eastern Finland, [markku.oksanen\(at\)uef.fi](mailto:markku.oksanen@uef.fi)

Wednesday 7 June, 15:45 - 17:15

Ecoresocialization - environmental education in the correctional programs in Polish prisons

Chmielewski, Piotr & Piotr Matczak

Education of offenders in Polish prisons is focused on various topics, i.e. prevention of aggression and violence, prevention of addictions, sports, vocational activation, integration of families (Bochniewicz, 2013). The right to proper environmental education is gaining importance in Polish practice of social rehabilitation of offenders and it has its implication for carceral policies and practices, in particular via establishing ecological correctional programs. There has been intensification of environmental concern in the curricula of correctional programs in Poland. Environmental education is now present in Polish prisons but it is a recent phenomenon. It stems from the claim that increasing the offenders contact with nature can have positive impact on their mental and physical health and reduce the level of aggression. Inmates receiving environmental education trainings increase their environmental awareness and sensitivity, which is beneficial both for society and natural environment (Weber et al., 2015; Deaton, 2005). The aim of this paper is to analyze the range of environmental issues, forms and actors involved in environmental education present in content of ecological correctional programs in Polish prisons. Methods of analysis include content analysis of ecological correctional programs from Polish prisons and statistical data on offenders participating in such programs. Preliminary results show that ecological

correctional programs in Polish prisons include educational activities (i.e. lectures and workshops) and active work for the natural environment (Borkowski & Chmielewski, 2013).

Is a feminist critique of environmental rights sustainable?

Dodsworth, Ashley

The concept of human rights has frequently been criticised from a feminist perspective, with feminist scholars arguing that rights are individualistic, oppose community and are abstract concepts that say little about how people's needs and entitlements are to actually be fulfilled (Campbell, 2006: 76-78 and see Held, 1998; Robinson, 1998). The supposed universalisation of rights and presumption that they are therefore gender blind also leads to concerns that they are unable to recognise and defend the unique discrimination and oppression that women face. (This in turn leads to the criticism that it is white women that are considered here – see Reitman, 1997: 107). This paper will examine whether environmental rights are similarly gender-blind and argue that, in their recognition of the vulnerability and dependence of all humanity, such rights can respond to feminist criticisms. However I will argue that further work is needed here to ensure that environmental rights are truly gender aware and can provide hope for all.

Alliance building and deep solidarity – Anti-mining responses in Brazil to neo-extractivism in Latin America

Galvão Lyra, Mariana

In 2013, the National Committee of Defense of Territories over Mining was created in Brazil as a response to the national Mining Code draft that has been on hold in the National Parliament. Seven issues around environmental and social safeguards were objected to in the Mining Code, with nearly 200 organisations, institutions, and politicians signing the document. The National Committee works as a consensus-building movement incorporating a variety of different perspectives. It unites different agendas for the transformation of the national mining framework and legislation.

In this article, we examine the composition and ideologies of this unique cross-issue alliance building, discuss their milestones (events and factors) through time, and reflect on how the alliance has framed the Brazilian mineral context within this timeline to attract supporters and allies.

Our analysis demonstrates how deep solidarity among members alleviate the tensions between ideological discrepancies and the multiple issues oppression-related they represent.

Unlike most Latin American studies around natural resources conflicts, our results contribute gathering evidence on how anti-mining movements perform at the national level instead of local protest and grassroots activities. Our results also contribute to the overall social scientific mining research community, especially the ones aiming to better understand conflict escalation and stakeholder responses to corporate behaviour.

Thursday 8 June, 9:15 - 10:45

Does the green jurisprudence of the European Court of Human Rights protect the interests of the environment?

Heiskanen, Heta

Criticism towards human rights approach to environmental protection has often had origins in the claim, that human rights fail to protect sufficiently the interests of the nature and the environment. The same criticism has taken place in the context of the green jurisprudence of the European Court of Human Rights (ECtHR). The purpose of my paper is to assess the green jurisprudence and analyze, have it protected the interests of the environment and if yes, to what extend. My hypothesis is that the failures in

the methodology and in the earlier literature has caused misleading picture and the more systematic analysis will reveal that in the most serious circumstances, the ECtHR has and will protect the interests of the nature and the environment even against the interests of the individual.

Environmental human rights between minimally good and utopia

Oksanen, Markku

James Nickel has stated that, “Human rights are not ideals of the good life for humans; they are rather concerned with ensuring the conditions, negative and positive, of a minimally good life”. If so, then the promise of human rights seems rather humble, as for aiming at nothing much above a mere survival of or, at best, at a decent life for, individuals in decent human communities. Human rights do not provide ideals. In light of such a characterization, it is rather dispiriting to learn about claims according to which human rights are “the last utopia”, as Samuel Moyn has professed. His claim is of historical nature based on assumption that the human rights discourse became prevalent in the absence of better alternatives in the post-WWII world. In this paper, I reflect on the environmental rudiments of what it means to pursue merely “a minimally good life”. Considering the environmental calamities and resource degradation in many human communities around the world, this aim is not a modest objective. The purpose is to provide is to sketch an account of what human rights can offer more to environmentalism than looks possible at first sight. Specifically, I will take a closer look at the concept of ecosystem services as articulated in Millennium Ecosystem Analysis and try to explicate possible connections between ecosystem services and environmental human rights discourse.

Conceptual frameworks and new frontiers in energy justice

Sovacool, Benjamin

This article explores how concepts from justice and ethics can inform energy decision-making and highlight the futurity, fairness, and equity dimensions of energy production and use. It defines “energy justice” as a global energy system that fairly distributes both the benefits and costs of energy services, and one that contributes to more representative and inclusive energy decision-making. Such an assessment brings together core understandings of distributional and procedural justice alongside cosmopolitan interpretations of equity and recognitional notions of fairness. The article then focuses on six new frontiers or fruitful areas of future research. First is making the case for the involvement of non-Western justice theorists. Second is expanding beyond humans to look at the Rights of Nature or non-anthropocentric notions of justice. Third is focusing on cross-scalar issues of justice such as embodied emissions. Fourth is identifying business models and the co-benefits of justice. Fifth is better understanding the tradeoffs within energy justice principles. Sixth is confronting utopian or falsely constructed justice discourses. In doing so, the article presents an agenda constituted by 30 research questions. The article argues in favor of “justice-aware” energy planning and policymaking, and it hopes that its (reconsidered) energy justice conceptual framework offers a critical tool to inform decision-making.

TRACK 2: GREEN POLICIES

2.1. Expectations of bioeconomy – pathways to sustainable futures or reframing the regime? Room A05

Convenors:

Juha Peltomaa, Finnish Environment Institute, juha.peltomaa(at)ymparisto.fi

Maja Farstad, Centre for Rural Research, Norway, maja.farstad(at)bygdeforskning.no

Tuesday 6 June, 14:00 - 15:30

Perspectives on innovation in the bioeconomy – A Q study of visions and expectations

Bauer, Fredric

The bioeconomy can be understood as an economy in which “the basic building blocks for materials, chemicals and energy are derived from renewable biological resources” (McCormick and Kautto, 2013, p. 2590). Biorefineries are therefore argued to be central to the bioeconomy as they will produce these building blocks, as well as introducing new products and services. Even though many actors and groups claim to support the development of biorefineries for a transition to a bioeconomy, it is quite clear that not all ideas, visions, and expectations that exist for biorefineries and their technologies can be realised in parallel. Expectations are part of a social discourse and as such they are in themselves constitutive and performative as they attract actors and define roles and networks and hence they will shape the bioeconomy that develops. Expectations also simplify and form a central part of a deterministic narrative, marginalising other interpretations and alternative technological developments, especially in the early phases of development when there is a lot of plasticity to its form and function (van Lente and Bakker, 2010).

The aim of this paper is to contribute to the understanding of how expectations on innovation for the bioeconomy shape its development, by focusing on perspectives on biorefinery innovation in Sweden. The paper uses Q methodology, which has been shown to be well suited for understanding perspectives and discourses on sustainability and environmental challenges. Unpacking the dominating perspectives and hidden conflicts is a key issue to understand how the bioeconomy discourse unfolds and is being realised.

Data collection concludes in January, thus no results are yet available.

McCormick, K., Kautto, N., 2013. The Bioeconomy in Europe: An Overview. *Sustainability* 5, 2589–2608.

van Lente, H., Bakker, S., 2010. Competing expectations: the case of hydrogen storage technologies. *Technology Analysis & Strategic Management* 22, 693–709.

What makes the bioeconomy attractive for the general public in Norway? The importance of perceived consumer benefits from naturalness over global environmental concerns

Farstad, Maja & Pia Otte

In Norway, significant amounts of money have been invested in bioeconomy-related research and development over the last years and the national government has recently developed an own bioeconomic strategy. However, these efforts and ambitions – as well as the bioeconomy concept in itself – have not been communicated very well to the general public. This appears as a paradox, since ultimately, it is the public as consumers and citizens who provide the market and governance for bioeconomic development.

We conducted eight focus group interviews with lay people in different areas of Norway to examine the public’s views/perceptions on the bioeconomic developments’ necessity, risks and ethical trade-offs. To

encourage fruitful discussions, we presented various, potentially controversial bioeconomic developments/components to the groups.

Overall, we found that the public seems quite positive towards the idea of a bioeconomic transition. In this paper we examine more closely the underlying reasons for these positive views. The data indicate that perceived naturalness of bioeconomic developments/products plays a key role when it comes to social acceptance. Interestingly, people value this naturalness first and foremost with regard to their own consumption rather than because of a deeper concern for the sustainability of the global/local environment. This becomes crucial for the design of further bioeconomy-related policies for Norway, indicating that those could benefit from emphasizing individual benefits over environmental protection to achieve a wide public acceptance.

Tree biotechnology in the bioeconomy transition- why so little public debate?

Fischer, Klara

In Sweden, a forest-rich country with a strong forest industry, the forest sector has taken on the bioeconomy transition as an opportunity for intensified forest production and economic growth. This study focuses specifically on the different roles of tree biotechnology in different framings of the bioeconomy in Sweden. Following from the envisioned bioeconomy transition, intensified forestry has come to receive increased attention in research and in forest policy. At the same time the political ambition in Sweden to combine industrial forestry with high environmental standards is now faced with new challenges of balancing different values and interests in conservation and production.

In the promotion of intensified forestry, the forestry industry and research has high expectations on biotechnology for modifying trees in ways which support the transition through e.g. increased growth rates, resistance to pest insects and tolerance to changing climatic conditions. Within this frame, tree biotechnology might even be seen as a tool for reducing the tension between production and conservation interests. While it could be expected that in other framings, current hopes placed on tree biotechnology in the forestry industry might instead be seen as a threat to central forest values, we have not yet seen this to any large extent in the public debate. In fact, although there are trial plantations with GM trees in Sweden, and biotechnology research on trees in Sweden is at the forefront, so far the public debate on GM trees is almost non-existent. The present study will compare the public debate and frames on GM trees with the controversies that have emerged in the past on GM crops. By discussing similarities and differences we might learn more about how different discourses on technology are shaped and about which factors that are important for determining different pathways in the public perception of a technology.

Conflicting interests and expectations in the Norwegian Bioeconomy

Hansen, Lillian

The Norwegian bioeconomy strategy was just published after several rounds with input from stakeholders. The strategy found especially four important aspects of the bioeconomy: cooperation across sectors, markets for renewable bio-based products, efficient usage and profitable processing, and sustainable production and extraction of biological resources. However, I argue that some of the challenges we might expect from the management of the transition to a more sustainable society, as the bioeconomy project is argued to be a part of, are being downplayed. By applying concepts from transition management (e.g. Rotmans 2001) and the power-in-transitions-field (Avelino and Rotmans 2009) this article presents a two-step analysis of the potential conflict areas and expectations in the Norwegian bioeconomy. The first analysis consists of a document study using NVivo of all stakeholder inputs sent to the Norwegian Government during 2015, finding the topics with the highest discussion-rate, highlighting the differing arguments around these, and showing what types of actors are representing these. Preliminary analysis show that the forest has large conflict potential, as different stakeholders representing different parts of society, e.g. industry and environmental organizations, are having differing opinions on the value of the forest, and at what scale wood should be extracted. Biogas as an energy

solution is however a topic that unites stakeholders across sectors, e.g. industry and the waste-sector, at the same time as receiving possible competition from hydrogen as an energy solution. This indicates the necessity to pay particular attention to certain topics in the Norwegian bioeconomy context and to the power-actors steering the ongoing sustainable transition. The second analysis consists of a dissensus Delphi survey, an explorative tool for variance maximization of opinions regarding a subject, sent to selected stakeholders of the bioeconomy. By illuminating diverging opinions this article contributes to optimize further long-term policy planning of the Norwegian Bioeconomy.

Tuesday 6 June, 16:00 - 17:30

Wind-farm acceptance for sale? An evaluation of the Danish wind-farm co-ownership scheme

Johansen, Katinka

The Danish Renewable Energy Act (REA) features financial incentive structures with direct local-level implications (Sperling et. al 2010; 5445). Specifically 4 REA policy measures aim for greater local engagement in and acceptance of wind-farm projects (Anker & Jørgensen, 2015: 24). Arguably the most influential of the four is the Danish wind-farm co-ownership scheme. This compulsory scheme demands that wind-farm developers offer ownership of at least 20 % of the wind-farms to local citizens via wind-farm shares.

Through the analytical lens of Distributive Justice, DJ, in this study we scrutinize potential re-distributional and compensating effects of the co-ownership scheme via data from a large-scale survey (N=1983). Data is collected at potential near-shore wind-farm sites during the 2016 Danish nearshore bid for tender.

Empirical evidence suggests that 1) most potential OPSS-investors already support proposed wind-farm projects. Many project opponents will not engage themselves in something they “are against in principle”. Consequently the overall mitigating effect of the scheme can be questioned. Furthermore: Data suggests that 2) demographic facts, such as gender and age, influence the general appeal of the scheme. More importantly: 3) OPSS is not equal for all: Those with fewer economic resources are subject to de-facto economic discrimination as OPSS presupposes investment liquidity. Finally, and most importantly, 4) potential monetary gain does not appear to justly compensate the core of what is actually feared lost by many project stakeholders. Thus survey data underscores that economic re-distribution alone is not enough: Real world facts and complications, such as demographics, preconceived project perceptions and personal values, get in the way. In sum data suggest that the co-ownership scheme, in its current shape and form, at least, is not a tick the box exercise instantly compensating locally perceived burdens of wind-turbine proximity among wind-turbine host communities.

Narrating the Bioeconomy: to and with whom?

Peltomaa, Juha

Various EU- and national policies are increasingly stressing the importance of establishing paths towards sustainable modes of production and consumption. As part of the circular economy approach, bioeconomy has been recognized to be one mode of meeting the rising sustainability challenges. The core of bioeconomy in Finland consists of the technologies and resources related to forests. Bioeconomy as such is therefore nothing particularly new as the Finnish national economy has been more or less based on the use of forests for centuries. Bioeconomy is currently being heavily promoted by the government and the different initiatives support each other forming a coherent story of the pathways to and futures of the bioeconomy.

Policies can be understood to be reflected in narratives and policy processes can be analyzed as struggles over narratives. Narrative Policy Framework (NPF) is a way to structure these narratives and analyze the roles the different actors. By stressing the role of narratives as essential factors and

influencers in policy processes, they can be understood as affecting both policy design and implementation.

In order to study the narratives around bioeconomy, we analyze the recent media discussion in Finland. By recognizing the ways bioeconomy is framed and what kinds of narratives are produced in the media, we aim to contribute to the development of the NPF, but also to critically evaluate the controversies related to the promises bioeconomy creates. The promoted narratives seem to generate a rather conflict-free policy narrative with a given set of roles and outcomes, but simultaneously raise controversial questions related to techno-social path dependencies and the sustainability of natural resources use. The narratives seem also to lack explicit roles for certain actor groups.

What determines exploitation of sustainable solutions: perspectives of perceived and total costs of farm animal waste handling

Rantala, Tero & Minna Saunila; Juhani Ukko; Jouni Havukainen; Hannu Rantanen

Sustainable development and exploitation of sustainable solutions has received growing attention from academics, industry representatives, and policy-makers. Sustainable development research can be seen even in critical natural resource-intensive sectors, such as the horse industry, that have an important environmental impact.

As society has called for further investments and initiatives from organizations, educational institutions, and governments in innovative multidisciplinary approaches to resolve current sustainability challenges (Lozano et al., 2013; Almeida et al., 2013), this study explores 1) the willingness of horse industry operators (horse owners and stable keepers) to exploit sustainable solutions and 2) the effects of perceived and total costs of manure handling in the exploitation.

The study was executed in Finland, where currently only a fraction of horse manure's potential is utilized and the horse industry is asking for new sustainable solutions to support the development of industry. The empirical results for the study were collected through a survey of 139 Finnish horse industry operators. Even though the results are gathered from Finland, we believe that the results can be useful in many other countries as in Europe national differences have become less important, including in the horse industry (e.g., Liljenstolpe, 2009).

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2.2. Green transformation – policies solutions, experiments and methodologies for a sustainable future, Room A05

Convenors:

Bjørn Vidar Vangelsten and Arild Gjertsen, Nordland Research Institute, bvv(at)nforsk.no

Hilde Bjørkhaug, Center for rural research

Grete Hovelsrud and Berit Skorstad, Nord University

Wednesday 7 June, 11:00 - 12:30

A paradigm shift in wastewater treatment: discourse analysis and political interpretation

Ampe, Kasper & Erik Paredis, Lotte Asveld

The pace of environmental change demands a swift transformation of societal systems. To this belongs the increasing pressure on water resources and surging water pollution, therefore this paper targets the wastewater system in Europe.

Over the last few years calls for a paradigm shift, transition or transformation in wastewater treatment rise. For economic and ecological reasons – and as part of a broader move towards a circular economy – a major change towards product, energy and resource recovery from wastewater seems necessary. Academic work and policy documents on this shift generally point to the need for new technologies and a supportive policy and economic framework to tackle bottlenecks. Nonetheless it is observed that both consider a paradigm shift as relatively unproblematic.

Transitions like this are seldom neutral: the process is highly political and should be scrutinized through a lens of political science. It invokes questions such as: what a paradigm shift entails? Whose definition counts? Where consensus and (un)certainities are? Who wins and who loses? Which technologies are considered (aligned)? What role does science (and scientists) play? As part of a broader PhD project the research question of this paper then is: what are the politics of the desired paradigm shift? In particular, a better understanding of the paradigm shift, its different interpretations and associated actors.

Methodologically, the paper builds on discourse analysis to inspect policy documents and scientific literature. Several interviews with European researchers and practitioners active in biotechnology, water and sanitation systems and resource recovery from wastewater add to this study. The multi-level perspective will be used to structure data and map perceived regime problems and solutions. This results in a contribution of political science to the transition from the current wastewater system towards resource recovery and circular economy.

Upscaling algae cultivation in Norway – identifying obstacles and opportunities

Bjørghaug, Hilde & Ingrid Bay-Larsen, Maiken Bjørkan and Camilla Risvoll

Blue carbon is the carbon stored in coastal and marine ecosystems, and is being recognized as important by IPCC, not at least due to the ability to sequester vast amounts of carbon—up to five times that stored in tropical forests (Langaas 2015). The significant role that marine micro and macro algae may play in transformation to a low carbon society for the future, is rapidly gaining attention also in Norway in a variety of ways; as speciality food, as fish and animal feed, as a source of fuel, but also as utilization of “waste” carbon and nitrate from other industrial productions or activities. This article addresses obstacles and opportunities connected to upscaling algae cultivation along the Norwegian coast. Ideas connected to green transition through a blue bio-economy emphasize how marine protein and fat acids can replace environmentally contested food and fodder production onshore. Integrated multi-trophic aquaculture (IMTA) is expected to resolve major environmental challenges in the aquaculture industry (Rebours, Meland et al. 2013). Political ambitions for expansive growth in the aquaculture industry also request

circular systems, where left-overs from one production line may be a valuable resource for. Finally, cultivation of algae for energy purposes and carbon capture and storage is also been high up at the political agenda internationally. However, multiple bottlenecks have been identified, including technological innovation for cost-effective cultivation and harvest (SIG Seaweed 2015), financial capital for “blue carbon” projects, lack of documentation of factual nutrient recycling from IMTA, and sharing of knowledge and competence generated through private funding. Further, little is known about environmental interactions of large scale cultivation of macroalgae and surrounding marine environments and finally area planning and potential land use conflicts lure in the surface of a substantial upscale. This article explore in more detail, challenges connected to reproductive biology (including productivity, seasonality, physiological limit, stock improvement constraints, breeding, short cultivation season, once a year harvesting) and coastal zone planning. Area scarcity is already a well-known constraint in Norwegian aquaculture, and industrial cultivation of macroalgae is expected to increase the pressure and number of stakeholders in the coastal zone.

Resistance against effective solutions – and consequently limited scope for significant change towards a low carbon transition within the beef/dairy supply chain

Farstad, Maja & Egil Petter Stræte, Heidi Vinge

As part of the international, joint efforts to meet the climate challenges, Norway has decided that GHG emissions from sectors not subject to quotas must be reduced with 40 per cent from year 2005 to year 2030. Agriculture is one of the key sectors in this matter, and the authorities have targeted the beef/dairy sector for considerable emission cuts. Despite of a great interest also within agriculture for reducing the emissions, significant measures seem not to be implemented so far. In this paper we assess the path dependency within the beef/dairy supply chain as a ‘community of interest’, and identify key lock-ins that maintain the existing direction of development. The analysis is based on data from interviews with key stakeholders and decision-makers in upstream and downstream industries and other agriculture-related institutions, as well as 29 interviews with beef/dairy farmers.

Our findings indicate that the beef/dairy system in general moves in the direction of increased production volumes and increased efficiency in production, combined with moderate measures to reduce emissions. This seems mainly to be due to a shared conviction throughout the system that the volume production of red meat should follow the demand. No-one within the system asks for efforts to change the consumer demand towards other products or meat products with reduced emissions, probably because such a solution would complicate full exploitation of existing agricultural resources and hence also the full potential for profit. Another thing limiting the scope and drive towards a low carbon production is that the effect of various potential climate measures do not appear as unambiguous. First and foremost, our study indicates that the beef/dairy sector cannot be expected to reach the goal of reduced emissions on its own initiatives. Rather, radical changes seem to require top-down management by forces from outside the agricultural system itself.

The puzzle of the Nordic consensus: why are the climate policies of the Nordic countries so uniform?

Hoff, Jens

It has been demonstrated that the climate policies of the Nordic countries are very uniform when it comes to GHG emission targets as well as policy instruments used (Nordic Council of Ministers 2014). This uniformity is quite surprising given the fact that the Nordic countries have widely different geographic as well as geological preconditions, which gives rise to very different energy mixes and thus different dependencies on oil, natural gas, hydropower, geothermal and nuclear energy. Given these different points of departure concerning energy supply (and consumption) one should think that this would result in different climate and energy policies, if each country were to pursue its own interests. However, this is not the case. This paper will deal with this puzzle, and try to tease out the factors that contribute to the Nordic

consensus in this policy area. In an earlier paper by this author (Hoff 2017) it has been suggested that the uniformity in climate and energy policies is the result of a number of institutions constituting a framework for collaboration between the Nordic countries: The Nordic Council of Ministers, the European Union, the municipalities in the respective countries and different market based arrangements especially the common Scandinavian market for electricity. However, this was a very tentative conclusion based only on research in on- and offline documents. Methodologically, this paper will try to substantiate these findings based on a series of interviews with key figures in the institutions mentioned, while theoretically the paper will be informed by studies on comparative environmental politics (Andersen & Liefferink 1997, Dryzek et al. 2002).

Wednesday 7 June, 14:00 – 15:30

Selectivity, conformity and fragmentation in vehicle-to-grid (V2G) electric mobility: Navigating the sociotechnical acceptance of ISO 15118

Kester, Johannes & Lance Noel, Xiao Lin, Gerardo Zarazua de Rubens, Benjamin Sovacool

This paper studies the sociotechnical acceptance and implementation of ISO 15118, a standard that oversees the communication between electric vehicles (EVs) and electric vehicle service equipment (EVSEs). This standard allows for bidirectional electricity flows and the use of the EVs battery capacity in the benefit of electricity grids, enabling possible vehicle to grid capacity. We argue that standards like these are both understudied in the energy literature and commonly misinterpreted as purely technical in their scope. Instead, we suppose that standards are of vital importance for the governance of energy systems and play a major role in energy transitions through various nontechnical elements built into them. Here we observe both the political components that coordinate new technologies and the sociocultural effects that are scripted into these standards. Drawing from a novel synthesis of the literature on standardization, organization studies, innovation studies, and science and technology studies, we analyze the implementation of ISO 15118 in the United States, China, Denmark and the Netherlands. We find a detailed technical standard that is implemented with differing degrees and in different sociotechnical and institutional contexts. We conclude by suggesting what this selectivity, compliance, and fragmentation means for electric mobility and energy policymaking more generally.

Sustainable development beyond state - intermunicipal collaboration in-between empowered and public space

Lysgård, Hans Kjetil & Jørn Cruickshank, Hanne Haaland and Mikaela Vasstrøm

In the aftermath of the Paris Declaration the concept of sustainability is (once again) taking a superior position as a global meta-concept/meta-objective for policy formation in Norway. All policy areas are expected to deliver on sustainability, also regional development policies. This means that sustainability and the concern for the environment must be the main goal of all policy formation and implementation in state bodies of all kind and on all scales from the national state down to the smallest municipality. At the same time the topic is by no means something that can be solved within the administrative and/or judicial boundaries of the state. Some are even arguing that the topic concerns questions about common interest that is beyond both markets and states (Ostrom 2010) and that it is more fruitful to think this topic in a frame of global deliberate democracy and earth system governance (Dryzek and Stevenson, 2011). Environmental consequences are borderless and non-scalar in nature and this gives several challenges concerning governance perspectives on how policies are generated and validated in the society. This paper will discuss the challenges concerning legitimization, effectiveness and formalization that occur when policies of sustainable regional development are made at intermunicipal political arena outside and between the formal administrative and electoral bodies of the municipality or county administration. Sustainable development may to some extent need policies that transcend formal boundaries of power

and the representative electoral system of liberal democracy, but how do we then take care of issues like legitimacy, democracy and effectiveness?

Business Potential for Sustainable Solutions in Agricultural Industry

Nasiri, Mina & Rantala Tero, Saunila Minna, Ukko Juhani, Rantanen Hannu

Increased demand for sustainable solutions has been attracted different businesses to sustainability, regardless of the size and type of companies. Development of Circular Economy (CE), as a sustainable development solution, has been attracted more attention due to find better solution for the conventional economic model based on “take, make, and dispose”. Even though there seems to be growing understanding of CE, and its role in sustainable development, there is a lack of empirical level studies of what kind of sustainable solutions (i.e. technological, service, or business solutions) evolve in specific industries. This study contributes to this research gap by reviewing the concept of sustainability, required technologies in CE and its principles in order to find the sustainable solutions for the companies. Furthermore, the empirical data has been collected from cross-section of Finnish horse industry operators to find how much willing are companies to exploit solutions which are related to the concept of CE, as well as what are the existing sustainable solutions in this industry. The response rate of this study is about 24 percent which contains 139 received valid responses among the sample of 580 operators.

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Wednesday 7 June, 15:45 - 17:15

Transition experiments under the shower: energy-saving campaigns with formal social groups

Seidl, Roman & M. Stauffacher, U. Tomic, C. Moser, Y. Blumer

Strategic efforts on various levels to steer transition dynamics depend on the collaboration and commitment of various actors. Cities in particular may serve as change agents to influence the energy related behaviour and decision making of their citizens. One key question is how to reach out to a broader public and thus boost the impact of an energy-saving campaign. One promising strategy to reach a wider audience is to target formal social groups such as sports clubs or district associations. These groups are often characterized by trusted and personal relationships and they often have established effective ways of communicating among members. What is more, formal social groups may not only act as multipliers of a campaign but one can also expect that the social interactions (that is, the micro dynamics of social exchange) within a formal social group might further stipulate group dynamics that contribute to the diffusion of innovative technologies and behaviours that help to reduce environmental impacts. Together with the city administration of a Swiss city that serves as transition lab we designed a field experiment in a public swimming pool. The swimming pool was recently refurbished and new, low flow shower heads have been installed to save water but also energy. The study design includes a campaign to inform the visitors about the performance of the new shower heads and thus raise awareness for the water-energy nexus (that is the link between warm water provision and energy). The study starts in January 2017.

The presented project transcends traditional accompanying research of an intervention, because it involves co-designing processes between science and city administrations from the start to both shaping and planning the transition experiment as well as its scientific evaluation. This represents a learning process where science and practice both contribute their knowledge to foster sustainable cities.

Is There a Way out of Anthropocene? Yes, after ‘Capitalism’ turn Left on Deep Green Light to ‘Peaceful Coexistence’

Ulvila, Marko & Heikkurinen, Pasi; Wilén, Kristoffer; Ruuska, Toni

The findings on the human dominance and exploitation of the non-human world have been known already for decades, and thus the debate on the Anthropocene is largely about illuminating the old problems in a new frame. However, the Anthropocene is new in the sense that it highlights the severity of the anthropogenic ecological and sociocultural crises on whole the planet affecting the living conditions of all earthbound beings.

In the study of the ‘social’, the main focus has been on examining the causes and consequences of the Anthropocene within the human species so that differences in terms of nations, cultures and social classes become taken into account. Humans have not caused the destruction equally, but that the high-consuming (i.e. the rich and affluent) ones are particularly blameworthy.

In this paper we point out that it is crucial for any enquiry on the Anthropocene to ask what is needed to emancipate the earth and its beings from exploitation? The paper suggests that for a transformative change ecological and sustainability questions need to be re-politicised. This includes, for example, going to the root causes of the current ecological destruction: capitalism as way of organising life-worlds, and the harmful relationships with more-than-human nature.

The paper argues for a need to exit both the human-dominated geological era of the Anthropocene, as well as the universalising Anthropocene narrative. The destructive power of capitalism must be acknowledged and an alternative way to organise economic activities are to be found. Moreover, the organisation of human activities cannot no longer build on pluto-, techno-, and anthropocentric premises but must encompass a new ethos towards the non-human world. To imagine an era of peaceful coexistence to follow the Anthropocene, the paper builds on critical theory, ecological Marxism, and Nordic eco-philosophy.

From Earth to earth: Co-creating regional policies for sustainable regional development

Vasstrøm, Mikaela & Hanne Haaland, Hans Kjetil Lysgård, Jørn Cruickshank

Sustainability is one of the most pressing concerns of modern society. International and national policies and strategies have increasingly – albeit in different ways - addressed issues of sustainability as an intrinsic part of societal development. The conversion of abstract and universal sustainability discourses into actual political practices and prioritizations in a place is however complex and contested. Regional planning is a broad territorial approach to address and balance economic, ecological, social and cultural interests and values. This paper asks how the abstract concept of sustainable development is approached and discussed when unfolded on a regional planning policy field in an industrial peripheral region in Southern Norway. We describe how the process was constructed, negotiated and advanced between policy makers, researchers and stakeholders and categorize what types of environmental and economic discourses that dominated the policy creation arena. Further we discuss the conflicts and potentials of addressing sustainability from an “actual existing” regional substance in relation to whose perspectives are included (and not-included) in a regional planning and policy arena.

Social barriers to large scale renewables and electricity networks: analysing the case for the US and EU super grids

Zarazua de Rubens, Gerardo & Lance Noel

Several studies have investigated large scale renewables and electricity networks as well the potential for a super-grid both in the US and the European Union. However, much of this work is focused on technical and economic barriers and under-recognises the social aspects when developing a large scale interconnected electricity grid. This paper builds a conceptual framework to analyse the social barriers, engagement of stakeholders and social risks before, during and after the construction of megaprojects.

As a case study, we apply this framework to the proposed super-grids in the US and the EU. The results of this paper will help guide the development of these economically efficient projects to address the social barriers and risks that they may face. Additionally, results may provide the route map and encouragement for policymakers, investors and stakeholders looking to develop and complete these large mega-projects; as it is recognised that some configuration of a super-grid is required, particularly in the US, in order to achieve the last quarter for full penetration of renewables. Therefore, the results of this paper will have a significant contribution in decarbonising energy production and supply systems, complying with national, and international climate ambitions.

TRACK 3: SUSTAINABLE FOOD

3.1. Promoting sustainable food consumption, Room A06

Convenors:

Annikka Vainio, Natural Resources Institute Finland (Luke), annukka.vainio(at)luke.fi

Jaana Piia Mäkiniemi, University of Tampere, jaana-piia.makiniemi(at)uta.fi

Tuesday 6 June, 14:00 - 15:30

In search of the ‘good life’: understanding online grocery shopping as a social practice

Henriksson, Malin & Jessica Berg

Online food shopping offers an alternative to an everyday life activity that often prescribe car trips, grocery shopping. A growing market of online food shopping services enable distributors to control “the last mile”, where the products reach the consumers. However, in order to meet the energy saving potential of online food shopping there are several problems to address. Increased e-commerce does not necessarily mean a decrease in car use. Today, calculations on potential energy saving are based on estimations and assumptions rather than thorough knowledge about consumers and their prerequisites. This paper is based upon a survey of 20 households that shop groceries online on a regular basis. Qualitative interviews are combined with travel diaries, enabling a discussion of the rationales, attitudes and expectations of online shoppers, as well as their actual travel behavior. The overall aim of the paper is to discuss online food shopping as a social practice with a potential to contribute to a more sustainable food system. In line with sociologist Elizabeth Shove, practices are understood as a successful configuration of material, meaning and competence that are dependent of other networks of practices. With this framing, we are able to discuss how likely it is that consumers will change travel behavior as an effect of online shopping. The paper suggest that travel behavior is a result of constraining activities in the everyday life where urban planning, norms about food and food purchases as well as the search of better quality in life are more determining than the practice of online shopping per se. This paper contributes empirically and theoretically to the study of food consumption and discuss from a user centered perspective the possibility to reach sustainable food systems.

The entry of sustainability into Finnish nutrition recommendations

Santaoja, Minna & Pekka Jokinen, Emma Luoma, Markus Vinnari

In the Nordic welfare states the state actively steers the public eating habits. Nutrition recommendations have been issued in the Nordic countries since the 1950’s. At first the emphasis was on sufficient intake of nutrients. Over the decades the issue has taken different form, the main problem being excessive intake of certain nutrients and foods. Simultaneously the scope of nutrition recommendations has expanded to cover wellbeing more broadly. As food production and consumption contribute significantly to various environmental problems, the need for integrative food policy is emphasized. In the latest Nordic

nutrition recommendations from 2012, and the subsequent Finnish recommendations from 2014, the perspective of sustainable food consumption was included, emphasis being on plant-based diets.

In this paper we ask, how did the sustainability question enter the nutrition recommendations - we are after the politics of steering sustainable diets. The Nordic nutrition recommendations are based on research and broad collaboration between experts. The expert body in Finland issuing the recommendations is the National Nutrition Council. The council is set by the government with a given mandate. The nutrition council used to have members from food industry and producers' organizations as well. The entry of the sustainability perspective seems to coincide with changes in the constitution of the nutrition council. In the latest council appointed in 2014 there is no more industry representation; the council consists of academic experts. We analyse the nutrition recommendation documents, make a historical analysis of the council and carry out qualitative interviews with nutrition council members and other key informants. Using methods of interpretive policy analysis, we track key actors, their connections and events that have shaped the sustainable diet recommendations in chasing the drivers behind sustainable diets policy.

Comparison of the FAO Definitions of Sustainable Diets and Food Security

Siipi, Helena & Marko Ahteensuu

More sustainable diets and enhancing food security have, in various policy documents, been listed among the most important goals and challenges of humankind. In this paper, we compare the FAO definitions of sustainable diets (2010) and food security (1996). The former says that “[s]ustainable diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources”. The latter states that food security exists “when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”. The definition describes four dimensions of food security: availability, access, utilization, and stability. What are the similarities and differences between the goal of sustainable diets and that of food security? Are they in some respects incompatible? Do they imply different kinds of recommendations? Preliminary remarks that will be developed in our paper include the following: First, is there a hierarchy of these goals, as hinted by the phrase “contribute to food (...) security”? Second, sustainable diets appear to contain almost all desirable features of food. What does this imply? Third, time and future generation aspects are present in both definitions. However, the biodiversity conservation seems merely instrumentally valuable for food security, whereas with respect to sustainable diets it seems intrinsically valuable. Fourth, justice is explicitly present only in the sustainable diets definition. Historically, however, the transition towards emphasizing access and utilization dimensions of food security was motivated by the observation that a great amount of food does not guarantee that everybody has enough to eat.

Tuesday 6 June, 16:00 - 17:30

Making the ugly beautiful: Analysing the aesthetics of food waste in social media

Sutinen, Ulla-Maija & Mattila Malla, Mesiranta Nina, Närvänen Elina

The purpose of this study is to investigate the role of aesthetics in communicating about sustainable consumption through social media. The context of the study is household food waste reduction which is an impactful sustainability challenge in developed countries. However, previous studies have suggested that it is also a complex issue that is difficult to address because of the habitual nature of household food provisioning as well as the sociocultural meanings and norms related to the phenomenon. The study is based on a social constructionist perspective and qualitative case study research methodology. The data consists of both interviews and textual and visual data from three different social media campaigns. We

concentrate on one particular theme identified from the data, namely the aesthetics of food waste. Aesthetics here denote to the sociocultural meanings related to multisensory knowledge and emotions as well as hedonism. According to studies of sustainable consumption, aesthetics are important in both motivating so called ethical consumption choices as well as marketing 'ethical' consumer products. We analyse and discuss how the campaigns are creating and recreating aesthetic meanings related to food waste reduction through using social media. There is an abundance of research on the attitude-behavior gap related to sustainable consumption. Neither mere information nor a moralizing discourse have provided effective in addressing this gap. Our results suggest that building on positive sociocultural meanings in communicating about the food waste issue is one way to approach changing consumers' everyday practices to become more sustainable.

Perceived influence of different information sources and the consumption of meat-based and plant-based products

Vainio, Annukka

Despite abundant scientific evidence about the negative impacts of meat-based diets on health and the environment, the consumption of meat has not decreased in Finland. In society, scientific information has to compete with other information sources and channels. Therefore it is increasingly important to understand how consumers perceive these sources and channels in providing information about food and eating. In this study we examined the perceived influence of different information sources, and how these perceptions were associated with self-reported consumption of meat-based and plant-based products. The data were collected as an online survey among the 18–65 years old adult population living in Finland (N=1279). Both absolute and relative importance of 19 information sources were analyzed – ranging from scientific, commercial, and media sources to social networks and personal experiences. In addition, the consumption of seven food categories during the past 12 months was included in the analysis: beef, pork, processed meat, fish, vegetables, legumes, and plant-based liquid products. The respondents prioritized own experience, package information and family as the most influential information sources/channels. The results of multivariate general linear modelling (GLM) indicated that the high perceived influence of scientific sources (e.g., official nutrition recommendations, scientific research), as well as the influence of friends and colleagues was associated with a plant-based diet. Instead, the perceived influence of commercial sources (e.g., advertisements, information available in shops, producers) and media figures (e.g., cooking programs, celebrities) was associated with a meat-based diet. Perceived influence of both scientific and commercial sources was associated with fish consumption. The findings suggest that consumers who follow plant-based diets are influenced by scientific channels and friends, and those who follow meat-based diets are influenced by commercial channels. The findings are useful to those who communicate about the benefits of plant-based diets to consider novel communication channels for their messages.

3.2. Towards sustainable food systems, Room A06

Convenors:

Minna Kaljonen, Finnish Environment Institute, minna.kaljonen(at)ymparisto.fi

Teea Kortetmäki, University of Jyväskylä, teea.kortetmaki(at)jyu.fi

Markus Vinnari, University of Tampere, markus.vinnari(at)uta.fi

Wednesday 7 June, 11:00 - 12:30

Governing food systems towards sustainability

Oosterveer, Peter

Food systems are increasingly recognized as the necessary framework for analysing problems of sustainability and health as well as for identifying and implementing governance arrangements to address

these problems. Justified as being more holistic and integrated, the food systems' framework creates several challenges for designing appropriate governance interventions. In this paper will address two of these challenges, first, I will address the spatial dimension at which to deal with food systems governance and second, I will discuss the challenge of how to connect the structural dynamics of food system governance perspectives with the agency-orientation of social practice perspectives.

Food policy coherence and sustainable food systems

Kortetmäki, Teea & Ari Paloviita, Antti Puupponen, Tiina Silvasti

In this paper, we establish the conceptual framework of policy coherence in the context of food policy and sustainable food systems. Coherence is a broadly endorsed goal for any policy domain: coherent policies give consistent signals for actors, which is considered to promote the effective implementation of various policies. Despite the agreement about the desirability and importance of policy coherence, the concept has remained under-theorized in general and even more so in the context of food governance. There is a pressing need to address policy coherence to understand the notion better.

Food policy represents a particularly interesting domain for addressing policy coherence. Since the emergence of food related political issues, food governance has been exercised mainly through sectoral, independent policy domains, and the main focus has been on agriculture rather than on food systems as wholes. Present food systems are becoming increasingly vulnerable to various social, economic, and environmental drivers that threaten the normal functioning of food systems. Ensuring the sustainability and resilience of food systems in the face of these threats is unlikely to happen without a sufficiently coherent and integrated food policy framework. Yet, there is a lack of conceptual and theoretical understanding about what is meant by a coherent food policy framework and how it could promote sustainable food systems.

Seeking to clarify the notion of policy coherence within the context of sustainable food systems, we develop a conceptual framework for food policy coherence. The framework identifies various sources for policy coherence, 'unsustainability hotspots' related to policy mismatches, and considers the benefits and challenges of food policy coherence. We also discuss the potential policy implications of the framework and needs for future research.

The Food Sustainability Index: a qualitative and quantitative benchmarking model to foster the debate on how to move towards a more sustainable food system

Allievi, Francesca & Marta Antonelli, Katarzyna Dembska

In a world of increasing challenges for the food system, we hereby present a tool which can prove to be an asset in fostering the discussion among all the stakeholders involved. The Food Sustainability Index (FSI), developed by the Economist Intelligence Unit (EIU) together with the Barilla Center for Food and Nutrition, is a quantitative and qualitative benchmarking model, constructed from 58 environmental, economic and societal key performance indicators. Three themes are accounted for: Food Loss and Waste, Sustainable Agriculture, and Nutritional Challenges. Data sources include public databases, information collected from grey literature, interviews and EIU data.

In this first analysis, 25 countries were assessed, comprising the G20 economies, which account for 85% of global GDP and two-thirds of the global population, plus five nations from regions otherwise unrepresented. Moreover, a pilot project on urban food systems was started. This indicator-level analysis, called City Monitor and performed on 16 cities, is intended as a first step in assembling a set of indicators to understand the dynamics of urban food systems through data and policy assessments. The objectives of the FSI are i)to highlight the performance of countries; ii)to establish a comparable benchmark; iii)to offer examples of best practices at the national and city levels; and iv)to measure progress over time. The top 3 performers in the FSI include: France, efficiently responding to food waste and loss, and with good policies for nutritional challenges; Japan, the highest among Asian countries for nutrition and sustainable

agriculture; Canada, which scores second in sustainable agriculture, but where nutritional challenges and food waste are still an issue.

The FSI is a tool for policymakers and experts to orient their action, for students to be educated, and for the public to conscientiously adjust their behaviour for the well-being of our health and our planet.

Wednesday 7 June, 14:00 - 15:30

Re-framing veganism by the critical (abolitionist) animal movement

Vinnari, Markus, Jallinoja, Piia and Niva, Mari

A move to more plant-based diets is seen as one important target in sustainability transition. In this article we study the efforts that the critical (abolitionist) animal movement is making to attract more people to animal protection as well as to more plant-based diets and the ways in which policymakers could learn from their expertise. Inspired by the concept of framing, we study the changes that the critical animal movement has made to the framing of decreasing the utilisation of production animals and transition to more plant-based eating. Our data consist of interviews of actors in the critical animal movement that have been promoting animal rights and veganism for the last two decades. In addition we made observations and collected material in the Vegan Fair (Vegemessut) organised by the activists that took place in Helsinki, Finland, in January 2017. This fair was the latest effort made by the activists to advance their cause. The event featured companies, brands, organizations and performers giving lectures and shows (cooks, researchers, entrepreneurs, vegans). The critical animal movement has clearly reformed the strategy and formed new partnerships during the last decades in Finland. The target for the movement has focused further to providing the consumers with tools to implement effective ways to change behavior. The movement has actively adopted the practices from their foreign partners and they have actively tried to implement the "best ideas" to the Finnish context. We argue that current activists in the critical animal movement are not only framing vegan products as better, but they are also actively framing the making of vegan food as easy as well as it offering multiple possibilities. They are framing the public image of veganism as the "new normal". For this framing to be realisable in practice, too, vegan options and lifestyles should be made possible through both political measures advancing plant-based diets as well as through activities by public and private actors in food provision and production.

'The milk of human kindness'? Plant based milks and sustainable food transitions

Morris, Carol

The over production and consumption of animal proteins has begun to be identified as a key challenge within debates about global food system sustainability. A 'sustainable diet', it is argued increasingly, will need to place greater emphasis on plant based proteins. Policy and research engagement with the governing and management of transitions to sustainable diets are still in their infancy. However, there is already a tendency within these efforts to focus on meat as opposed to dairy products, one of the other major categories of animal food. The proposed paper will address this gap through a preliminary consideration of plant based milks, which offer an alternative to dairy milk. The range of plant based milks has expanded in recent years, with the global market value predicted to increase to \$19.5b by 2020 (Markets and Markets 2015). The paper proceeds from the assumption that these milks have the potential to play a role in transitions to sustainable diets in which plant based proteins assume greater prominence than is currently the case. Simultaneously, it recognises that this position raises a number of empirical and conceptual questions that require consideration. The paper therefore explores the potential for developing a critical perspective on plant based milks by mobilising and connecting debates within commodity geographies and the geographies of governing and managing transitions to food system sustainability and sustainable diets in particular.

Markets and Markets (2015) Dairy Alternative (Beverage) Market by Type (Soy, Almond, Rice), Formulation (Plain, Flavored, Sweetened, Unsweetened), Channel (Supermarket, Health Store, Pharmacy, Convenience Store) & Geography - Global Trends & Forecast to 2018. Market Publishers Ltd.

Urban Gardening as a Part of Restaurant Business: Case Study in Tampere, Finland

Asikainen, Eveliina & Eeva-Liisa Viskari

Fine-dine restaurants are often pioneers and explorers in the ways they use raw materials. Freshness is essential characteristics of the vegetables and greens. Often these pedantic entrepreneurs have unique and innovative ways in acquiring their raw materials. Quite recent phenomenon in acquiring fresh and also unique raw materials is establishing one's own garden either in the vicinity of the restaurant or in some other premises of the owner, for the production of fresh vegetables. In this paper we discuss the experiences of four fine-dine restaurants that took part in EU-funded project KIVIREKI where the business opportunities and challenges of urban farming are explored and tested. In the project different urban agriculture technologies were tested and suitable solutions for gardening in the immediate vicinity of the restaurant or even inside the restaurant were explored. The gardens were planned and established by Tampere University of Applied Sciences together with the restaurants. The restaurant staff (chefs and cooks) took part in the gardening and experimented on the usage of the crops in their restaurants. The main chefs of the participating restaurants were interviewed in the beginning of the project and in the end of first season, logs were kept on the work and crops of each garden, and experiences were discussed in workshops. In addition, several authorities were interviewed on the institutional framework of urban agriculture. In this paper we outline the landscape of urban gardening as a part of fine-dining business. We discuss the role of urban farming in relation of sustainable food production and nutrient reuse in urban environment. Also the motives, experienced benefits, and material and institutional challenges related to urban gardening as a part of restaurant business are discussed.

Wednesday 7 June, 15:45 - 17:15

Exposing the cruel truth: the role of animal activists in achieving more sustainable food systems

Vinnari, Eija & Matias Laine

The significant global environmental impacts of meat and dairy consumption point to the need for considerable changes to the industry's institutionalized position in contemporary societies (Vitousek et al., 1997; Rockström et al., 2009; Steffen et al., 2015). Moreover, the scale and necessity of animal production and consumption is also debated due to the associated ethical issues (Pluhar, 2010; Vinnari & Vinnari, 2014) and public health considerations (McMichael et al., 2007; Orlich et al., 2013). The purpose of our study is to critically evaluate the role of animal activists in engendering change towards more sustainable food systems. Theoretically, we draw on Michel Callon's and colleagues' work on emerging concerned groups (Callon, 2007; Callon & Rabeharisoa, 2008; Callon, Lascoumes & Barthe, 2009) to discuss especially the identity-related and political effects generated by the animal activists' campaign against especially industrial meat and dairy production. Our main empirical dataset consists of 21 interviews with Finnish actors from various sectors of society, including animal activists, other NGO actors, academics as well as representatives from government, the meat industry, the retail sector and lobby groups. Our secondary dataset comprises textual and visual material from various sources, such as the animal activists' campaign website, meat and dairy companies; newspaper and magazine articles; court records; as well as promotional material and brochures published by various actors. Our tentative findings suggest that as a result of the activists' efforts, production animals have acquired an ontological status of semi-sentience while the respective identities of the activists and the representatives of the establishment have emerged as polar opposites. Societal effects include a slight increase in the number of vegetarians and incremental improvements in animal welfare regulations.

Meat companies' social responsibility communication on animal welfare

Kupsala, Saara

As the public criticism of the sustainability of meat production has heightened, meat companies have increased their social responsibility marketing regarding meat. In Finland, the recent release of undercover films from farms and slaughterhouses by animal rights activists has prompted meat companies to increase their consumer communication on animal welfare. Meat companies have for instance published online-videos from their contract farms and arranged farm visits to consumers. Because consumers have become increasingly distanced from animal farming and slaughtering, the visibility of farmed animals has become a contested issue. Meat companies, animal rights activists, and public authorities, among others, have presented often highly contrasting images of animal welfare in the public debate. Meat companies' responsibility marketing can be seen as a strategy through which the current meat culture and carnist ideology is promoted and sustained. Meat industry has a powerful position in influencing consumer perceptions of animal welfare and consumer values regarding animals, and hence, it is an important player when a wider cultural imaginary of food-system sustainability is constructed. In this paper, I am studying how animals and animal welfare are constructed in the marketing materials of meat companies. The research is part of a wider research project on contradictory images of animals in current Finnish public discussions. I examine the construction and moral positioning of animals in selected cases of meat companies' marketing materials. The paper presents the theoretical background of the research and introduces the case studies of the research project.

Relating to and sensing meat in quality markets: food chain perspective

Kaljonen, Minna

When we eat meat, we digest it in our bodies. Meat connects our body to the body of animals in a very material, even visceral sense. Our knowing of meat – that we eat and digest – does not take place only through cognitive process, but also through embodied sensation and sensing. The embodied processes in knowing meat have become of increasing importance as relations between food production and consumption have convoluted. Much of the research on visceral, embodied relation to food has concentrated on consumption or identity formation. In this paper I address what such embodied relation to knowing and sensing meat may mean in evolving food markets, as meat producers are trying to respond to new consumer concerns over animal welfare and environment. I do this by investigating the building of markets for one specific product, that of meadow or grass-fed meat. This particular mode of production has gained increasing momentum as a niche market for quality meat, which in addition to meat produces also other public goods such as biodiversity and better animal welfare. In Finland, most of this meat is purchased via direct selling. In this paper I examine how, in the Finnish context, the valuing of meadow meat necessitates 'relating to' the stuff of meat in a very concrete meaning, both in production and for consumers. Such processes of relating provide both consumers and producers with a greater degree of agency in the food chain, but investments required for relating keep the short-supply chain marginal in the meantime. I discuss what such emerging marginal spaces of meat production and consumption – and practices of valuing -- can contribute to our understanding of sustainable food systems.

Thursday 8 June, 9:15 - 10:45

Impacts of automatic milking systems on structural change and carbon footprint of dairy farming in Norway

Hovstad, Knut Anders

Introduction of new technology is a major driver of structural change in agriculture. In the study presented here, we have examined the impact automatic milking systems (AMS) have on structural change and carbon footprint in the dairy industry in Norway. An agent-based model is used to examine how a population of dairy farmers adapt the new technology. Specifically, we examine how adaptation of AMS is

influenced by the resources on the farm and the individual farmers' values and ideas that influence decision-making. To let the farmers learn from own experience, a case-based reasoning approach is used for to make descision in the model. Furthermore, the model is used to examine how the introduction of AMS influence the farmers' decisions to continue dairy farming or leave the industry, cooperation and other interactions among farmers, management of land and livestock and the profitability of dairy farming. In the model, the introduction of AMS contributed strongly to structural change by increasing milk production on some farms to the optimum for a single milking robot (AMS). This creates a great demand for agricultural land. The need to increase herd size to get an AMS contribute to a situation in which many farmers need the neighbors to leave the industry in order to acquire the necessary land resources. This "game of land" (sensu John H. Conway) will be explored more in detail in the paper. The model is also used to examine how the adaptation of AMS influence the carbon footprint of dairy farming. The work presented is part of an interdisciplinary project in which the relationship between path-dependency in farming systems and carbon footprint in the dairy and beef industry is studied.

Designing perfect cows: practicing genomic knowledge on dairy farms

Lonkila, Annika & Minna Kaljonen

The structure of Finnish dairy production is transforming. Farms are closing at increasing speed and the remaining farms are growing in size. A third of Finnish cows are milked by a robot, and today's dairy cow produces twice as much milk as one 30 years ago. Amid economic challenges there is increasing consumer concern over animal welfare and the ecological impacts of dairy farming. As a result, dairy farms are constantly under pressure to become more efficient. One important industry solution has been to design livestock that are better adapted to these changes. This development has been made possible by new biotechnologies, such as genomic selection, promoted as a technological fix for the challenges of dairy farms.

Genomic technologies have potential to greatly speed up breeding – and the faster the process is, the more important it is to understand what its goals are and how exactly the technologies have become used on farms. Building on empirical data from 20 farms, I examine how actors, both human and other, become associated with these technologies, use them, contest them, and transform them. I explore how other knowledge practices become interwoven with them and how the technologies become used in unintended ways. This case allows for examining the broader values of our food production systems through breeding practices as they insert those values into cattle. For example, genomic technologies promise more durable cows: an answer to economic, ecological, and ethical concerns all at once. On top of that, they promise easy and healthy cows: reducing the work load of farmers tending larger and larger herds. However, designing such 'invisible' cows has proved to be difficult: various unexpected consequences have emerged. This case reveals the complexity of integrating the contradictory demands of contemporary food chains, such as animal ethics and calls of increasing efficiency.

Countering sustainability concerns: legitimating the existence of the Finnish dairy industry

Markus Vinnari, Pekka Jokinen, Eija Vinnari, Emma Luoma and Minna Santaoja

This paper explores the changes in the Finnish dairy industry's legitimating rhetoric from the perspective of the modern day interpretation of sustainability. During the past few decades, the dairy industry has witnessed the rapid modernisation of agriculture, but also threats to its legitimacy in the form of, for instance, the early rise of environmental concerns, increased competition conveyed by the Finnish membership in the EU, the concern about climate change, and the emergence of farm animal protection issues. In empirical terms, we focus on Valio company, founded in 1905, due to its crucial role in the development of the Finnish agriculture and dairy industry. Even today Valio's share of the Finnish milk market is 85 percent. The empirical material consists primarily of annual reports and corporate social responsibility (CSR) reports published by the company in 1960-2015. We find that Valio has attempted to legitimize the dairy industry's existence by mobilizing the rhetoric of sustainability and its different dimensions, exemplified by the appearance of 'environmental responsibility', 'social responsibility', and

'animal welfare'. We conclude that the changes in the company's reporting are associated with the concurrent societal development as well as the position the company has had in the Finnish society.

TRACK 4: ENERGY

4.1. Framing energy: between hope, hype and hopelessness, Room C6

Convenors:

Kamilla Karhunmaa, University of Helsinki, kamilla.karhunmaa(at)helsinki.fi

Karoliina Isoaho, University of Helsinki

Nina Honkela, University of Helsinki

Arho Toikka, University of Helsinki

Tuesday 6 June, 11:30 - 13:00

Situated European expectations for hydrogen fuel cell electric vehicles

Upham, Paul & Elisabeth Dütschke, Uta Schneider, Christian Oltra, Roser Sala, Monica Lores

In the sociology of expectations literature, foresight reports, scenarios, roadmaps and other future visions are regarded as often having performative intentions relating to the investments and policies that realizing such futures requires. The same literature also recognizes that less formal socio-technical expectations abound in many other contexts and that these are likely to interact with formal visions, influencing the way in which the latter are received. Our purpose here is to elicit and document those less formal, individual expectations for the case of hydrogen fuel cell electric vehicles (FCEV) and to comment on the theoretical implications for sociotechnical transitions studies. The data are the expectations of 145 hydrogen fuel cell RD&D actors interviewed in Spain, Germany, Slovenia, France and the UK during spring 2016. We contrast these with an OECD/IEA roadmap for hydrogen that sets out a highly ambitious scenario. The nationally situated nature of the informal expectations – located within specific policy contexts – condition by comparison circumspect expectations in at least the medium term. The expectations differ across countries and are focused as much on the expected behaviour of other actors as on technological development per se.

Reconstructing the dynamic role of expectations and promises in deep geothermal energy development in Switzerland

Ejderyan, Olivier & Michael Stauffacher

This paper argues that expectations and promises linked to deep geothermal energy (DGE) in Switzerland play an active role in shaping the sociotechnical settings that support the technology's development. Drawing on work on sociotechnical imaginaries and from the sociology of expectations, the paper assesses how changing expectations and promises frame public discourses on DGE and hence orient its development.

We analyze national and regional newspapers as well as policy documents to identify promises and expectations in public discourses on DGE. Two case studies based on narrative interviews in the cantons of Jura and Geneva assess the effects of such discourses at project level.

The analyses highlight how promises change with new experiences and knowledge leading to hype/disappointment cycles. DGE was presented first as a mean to tap into the "gigantic" energy reserves from the earth's crust in order to meet humanity's energy needs with a renewable energy

source. However, these expected benefits come with nuisances and risks among which induced seismicity is the most salient. In reaction, promoters now stress DGE's benefits for meeting national commitments on CO₂ emissions and phasing out nuclear power plants. Here, promises are formulated in terms of future energy (baseload) coverage and on the possibility to reduce or manage induced seismicity.

The case studies indicate that the actors' positions about these expectations as well as their interpretations of promises are important factors for explaining social acceptance and managerial arrangements. Project development is influenced by how expectations and promises on the one hand, and technical options, governance structures or social mobilizations on the other hand, are translated into one another. The paper concludes with a discussion on the opportunity to scrutinize promises and expectation to critically assess their political performativity. This may avoid unwanted technological lock-ins and allow to discuss energy futures more openly.

Framing energy transitions in Finland: positions and expectations of key actors

Kainiemi, Laura & Kamilla Karhunmaa, Sanni Eloneva, Mika Järvinen

Different actors have varying interests for framing energy transitions and creating expectations. This study examines how different actors in energy policy frame energy transitions in Finland, and what expectations for change are raised in political agendas. Finland is an interesting case study, since it has a relatively centralized energy system, where policy and actors have been stationary for decades. Recent initiatives have, however, sought to destabilize and question current energy policies. Especially the role of decentralized and renewable energy has been gaining prominence in Finnish energy debates.

We analyze how the positions and expectations of different actors affect ongoing transitions. The material consists of policy documents, press releases, and blog posts as well as data from thematic interviews with key actors in the current energy regime, and in the emerging niche regimes of renewables and distributed energy.

The different actors agree on the need for a transition, but not on how it should be achieved nor what it actually means. Major differences concern whether the energy system will be emission free or not, which energy production technologies are being used, and if energy utilization is abundant or scarce. The stationarity of the current energy system and its institutions has led to difficulties for new actors to enter. Therefore, expectations for institutions to change are relatively low among the actors of the emerging niche regimes. The majority of niche actors have employed fit and conform strategies working for changes within the existing energy system. In addition, there are specific moments of hope and hype where expectations for policy change are raised. The influence of such moments is largely symbolic, yet it should not be understated, as it has led to a majority of actors in the emerging niche regimes viewing energy policy as more open and ripe for change.

Tuesday 6 June, 14:00 - 15:30

Unraveling actor perspectives: Competing futures for fossil fuel free public transport in Linköping

Mutter, Amelia

In the current climate change debate, transportation is viewed as a particular challenge to overcoming fossil fuel dependence. The emphasis placed on the need for renewable energy in transport has led to competing expectations of and multiple pathways to the fossil fuel free future. This paper will examine the conflict between two competing future visions in the case of city busses in Linköping, Sweden. In this municipality, biogas has established a strong foothold driving 100% of public buses. Despite large-scale investment and infrastructure build-up suggesting a hopeful biogas future, another technology is often hyped as the best pathway toward sustainability, threatening the biogas-based system. Electric vehicles have emerged as a strong competitor in line with the national future imaginary. This paper will examine

how public transport futures are framed by decision-makers in the city bus system. It will seek to understand how electric and biogas bus technologies are viewed as competitive or complementary with a focus on what role the technologies play in actors' visions of the future. This paper will follow key stakeholders in Linköping municipality, utilizing interviews and participant observation at an on-going electric bus scenario project. The aim of this paper is to discuss how the electricity-driven future has unseated the biogas-dominated future in the Linköping case, with a focus on how this relates to the national socio-technical imaginary. How do the interactions between these two technologies play out in each vision of the future? How do these interactions influence actors' meaning-making processes, especially with respect to sustainability? These questions will be addressed in relation to individual actors' visions of the future.

Unconventional energy futures: rendering Europe's shale gas resources governable

Kuchler, Magdalena

Following the shale gas boom in the United States, unconventional natural gas extracted from shale rocks has generated increasing attention in the European Union (EU). This considerable interest has been triggered by a range of optimistic estimates regarding the volumetric and recoverable potential of shale gas extraction in Europe. Despite large uncertainties and unreliability of geological data, these assessments are nevertheless translated into specific energy security policies and strategies, consequently legitimizing political-technological hopes for certain energy futures in the EU. The paper critically examines devices and practices through which states of resource availability and recoverability are diagnosed, appraised and thus rendered governable. By combining socio-technical imaginaries and governmentality approaches, the analysis is guided by two objectives: to identify visions of shale gas potential in Europe contained in a range of resource estimates; and to scrutinize practices of calculation, visualisation and prediction deployed to produce evidence for these future energy claims. By taking the case of inventorying and anticipating shale gas potential in Europe, the paper illustrates that unconventional resources and their recoverability ratios are not fixed but rather they are constantly re-defined through techniques of measuring and estimating. The evidence for powerful future energy claims thus lies buried deep underground.

Energy Security Assemblages in Finland: the Cases of Fennovoima and Neste

Höysniemi, Sakari

European energy security in terms of member state relations with their energy trading partners has been commonly studied through EU level institutional framework. This paper argues that the framework is too simplified, as the energy trade interactions do not occur between states, but rather between mostly state-owned companies whose interactions are governed within networks of 'large technical systems'. In addition, as technological and physical dimensions play a key role in energy security practices it is relevant to take one step beyond common discursive understanding of critical security studies. The paper proposes a 'new materialist' approach to securitization of energy trade drawing from assemblage thinking and Actor-Network-Theory. With this framework energy security is constructed as an assemblage consisting of both 'social' and 'material' dimensions that are attached to political and economic practices, material flows, infrastructure and ecological environments as well as human resistance and narratives of national security. I take Finland as an example, as it is tightly linked with both Russia via fossil fuel trade and Europe via Nordpool electricity market. I take cases of Fennovoima, a nuclear energy firm that aims to stabilize its role in Finland and Neste, the largest oil firm in Finland, that both have in common a high dependence with Russian trade. Case study approach enables an in-depth analysis of the interdependencies between actors as well as the study of social and material techniques and resources they employ. I put this into practice with the analysis of governmental and corporate decision-making documents and statistics, news media, and interviews with ministries, firms, politicians, energy consultants, and environmental organizations. Finally, to structure the data I'll apply argumentative analysis to develop frames that link a set of heterogeneous actors together.

Energy Security and Human Security in a Dutch Gasquake Context: A Case of Localized Performative Politics

Kester, Johannes

Mediating between hope and hopelessness are fear and desire, governed and structured by security debates. From the late 1980s onwards, the natural gas extraction in the Netherlands has experienced an increasing number of ever stronger gasquakes (induced earthquakes due to gas extraction). This paper offers a security analysis of the accompanying debate on the material consequences and organization of the natural gas extraction between the threatened locals, the knowledge institutes analyzing the gasquakes, and the industry and government parties involved in the gas extraction. Besides the interactions between these parties themselves, this paper studies how the parties in the debate are influenced by their security of supply understandings and through their interaction and negotiations (re)produce a new security of supply understanding that structures how they approach future energy and other related insecurities. The argument is that the local residents question the energy security policy of the government by focusing on its safety and cost decisions rather than its principle mandate. After 25 years, the result of their resistance is not only an acceptance of their claims but also a revised state centric prerogative of security of supply, even though the debate itself calls for a broader understanding of the politics of energy security. An understanding that moves away from a search for the definition of what energy security is, towards the constant renegotiation of the, in this case, conservative security of supply practices that structure the management of energy systems and society itself.

Tuesday 6 June, 16:00 - 17:30

Local acceptance of distributed energy systems: does spatial framing matter?

Seidl, Roman & T. von Wirth, A. Stefanelli

Research on the acceptance and adoption of distributed energy systems (DES) on a local scale (e.g., micro-cogeneration, multi-energy hubs) is less frequent than technical studies. More precisely, little research exists on the role of local actors (e.g., local energy utilities, homeowners), ownership, and the spatial scale of implementation for accelerating the adoption of DESs. We asked whether acceptance increases or decreases when emphasizing a global, national, or local context of DES benefits. We approached the question of acceptance by conducting a survey in Austria, Germany (N = 530) and Switzerland (N = 1088) to investigate the potential of DES implementation among the public. The online survey included various questions on acceptance, potentials and challenges of DES, and a framing experiment emphasizing a global, national, or local context (plus a control group). Preliminary results show that there is no significant influence of the spatial framing on acceptance, except for Swiss men. Here, the national framing condition yielded the highest acceptance ratings (particularly in Switzerland energy independence is highly valued, obviously with more emphasis on the national level). It was obvious for all countries that passive acceptance (mere tolerance in the neighbourhood) yields higher ratings than active acceptance (comprising active local support for the installation of DES components and personal investment in the technology) – with lowest respective rankings in Germany. With respect to the future establishment of DES, Switzerland's respondents rated potential opportunities higher and critical challenges lower than those from Germany and Austria. Moreover, in all three countries respondents locate responsibility for achieving energy transition goals mainly at the national level (government, federal office of energy) and at the energy supply utilities; least at the household or land-and property owner level. Nevertheless, a majority of respondents from all three countries appreciates the idea of a network of distributed energy infrastructure.

Community energy transitions: Implementing residential biomass in practice

Axon, Stephen & Rosita Aiesha, John Morrissey

Given the need for radical transformations to the ways in which energy is produced and consumed, the energy sector is undergoing changes towards more a more diversified, low-carbon and decentralised production model. To date, the transitions literature has framed energy transitions as a process involving material and social consequences. Such radical changes can also be viewed as constituting discursive dimensions, involving debate, idea exchange and value positioning. This important discursive element has been neglected somewhat by academic studies, and significantly in energy system decision-making; primarily undertaken by politicians and stakeholders already established in the energy system. Focusing on the implementation of a biomass energy system in residential buildings in a socio-economically deprived community in Liverpool, UK, this paper draws upon focus group and interview data to investigate how practical, on-the-ground energy transitions are debated and framed at the community level. Findings illustrate that while many individuals suggest a much larger role for renewable energy as part of their energy vision, biomass energy is not ranked as highly given their experiences with how the system was implemented in their home. Given the changes to how residents pay for their energy, from a prepayment meter to a pay-as-you-use method, considerations of 'efficiency' are debated and framed according to the cost of energy rather than from an environmental performance perspective. Therefore, how biomass energy systems are designed, communicated, governed and implemented strongly influences how it is framed in the minds of users, and subsequently, their practices. The resulting unacceptability of, and resistance to, the biomass energy system has implications for future sustainability-related interventions. Suggestions for an enhanced role for local community members in local energy transitions, specifically with regard to agency and decision-making dialogues are grounded in outcomes from an extensive local community stakeholder engagement process. The paper draws upon the findings from this extensive community stakeholder engagement to develop a series of insights and policy implications for community energy transitions.

Energized by manure? The material politics of Finnish biogas production

Humalisto, Niko & Helena Valve

In the regions of intensive animal husbandry across Europe and beyond, the outputs of manure clearly exceed what is needed as fertilising inputs at farms. The material excess has raised concerns over water protection and control of greenhouse gas emissions (GHG). Simultaneously, uncertainties over the steady supply of phosphorous have created pressure to enhance the recycling of this non-renewable nutrient. Biogas has been raised as a key component in the palette through which manure excess can be alleviated and even to be turned into a source of rural income. When refined from waste-based materials such as manure, biogas provides an almost GHG neutral energy alternative for heating, electricity and transport. Nonetheless, only one percent of accumulating manure is being currently utilized in biogas production in Finland. So, as phrased by an agricultural consultant: "if those manure-biogas installations would be such a brilliant idea, would not those spring up like mushrooms after rain"?

Manure (or actually manures in plural) becomes an energy resource thanks to specific technologies, business models, material infrastructures and practices of care. In our paper, we study how the diverse couplings that are generative to the worlds and conditions of manure biogas have gained their shape in Finland. We focus on the ways biogas entrepreneurs describe what can be called, following the notions of Isabelle Stengers, as generative events. Characteristic for these events is a level of under-determinacy that provides space, or even demands, thinking, hesitation, and – in the case of business development – strategy choice and (dis)investment. The descriptions of the events act as snapshots through which we examine what kinds of factors and material capacities, and how, take part in the creation of under-determinacy and configuration of events. Moreover, the interviews allow us to trace the shaping of biogas collectives from a perspective that does not operate on pre-given calculative schemes. Rather, our focus is set on the co-evolution of material arrangements and manure as energy feedstock.

Exploring behavioral intentions related to wind power landscapes with a particular focus on the role of emotions

Janhunen, Sari & Maija Hujala, Satu Pätäri, Anssi Tarkiainen and Kristiina Korjonen-Kuusipuro

Visual impacts of wind turbines (WTs) are one of the major concerns when assessing the siting of wind power (WP). However, the role of emotions in acceptability and acceptance of WP is often neglected. Emotions and cognition are still often seen as opposite to each other and cognitive arguments are valued instead of emotional ones. For example, previous studies concerning attitudes and/or behavioral intentions related to WP in different landscapes have focused mainly on physical attributes of WTs and on respondents' characteristics. This study tries to advance the WP acceptance research by analyzing the role of emotions caused by WTs.

This study explores behavioral intentions related to WP in different landscapes in Finland. Particular focus is on emotions and their interactions with WP attitudes in different landscapes (i.e., countryside, city center, forest). The research model was tested with empirical setting based on photographs and two online surveys. The study design made it possible to study emotions caused by WTs and following behavioural intentions without place-related bias. The first data was collected from university students (N=92) and the second one among customers of an electricity company (N=622).

Preliminary results of the analyses show significant differences in emotions like surprise, happiness and sadness between the different landscapes. The expressions of emotions in two research groups were resembling each other (like surprise relating to WTs in a city, and happiness relating to WTs in countryside). Furthermore, findings indicate the significant role of emotions in explaining landscape specific attitudes towards WP which in turn affect behavioural intentions. Practical implications concerning the role of emotions when predicting possible outcomes of planned WP projects are also discussed.

Wednesday 7 June, 11:00 - 12:30

The German energy transition in British, Finnish, and Hungarian media: what an example?!

Antal, Miklós & Kamilla Karhunmaa

The global significance of the German energy transition is not due to the achievable reduction of greenhouse gas emissions, as Germany is responsible for only 2.2% of global CO₂ emissions. Rather, the "Energiewende" is a globally followed experiment of shifting towards renewables and decentralization, which may influence other countries' energy transitions. As Germany was the first major economy that committed itself to a radical change of energy supply and use, it inevitably sets an example. The question is how it is seen by others.

We study how the first five years of the German energy transition (2011-2015) appeared in the media of three European countries. The United Kingdom, Finland, and Hungary were selected because their energy policies show important similarities, especially concerning nuclear energy. As opposed to Germany that is shutting down its nuclear fleet, these three European countries (and no others) signed contracts in the studied period to build new nuclear plants. We ask how the German example is presented: as a good example to be followed or a bad example to be avoided? And in what ways is it linked to domestic energy discourses?

For each country, two major news media sources are used. The Times and The Guardian for the United Kingdom, Helsingin Sanomat and Yle for Finland, and Index and Origo for Hungary. Using the same search terms, we first identify relevant articles, then analyze how they present the transition. Similarities and differences between discourses in the three countries are pointed out, which can help to assess the impact of the German example on domestic energy directions. We suggest that the German Energiewende is selectively depicted by different actors to develop legitimacy for their own views.

High profile risk cases in the media. Print media attention to licensing procedures for spent nuclear fuel repositories in Finland and Sweden

Litmanen, Tapio & Matti Kojo, Mika Kari, Tuuli Vilhunen, Anna Oksa

In this paper we explore the role of national level print media in risk communication and in dialogue concerning nuclear waste management. The objective is to study similarities and differences in the public debates on the final disposal of SNF in Finnish and Swedish print media by focusing on two leading newspapers in each country. Our research questions are as follows: (1) How frequently were different actor groups of the nuclear waste regime given a voice in the news items related to the issue and how actively did these groups participate by writing letters to the editor and (2) what were the main thematic categories addressed in the news items?

Nuclear waste management and especially the final disposal of spent nuclear fuel (SNF) have been subjects of intense societal debate and controversy for decades in most countries utilizing nuclear energy in electricity production. However, there seem to be at least two exceptions, namely Sweden and Finland. Some scholars have praised the success, pioneering work and democratic features of the procedures in these two Nordic countries, but critical voices have also been raised, for instance regarding public engagement methods in both Finland and Sweden. While public engagement is often restricted to the local context, the national media is able to bring together a greater variety of stakeholders and their views and interests. The approach applied, the long-term media agenda setting, also emphasizes that the formal, somewhat distant and slowly moving licensing procedures are not the only arenas in which technical projects, their implementers and reviewers and the relationships between them are discussed and framed. The data consists of articles published in two Finnish and two Swedish major national subscription-based morning newspapers. The data (N=676) covers the time period from the 1 January 2008 to 31 December 2015.

How have framing and discourse studies contributed to analysing energy transitions?

Isoaho, Karoliina & Kamilla Karhunmaa

As transitions to clean energy are becoming practice in many current energy systems, understanding the politics of such processes has become a salient topic for research. In response, recent literature has sought to develop more politically-oriented accounts to transition studies, highlighting the need to be attentive to the role of agency, political contestation and discourse. This paper contributes to these approaches by providing a review of literature on framing and discourse in energy transitions.

Providing synthesising knowledge of political contestations that emerge in and through discourse and framing struggles is particularly relevant in energy politics. Given that many energy systems are today 'in transition', empirically-focused accounts of socio-technical change are increasingly available for research.

Our data is based on a literature search within the Scopus Database. We identified 339 articles in a first search on energy transitions and discourse, out of which we selected 76 contributions for our analysis. The articles were chosen based on their choice of methodology related to discourse and/or framing, and on their empirical focus on energy policy, technology or transition. The articles have been published between 2007 and 2016.

Our first results support earlier findings on discourse and framing arguing that discourse on its own is not sufficient in analysing political contestation (Hajer and Versteeg 2005). Rather, taking into account the context in which contestation emerges is necessary for understanding how discourse and framing are shaped by different interests. Our results suggest that in energy transitions, the role of incumbents, lock-ins and inertia shape discourse formation. Understanding the co-evolution of discursive processes with these characteristics sheds light on the roles of path dependency, sensations of optionlessness and tacit knowledge, which emerge as pivotal concepts in political contestations over transitions.

4.2. Energy transitions for sustainable futures, Room C8

Convenors:

Vilja Varho, Natural Resources Institute Finland (Luke), vilja.varho(at)luke.fi

Nina Nygrén, Finland Futures Research Centre, nina.nygren(at)utu.fi

Tuesday 6 June, 16:00 - 17:30

Cost minimization of generation, storage, and new loads, comparing costs with and without externalities

Noel, Lance & Joseph F. Brodie, Willett Kempton, Cristina Archer, Cory Budischak

The goal of this research is to understand the economics of anticipated large-scale changes in the electric system. 86 million different combinations of renewable generation (wind and solar), natural gas, and three storage types (hydrogen storage, electric vehicles equipped with vehicle-to-grid (V2G) technology, and building heat) are modeled within the PJM Interconnection. The corresponding electric systems are then operated and constrained to meet the load every hour over four years. The total cost of each energy system is calculated, both with and without externalities, to find the least cost energy systems.

Using today's costs of conventional and renewable electricity and without adding any externalities, the cost-minimum system includes no renewable generation, but does include EVs. When externalities are included, however, the most cost-effective to system covers 50% of the electric load with renewable energy and runs reliably without need for either new conventional generation or purpose-built storage.

The three novel energy policy implications of this research are: (1) using today's cost of renewable electricity and estimates of externalities, it is cost effective to implement 240 GW of renewable electricity to meet 50% of the total electric load; (2) there is limited need to construct new natural gas power plants, especially from a system-wide perspective; and (3) existing coal plants may still be useful to the energy system, and instead of being retired, should be repurposed to occasionally provide generation.

The transition of Electric Vehicles in Iceland

Lin, Xiao & Benjamin K. Sovacool

In Iceland, over 85% of total energy is supplied by low-carbon renewable resources (Shafiei et al., 2014). However, transport sector still heavily relies on imported fossil fuels. To achieve a sustainable mobility, electric vehicles (EVs) seem to be a promising solution. In this paper, EV sector in Iceland is studied. We attempt to understand the current energy and transport in Iceland, the social benefits and barriers of EV development and potential incentives of EV transition. Particularly we focus on the following research questions: 1) how viable are the EVs as a solution to convert the energy to low-carbon renewable sources in Iceland? 2) why were the EVs restricted into niche level? and 3) what are the possible opportunities for EV future development? To select primary data, 29 interviews were conducted and the target interviewing groups included the experts from a wide variety of industry areas, such as EVs, automobility, renewable energy, and alternative transport fuels. The interview results are discussed and analysed in the framework of transition theory, to identify the benefits and barriers of EV transition on Landscape, Regime, and Niche level. We conclude that EVs do not only help achieve a low-carbon society in Iceland, but also play a key role in Icelandic energy security.

How long will it take? The temporal dynamics of energy transitions

Sovacool, Benjamin

Transitioning away from our current global energy system is of paramount importance. The speed at which a transition can take place—its timing, or temporal dynamics—is a critical element of consideration. This presentation therefore investigates the issue of time in global and national energy transitions by asking: What does the mainstream academic literature suggest about the time scale of energy transitions? Additionally, what does some of the more recent empirical data related to transitions say, or challenge, about conventional views? In answering these questions, the article presents a “mainstream” view of energy transitions as long, protracted affairs, often taking decades to centuries to occur. However, the article then offers some empirical evidence that the predominant view of timing may not always be supported by the evidence. With this in mind, the final part of the article argues for more transparent conceptions and definitions of energy transitions, and it asks for analysis that recognizes the causal complexity underlying them.

Wednesday 7 June, 14:00 - 15:30

A preliminary assessment of the costs and benefits of large-scale vehicle-to grid electric vehicles in Denmark

Noel, Lance & Gerardo Zarazua de Reubens

The purpose of this research is to study the costs and benefits of various configurations of electric vehicle (EV) implementation, both including and excluding three extents of vehicle-to-grid (V2G). To fully explore the benefits and costs of EVs, we iteratively modeled the integration of EVs into the Danish electricity grid for the year 2015. Additionally, we devised four different scenarios with both today's and 2030 electricity grid in Denmark. These scenarios combine different levels of EV implementation and communication ability, i.e. smart charging or full bi-directionality, and then paired with different levels of future renewable energy implementation. We then calculate the societal costs of all scenarios, including carbon and health externalities, and then find the least-cost mix of EVs for society, including the socially optimal level of EV communication. This study will demonstrate both the societal benefits of EVs, as well as the barriers to EV and renewable electricity integration.

Towards a new framework for studying socio-technical implications of energy transitions

Ornetzeder, Michael

Energy systems are in a state of flux. It is expected that in the next 40 years or so the world will move from fossil fuels to renewables and higher levels of efficiency. This transition certainly will involve new technologies and infrastructures as well as new institutions and practices. So far, most changes in the energy sector are driven by technological research and development activities proposing a wide range of competing and often inconsistent options and pathways. The strong emphasis on decarbonisation, however, runs the risk of ‘technocratic reduction’ eventually leading to new technological fixes. In order to avoid early lock-ins and systemic inconsistencies a much broader understanding of energy transitions is needed. This paper discusses first ideas for a framework to systematically explore the various socio-technical implications of energy transitions. The framework links together and builds on transition research, technology assessment and complex systems approaches. The aim is to extend these existing approaches to take account of the importance of risk migration and thereby broaden energy policy options. Research based on this framework should allow for a better understanding of local and regional as well as systemic effects of on-going developments and consequently enhance the societal value of innovation in the energy system. In the paper the framework will be exemplified using the case of decentralized electricity production.

Media Representations of Decentralized Renewable Energy - Potentials and Pitfalls of Media as a Data Source for Energy Transition Research

Nygren, Nina A. & Jari Lyytimäki, Salla Rantala, Arho Toikka

Mass media contents and, increasingly, social media debates shape public and policy agendas, construct actor positions, deliver information and dis-information, and create framings of possible, desirable and undesirable energy futures. Various media data archives and social media platforms provide an ample and easy-to-use data source for transition studies. This paper discusses results of media study on decentralized renewable energy and the potentials and pitfalls of collecting and using such data in energy transition research.

The paper is based on preliminary results from research conducted under the FutWend project (Towards a future-oriented “Energiewende”: An anticipatory multi-level approach to the decentralised renewable energy transition). The focus is on representations of three decentralized renewable energy sources at different levels of socio-technological maturity: wood chips, ground source heat pumps and biogas. The material was collected from two Finnish national-level newspapers: Helsingin Sanomat and Maaseudun Tulevaisuus, and a prominent Facebook discussion group concentrating on energy issues in Finland. Samples represent different geographical scales, information contexts and societal groups.

The key practical aim is to analyze how the public agenda over the case technologies is set, how the framings have changed over time and how the future is viewed. The paper addresses also the methodological, practical and analytical challenges of acquiring, processing and interpreting data on media and social media representations. Of particular interest is how to use these data in transition studies.

Wednesday 7 June, 15:45 - 17:15

Constructing the role of biogas in renewable decentralized energy production

Pyysiäinen, Jarkko & Vilja Varho, Erika Winquist

The paper examines currently existing and potentially emerging, future-oriented understandings of biogas technology in the context of Finland, where biogas is still a niche technology, production volumes are rather modest and institutionalization at the regime level has yet to take shape. Here biogas technology is viewed as an example of an emerging decentralized renewable energy technology. We present an analysis of the ways decentralized renewable energy technology in general and biogas technology in particular are constructed and framed in policy documents, with a view to recent professional and business documents as well. In particular, the analysis traces the nature of the argumentative landscape and the horizon of projected future developments, in terms of which biogas technology is constructed and positioned in the documents, at various policy levels (i.e., macro-landscape, regime and niche levels): Is the role and potential of biogas as a form of decentralized renewable energy technology recognized and articulated? How are its key functions, actors, interdependencies and relations to supporting or competing forces (e.g., technologies) portrayed and justified? Are alternative future developments or trajectories concerning biogas and decentralized renewable energy considered? What kinds of investments to biogas technology have been made and are being made? By analyzing these aspects in the documents drawn from different policy levels, we study the diversity/controversy among understandings concerning biogas and decentralized renewable energy technologies more generally. The possible implications of these findings are discussed and related to the themes prevalent in discussions concerning decentralized renewable energy transitions.

Contesting the mythic meanings of technological modernity in the context of energy transition politics

Barns, Ian

My proposed contribution to the 'framing energy' discussion is from the perspective of a community organisation supporting a transition to a more sustainable and democratic energy system in Australia. After briefly sketching the broad context of the current state of play in Australia's energy transition, I focus on the tension within environmental groups over the relative priorities of pressing for achievable technological change and the more ambitious goal of bringing about fundamental political and cultural change. I argue that a successful transition to a sustainable society will indeed necessarily require a larger societal transformation but that efforts to achieve such change should take place in the context of specific technological innovations and not apart from them. In arguing this I draw on the interpretive approaches of Langdon Winner, Sheila Jasanoff et al highlighting the co-production of technological development and the socio-cultural contexts in which it takes place. However I go on to argue that the discourse of 'socio-technical imaginaries' developed by Jasanoff et al doesn't adequately engage with the deeply ambiguous Promethean myth or imaginary of technological modernity that animates contemporary technological innovations in all areas of economy and society, including that of energy provision. I argue that efforts to bring about an effective energy transition to a sustainable human society should thus be framed within a critical articulation and re-visioning of this myth of technological modernity: a task that might usefully draw on Charles Taylor's project of re-articulating the occluded moral sources of modernity's plural spiritual traditions.

Energy transitions and vulnerability: unpacking the gender dimensions of energy poverty in the Global North

Simcock, Neil & Saska Petrova

Achieving 'sustainability' in energy transitions requires attention not only to carbon and ecological dimensions, but also to issues of social and environmental equity (Agyeman, 2013; Cook and Swyngedouw 2012). Depending on how they are designed, energy transitions can render some people vulnerable to energy poverty (Hiteva, 2013) – a condition in which a household is unable to achieve a socially and materially necessitated level of domestic energy services – due to factors such as an increase in energy prices or unequal access to the benefits of energy efficiency policies. Although energy poverty is a widely studied phenomenon in the 'Global North', the potential gender inequalities in the prevalence and consequences of the condition have not been explored in research to date. In this paper, we address this gap and explore gender inequalities in vulnerability to energy poverty, drawing on a mixture of secondary data and primary qualitative research. Our results indicate that women are at greater risk of energy poverty, and that the impacts of the condition are also potentially differentiated between women and men due to social norms about 'appropriate' gender roles within households. Therefore, where energy transitions increase vulnerability to energy poverty, this is likely to be disproportionately felt by women. We conclude that to achieve social justice, any sustainable energy transition therefore needs to consider and address gender inequalities, and ensure that the views and situations of women are recognised and reflected in transition policies.

Thursday 8 June, 9:15 - 10:45

Future business models in renewable energy: Case study on ground-source heat, wood chips and biogas

Mäkelä, Marileena & Ville Lauttamäki

A large-scale transition towards renewable energy is on-going in various countries, following in part from sustainability goals related to climate policy, increased energy security concerns and rapid development of energy technologies. For example, EU has set targets for the renewable energy production: 20% energy consumption comes from renewable energy sources by 2020 and 27% by 2030. The share of

renewable energy is now growing in many European countries but in Finland the recent development has been modest. Finland has a long tradition in utilising wood industry side-streams and hydropower for energy production in a centralized manner. Recent technological advances have opened new opportunities and interest in renewable energy, particularly in rural areas connected to energy grids. There are “forerunners” and “early adopters” among both large and small energy companies as well as individual households who have begun investing into decentralised renewable energy systems. We focus on elements of business models distinctive to forerunners operating on three decentralised energy sources, namely ground-source heat, wood chips and biogas. We analyse four different business model dimensions: product / service innovation, infrastructure, economy and customer relationship management. The material is gathered from ca. 30 expert interviews (including the forerunners and other stakeholders) of renewable energy in Finland and from policy documents regarding renewable energy. Our results show the different actors’ incentives to utilize or not utilize decentralized energy production methods.

Power from the People? Exploring national differences in prosumer numbers

Jackson Inderberg, Tor Håkon & Kerstin Tews; Britta Turner

New trends that include novel types of actors, technologies and policy frameworks are developing, with a potential to change or even transform the operation of national and cross-national electricity systems. Amongst the trends are previously passive household consumers becoming engaged in small scale electricity production to become prosumers.

While the prosumers figures vary considerably between countries, the conditions for prosuming to evolve have received little scholarly attention. Some studies have analysed isolated effects of support policies on prosuming (e.g. Beermann and Tews 2016; Hagerman et al. 2016; Kaschub et al. 2016; Tveten et al. 2013; Lockwood 2014), or distributed generation in the energy system (Poudineh and Jamasb 2014; Eikeland and Inderberg 2016). But few studies have offered wider explanations of prosumer numbers in a comparative design.

The paper investigates what main factors enable or constrain PV prosumer developments. We address this task by qualitatively analysing wider framework conditions for prosuming in Germany, the United Kingdom and Norway. The cases vary significantly: Germany and the UK are frontrunners, with approximately 850.000 and 750.000 prosumers respectively. Norway, by comparison, currently shows about 200. Why this stark contrast? Further, Norwegian and British electricity sectors de-regulated early, while Germany has been liberalising on a slower pace. Germany and the UK are decarbonising their electricity sectors, albeit with different roles for nuclear power. Norway is by natural endowments all but fully renewable based. Transforming households’ role to become active prosumers requires long term visions and system-level coordination shaping behaviour and opportunities. Policies are still being developed and adjusted. Germany first initiated prosuming-like support programmes from 1990 onwards, while the UK started around 2002. Norway connected its first prosumer in 2011. We are investigating why this is so, what futures might be discernible for the respective national energy systems in terms of distributed generation and decarbonisation.

How consumers face the renewable energy options in housing? Studying the new detached town house cases in Finland

Wessberg, Nina

Climate change policies drive the transition towards renewable energy and energy efficiency in housing. Consumers, as constructors and dwellers, are the core actors impacting the energy choices concerning single detached houses. In 2015 approximately 27 000 new dwellings were built in Finland, of which 8 000 were single detached houses. Housing consumes 20 % of the total energy consumption in Finland. Therefore, energy decisions in detached houses are important part of the Finnish energy system. The

study is a part of the Academy of Finland financed research project focusing on energy services and consumers.

In this paper, we ask 1) how the consumer meets renewable energy when he/she is designing and building an own detached house in Finland and 2) how the renewable energy options such as photovoltaic, pellets or hybrid solutions become or do not become feasible options. We have investigated the enablers and barriers for the adoption of novel modes of distributed energy production among construction companies, designers, energy extension experts, authorities, energy system providers and individual households in Finland through thematic interviews (26 in 2015-2016) and observations of events organised for builders.

Our analysis focuses firstly on the current regime of energy production in single detached housing in Finland, at the moment dominated by heating pumps. Secondly, we discuss the identified barriers and drivers for renewable energy including failures in communication between different construction experts and shortage of comprehensive energy services. Finally, we present a development frame for the diffusion of distributed energy production in housing, focusing on designers. This plan is based on our finding that intermediary actors and intermediary expertise enable the translation of the needs and competences of consumers. Hence, better integration of key actors of construction process including especially designers and energy service providers are needed to diffuse novel energy solutions.

TRACK 5: URBANIZATION

5.1. Beyond romanticism – is there hope of change by urban DIY activism? Room A07

Convenors:

Elina Alatalo, University of Tampere, elina.alatalo(at)uta.fi

Jenni Kuoppa, University of Tampere, jenni.kuoppa(at)uta.fi

Tuesday 6 June, 14:00 - 15:30

Introduction by working group convenors: Beyond romanticism – is there hope of change by urban DIY activism?

Alatalo, Elina & Kuoppa, Jenni

Design support - how design activist groups can support personal reorientation towards a less materialistic lifestyle

Hector, Philip

Change in existing practices is regarded as imperative for sustainable consumption. However, such changes are difficult to make, take time and may require deliberate interventions ranging from information campaigns to subtle behavior nudging. Recently, design interventions have been added as potential tools to support changes in practices.

Building on this, the focus of this research is to explore whether re-framing sustainability related practices as learning design skills can recruit new practitioners and subsequently keep them committed. More specifically, this article examines how a community of design activists can support individual reorientation towards a less consumption based lifestyle.

The work is based on research on sustainable lifestyles which indicates that personal well being, decreased environmental impact and intrinsic motivation go hand in hand (Jackson 2011). Therefore, this work seeks to further explore the notion of “Design Support”, which can be described as a hybrid between classic “Self-help Groups” and “Design Activists” involved in teaching craft and design skills (Hector

2016). Self-help groups have been established to break old and establish new habits through regular group meetings and thus hold a strong capacity for personal reorientation. Design activists group on the other hand manage to make alternative practices visible to a wider audience due to the public nature of their interventions. However, while conventional self help groups apply mainly discourse, the notion of design support might help to capture the material aspects of self-help groups.

To further define the term design support and examine its efficacy for sustainability efforts, this paper reports on the study of 6 existing cases in Europe. The research is conducted as a qualitative study and the data is gathered via personal observation during field work as well as short questionnaires and a case study analysis.

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The practice and possibility of climate activism in the city: reflections from Hong Kong and Singapore

Fuller, Sara

Urban climate activism emerges in multiple spaces, with individuals and groups pursuing strategies ranging from traditional organised activities to more diverse and spontaneous forms of 'everyday' activism. Theoretical perspectives on climate action often seek to understand how mobilisation occurs within complex, multi-level governance systems as well as exploring spaces and scales of climate action. From this perspective, grassroots or 'everyday' climate action is often positioned as more limited than mainstream civil society in its capacity to effect change. However, such activism is nonetheless significant, not only because it highlights the spaces beyond collective arenas where action on climate change may take place but also because it draws attention to the everyday practice of climate activism. This paper draws on empirical research in Hong Kong and Singapore – cities which offer unique political and institutional environments for mobilisation around climate change. The paper reflects on the inherent contradictions associated with climate activism in these cities, particularly the intersections between mainstream organised action and more diverse and everyday forms of activism. In conclusion, the paper argues that the power of everyday action and activism should not be overlooked. However such explorations should be framed by a more nuanced understanding of how space and place come to matter in not only enabling urban climate activism but also in capturing dynamics of care and responsibility in the city.

Tuesday 6 June, 16:00 - 17:30

Do-it-yourself, do-it-together or do-it-the-way-we-tell-you-to?

Willman, Krista

In Finland, novel forms of urban gardening started to emerge as a part of a larger DIY activism movement in the beginning of the 2010s. New gardening activism took its first steps without official agreements with land owners, as guerilla gardening – just like in New York City and many European cities a decade or two earlier. By DIY gardening citizens are realizing their ability to grow their own food and, at the same time, sustaining a positive protest of shaping the public space.

This paper discusses the new (possible) forms of cooperation and dialogue between city gardeners and city officers in Tampere, Finland. Currently, hybrid forms of urban gardening – combining features from bottom-up and top-down oriented gardening – are emerging. Gardeners seem to be interested in cooperating with city authorities in gardening matters. The question is whether the city as an organization is ready to enter this dialogue (Finn 2014). Is the relationship between the two actors equal enough for inventive and cooperative forms of urban gardening to emerge (Ioannou et al. 2016)?

The city officers look kindly on urban gardening in general, but some things do arouse concern when thinking about possible trajectories of gardening realized by citizens. A fear of citizens starting to claim the property and a fear of gardening site appearing too untidy are the two main concerns for the city. For gardening action to be established and integrated in regular land use practices would require the city to recognize and acknowledge the social and other benefits of urban gardening. It requires courage from a city to throw itself into a dialogue with citizens, and to assume an active role in enabling urban gardening initiatives based on citizen activism.

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Mooi, Mooier, Middelland: where top-down and bottom up meet in cocreation

Hoogland, Carolien

The current paper addresses processes of resistance and transformative change, using nested cases. The “Zorgvrijstaat” and “Thuis in West” are bottom-up initiated “urban commons of local care” in the neighbourhood Rotterdam-Middelland. They joined the co-creation process “Mooi, Mooier, Middelland” (MMM). The outcome of MMM is extraordinary: a top-down decision process, initially hijacked by a select group of citizens was redirected by free agents within the municipal government to a process endorsed by many people and organizations throughout the neighborhood.

MMM is an illustration of principles used in Transition Management. However, the personal attitudes needed to put these principles into practice, are often neglected. The “management” jargon is therefore compared to ground-rules from other, more creative or spiritual domains that do formulate guidelines for the individual. Arguing as such, principles for change that prove effective on the level of the individual may inspire principles at the systemic level. Examples of the principles are:

“Use the energy and direction of your opponent”

“Accept what is already there”

“Be present, sensing all that is around you, not just what is in your focus”

These principles may sound familiar if you ever practiced judo, meditation, mindfulness, tango or InterPlay. They all deal with resistance in a counter-rational way. This may be the resistance of an opponent or partner, but also one's own resistance to certain emotions or situations. The principles can foster a breakdown in seemingly fixed patterns and allow emergence of new patterns.

5.4. The smart city: panacea or poison for sustainable urban future? Room A07

Convenor:

Jenni Partanen, Tampere University of Technology, jenni.partanen@tut.fi

Wednesday 7 June, 11:00 -12:30

Experiential smart city: challenging the technology-led paradigm

Karppi, Ilari

Evolution of smart cities, amalgamation of big data and intelligent instruments to utilise it, holds a major promise for sustainable urbanity, including governance that striving for sustainability requires. As a planning goal, smart growth has been most explicitly formulated within the new urbanism movement. Yet,

until now the potentials for creating smartly sustainable cities have been used in a highly limited fashion that does not fit easily with other new urbanism sustainable urban planning prescriptions.

“Smart” aspects of the urban become most visible as analysed through the abundant data on traffic, energy and related flows, ones that fire whenever the traffic signals change or a smart electricity meter records a new reading. Thus, traffic in general and ideas such as Mobility as a Service (MaaS) in particular have become prominent drivers of smart city development. Charismatic technology platforms (automobiles), spatial data management instruments (positioning systems, locational data), and everyday technology (navigators, smartphones, ...) all merge into an array of artefacts that easily match with a public imagination of what smart urbanity should entail.

Events that feed smart sensors occur innumerable times each second in a city or locality of any size. This paper delves into the fact that despite its reliance on the cutting-edge technological performance, the scope of the prevailing smart city perfection misses most if not all of the experiential aspects and, hence, a great deal of the human dimension of a smart city. It also give scarce evidence for working on ideas needed in the production of better and more human-scale environments. From this it follows that the leading tools for making smart cities real are inadequate for reaching some of the key sustainability goals, those of a liveable (urban) environments and cityscapes.

Beyond the buzz: Bottlenecks and pain points of experimenting (case Kalasatama)

Korhonen, Katri

Cities have become spaces of hope when looking for new trajectories to tackle the pressing issues of our times. The emerging urban laboratories as arenas for open innovation provide not just a new mode of governance but also real-life environments for trying out local scale solutions by experimentation. Creating and experimenting agile solutions and services that are tested on a local level and can be later upscaled and/or replicated, are at the core of the living lab environment in Kalasatama, the smart district of Helsinki.

Yet, despite of its hip and cool image experimenting is not a miracle worker. The case-study is based on a master's thesis focusing on the challenges and development areas of experiments made in Kalasatama. The data consists of 17 themed interviews of actors working in Kalasatama living lab, which are analyzed by the means of content analysis. The aim of the analysis is to find the bottlenecks and pain points of working in a living lab environment and experimenting. The paper examines whether expectations and results of the living lab actors meet and if experimentation as a way of working is successful in developing a smart district.

The paper first investigates challenges and development areas that are specific to each role in the living lab environment: developers, users, enablers, utilizers and coordinators. The main focus, however, is on the challenges that are shared by all (or most) actors, which reflect fundamental pain points in urban living labs. The identification of these challenges enables the urban living labs community to tackle key issues. The findings contribute to the emerging discussion on the politics of urban experimentation.

Wednesday 7 June, 14:00 - 15:30

Limitations and potentials of smart metering – role of residents in making use of smart meter feedback

Mela, Hanna & Kirsi Mäkinen, Juha Peltomaa, Mikael Hildén

Demand management is increasingly seen as a solution to decrease overall consumption of energy and water and to deal with peak loads. Rapid development of smart metering technologies has made it possible to monitor consumption at household-level in more detail and provide residents with more accurate and even real-time feedback. Collecting and utilising this kind of data is in the heart of smart cities, enabling various digital services to residents. There is widespread confidence that smart meter feedback will help to reduce overall energy and water consumption. However, the relationship between

feedback from meters and behaviour change is not straightforward. Better understanding of how residents process information provided by meters is needed.

Energy and water consumption is embedded in everyday practices. Smart metering has been criticized for ignoring the role of practices and targeting instead individuals as rational agents (Strengers 2013). Using this critique as a theoretical base, we discuss the potential and limitations of smart metering in affecting consumption. Based on a literature review and survey responses we analyse the limitations of smart metering that arise from the interaction between residents and smart meter feedback and look into how smart metering could be made more effective and engaging. We also reflect on whether smart metering could support a transition towards energy citizenship, where residents would be not just consumers but co-managers of resources.

Automating cleanliness in smart homes: promising health and promoting consumption

Nicholls, Larissa & Yolande Strengers

Digitalization, connectivity and automation are expected to transform urban life. The 'digital revolution' of household life is underway with technologies such as smart meters and smartphones now commonplace in many parts of the world. Various other technologies are emerging and being adopted in pursuit of the 'smart home'. Current discourses include assumptions and explicit claims that smart homes will be energy efficient and ecologically sustainable. However, smart homes are also presented as affording lifestyle enhancements in the areas of comfort, convenience and cleanliness. This paper aims to demonstrate how visions of cleanliness and order in the smart home appeal to ideas of household health while potentially increasing the ecological impacts of homes. We draw on a content analysis of smart home marketing and articles published since the year 2000 to illustrate how cleanliness is integral to visions of the smart home. We focus on robotic vacuum cleaners as one of the more widely used smart home appliances and include findings from in-home interviews with households in Australia who use these appliances. We find that expectations of cleanliness and order embedded in smart home devices such as the robotic vacuum cleaner are likely to transform domestic practices in households. The paper concludes with a discussion of the environmental implications of 'hyper-hygiene' in the smart home and emerging evidence that its pursuit is likely to be fruitless and possibly counter-productive for household health aims.

TRACK 6: ENVIRONMENT AND WORK

6.1. The contribution of social work and social policy to ecosocial transition towards sustainable future, Room A07

Convenors:

Aila-Leena Matthies, aila-leena.matthies(at)chydenius.fi

Kati Närhi, kati.narhi(at)jyu.fi

Satu Ranta-Tyrkkö, Satu.Ranta-Tyrkko(at)uta.fi

Wednesday 7 June, 15:45 - 17:17

Where ecological, economic and social sustainability transition match together – Ecosocial innovations growing with young people in precariousness

Matthies, Aila-Leena & Tuuli Hirvilampi, Ingo Stamm, Kati Närhi

One of the biggest challenges for achieving sustainability in our societies is the complex interconnectivity between its ecological, economic and social factors (Brandt et al. 2013). From the point of view of Social

Work and Social Policy, the precariousness of the young generation is a central challenge that needs to be regarded critically in the context of economic inequality and the limited ecological resources. Our research suggests that the collective solutions created by and with young people themselves are worth investigation as potential sustainable models. In a 4-year research project funded by the Academy of Finland, we searched for these kind of 'ecosocial innovations' i.e. organisations, groups and projects. Before selecting case studies, we first performed a quite comprehensive mapping to see what kind of ecosocial innovations exist in selected regions in Finland, Germany, Italy, Belgium and the UK. We have collected information about ecosocial innovations by the snowball method via the internet, different media and relevant networks, visited several of them and conducted preliminary interviews with founders and coordinators. In our hypothetical definition for identifying them we underlined the co-existence of the ecological, economic and social steps of sustainability transition. For instance, we presumed that they enhance reduced use of natural and material resources, belong to a circular, solidarity or exchange economy and enable a more just contributive participation of young people. Focusing on this core characteristic, we analysed the text documents, field notes and interview data by thematic content analysis and category-analysis. We will present our findings that are a result of the in-depth analysis of the mapping phase of ecosocial innovations. Although limited to an overview of ecosocial innovations in selected regions, there emerges a picture of European landscapes which offers concrete and hopeful potential for transition pathways from the bottom-up.

A social work perspective to the neoliberal mining boom and the possibility of an ecosocial response in Finland

Ranta-Tyrkkö, Satu

The resources question, i.e. how to solve the resource dependence of the human kind in a sustainable manner, is fundamental to the acutely needed ecosocial sustainability transition of societies. This paper looks at the mineral resources and the mining industry in Finland, where the industry has re-emerged since the turn of the millennium (after having been run down as unprofitable during 1980s), now in the context of the neoliberal state. In Northern and Eastern Finland altogether four new metal mines were opened in 2000s, and there are plans for a few more. The paper discusses this new phase and its ramifications from a social work angle asking whether and what kind of consequences has the re-emergence of the mining industry had when perceived through existing social work practices as well as through existing and emerging social work needs. Of special interest is the role of social work and/or the scopes of ecosocial practice both in traditional settings, such as in municipal welfare offices, and beyond, such as in other sectors of municipal and regional administration or among NGO or activist circles. The paper draws from thematically analysed interviews and participant observation conducted in one mining region in Northern Finland, as well as textual material such as policy papers, mining industry websites and research and media texts discussing mining, its regulatory contexts, different stakeholder interests, and the social and environmental impacts of mining. The paper is part of the author's postdoctoral research project *The Consequences of the Mining Industry for Disadvantaged Groups in Northern Finland and in Northern Odisha* (Academy of Finland 2014-2017).

Climate Change Skepticism in the Age of Trump

Scattergood, Wendy

Much of the climate skepticism research literature has focused on understanding the paradox between increased scientific knowledge about climate change and the contemporaneous increase in skepticism in public opinion about it. Studying this paradox has become even more relevant after the election of Donald Trump to the US Presidency given his skepticism about climate change and his nominations of climate skeptics in key cabinet positions such as the EPA and the Department of Energy. Studying climate change skepticism in the state of Wisconsin is particularly pertinent as at least two state agencies have scrubbed information about climate change from their websites in the last year (The Department of Natural Resources and the Public Service Commission) and the state was one of the few key states

securing a Trump victory in the recent election, despite having voted reliably Democratic the last couple of decades. This research will use Spring 2017 Wisconsin Survey, national datasets (GSS, ANES, and University of Michigan climate survey) and focus group interviews in Green Bay, Wisconsin (ala Hoschschild's 2016 Louisiana findings) to track changes in climate change skepticism from previous years, reasons for beliefs about climate change, and policy solutions acceptability. These questions will be situated within a broader examination of fears about economic growth and income inequality. Furthering our understanding of public skepticism about climate change within this greater context is essential to the development of strategies for policy adoption. This research will combine but also compare national, state and local viewpoints, the latter being particularly relevant given that in the current US political climate, new climate change policies will most likely need to be local. Much of the research in this area is being conducted in Oceania and Europe, so feedback from researchers from these regions would be extremely helpful.

Sustainable futures by combining “ecological” and “social” in knowledge production?

Saikkonen, Paula

Societies interfere constantly in the circulations of nature, they use raw material and produce waste. Human life itself produces harm to environment yet nature has not a static state, it is always dynamic. The future of the welfare or wellbeing requires that humans don't cause irreversible damage to nature yet avoiding risks should not cause too much harm for the society or its functions either. The environment is too often handled as its own branch in the decision-making instead of seeing as one necessary factor of welfare. For instance, juxtaposition between jobs and environmental protection can be easily done. Co-production of knowledge should be realized in a way that relation between wellbeing and nature is taking into account.

The paper will scrutinize a local environmental problem (polluted soil) and the decision-making practices relating it. The paper starts with the circulations of nature and societies in order to remind the necessity of nature for wellbeing. It clarifies that environmental problems may danger the feeling of security. Then paper weighs opportunities to make betterments in the decision-making processes. The basic argument is that transparent knowledge production about environmental problems legitimate environmental protection yet if the citizens are unable to see the relevance, the other matters like promises about financial benefits or increase of jobs can be more important. Local democracy presumes citizens who are actively involved in decision-making. However, participation is possible only if citizens have enough resources different kind. From this point of view, the combination of ecological and social factors in knowledge production is necessity for sustainable futures. It is an aim that should be achievable in the Nordic countries.

6.2. Working nature: the future of greening work, Room A07

Convenors:

Eeva Houtbeckers, Aalto University, eeva.houtbeckers@aalto.fi

Lauri Lahikainen, University of Tampere, lauri.lahikainen@uta.fi

Tiina Taipale, Aalto University, tiina.taipale@aalto.fi

Thursday 8 June, 9:15 - 10:45

The meaning of work? - Reflections on environmental concerns and work

Taipale, Tiina

In my PhD research I am interested in the ways environmental awareness shows in work related decisions and at everyday work. In order to understand decisions concerning work, I address the ways

environmentally conscious people give meaning to work. This paper is based on twenty interviews with self-declared environmentally aware Finns. I adopt a social constructivist perspective to study how these individuals in the interviews construct the meaning of work. My findings indicate that work gets a meaning at various levels, in relation to oneself, in relation to the community one lives in, and in relation to the society. At all of these levels work can gain its' meaning as an end (as work itself contributing to wellbeing of either oneself or others) or as means of income needed (for oneself or to sustain a community or society).

Environmental concerns are intertwined with the meaning of work. Deep concerns over the sustainability of contemporary societies calls into question also the meaning of work at all of the levels. For the deeply concerned, the meaning of work is evaluated in relation to the limits of the planet to sustain life. Thus work is evaluated from a globe-level perspective. For others work is mostly evaluated from the national perspective, as means to create wellbeing and tax revenues. Thus work gets its meaning within the national perspective and in relation to the nation state. These different perspectives frame the nature of "proper work" or "good work" differently at all levels. Thus it seems to be essential to unpack these meanings in order better understand contemporary discussions concerning work in general, as well as attempts to "green work".

Rethinking Jobs and the Environment: The Case of the Finnish Trade Unions

Toivanen, Tero & Lauri Lahikainen

Environmental crises such as climate change are often identified as a problems for intergovernmental bodies, national governments or, finally, individual citizens. However, as collectives with social power, trade unions represent another kind of potential for approaching these problems. Unions work and bargain in and occupy sites of production where, for example, a significant amount of global greenhouse gases can be traced. Especially the threat of climate change presents a need to conceptualise the relations between work and environment in new ways. In Finnish society and labour politics, trade unions still possess significant power and influence. They affect how Finnish society will be transformed during next few decades. However, compared to significant advances in trade union environmentalism in countries like Norway, Canada or Great Britain, the official line of environmental policies of Finnish trade unions remains rather conservative.

In our paper, we both present a case study on the state of trade union environmentalism in Finland, and from that empirical material, we tease out new concepts for rethinking work and the environment. We begin by reviewing critically the existing literature on trade union environmentalism in political science and political economy as well as the official policy statements of Central Organisation of Finnish Trade Unions on climate change and environmentalism. We find that both in existing research literature and in trade union policy papers, the opinions and actions of the grass root level trade union members are almost absent. We fill this gap by analysing interviews done with Finnish shop stewards and the ethnography gathered in trade union education. We show that the lived experience of the unionised workers can provide new ways of understanding how the relations of work and the environment are produced and reproduced and where there might be potential for change.

Framing the Energy Transition in Anthropocene Germany

Strange, Sigrun

My thesis is that in accordance with the sociopolitical shift from the Holocene into the Anthropocene, a new relationship between nature, technology and human labour is emerging.

I use the transition framework to interpret how a new emerging relationship between energy used for human work and energy sources used for technology to work is evolving within the Anthropocene. By illuminating how the German energy transition named the 'Energiewende', is expressed in emergent ecotechnology the new conceptualisation of human work in the Anthropocene is discernible. There are

three main structures surrounding the use and specifications of what energy means. They are the technological, political and economic structure. The first structure covers energy generation, transmission and its' consumption. The political structure refers to policies, politics and public discourse, and institutions. The third structure covers economic actors and their intertwined networks. The framing of energy regimes and work regimes can be viewed as interlinked with the emerging energy change and the 'start-up revolution'. This is conceptualized in framing green energy as a transformation of the current energy market. The same terminology is used to frame new emerging start-ups as sustainable and ethical businesses set on changing the way business is done within the status quo. The revolution lies in the notion that the ethical considerations and aim of new businesses are fundamentally different from the 'old way' of conducting successful businesses ventures. The technological, the political and the economic structure are framing the two interrelated regimes of work market and energy market change in a direct correlation. Putting my thesis in another way, as the awareness of the Anthropocene is emerging, so is a new discourse surrounding the role of energy and what signifies successful business practices.

Social entrepreneurship for post-growth societies in the global North: An ethnographic participatory study of self-employment practices for ecologically and socially just world

Houtbeckers, Eeva

Previous research has showed how contemporary societies in the Global North and Global South face various ecological and social injustices. Some suggest that the seeds for current problems lie in the dominant paradigm of continuous economic growth and shareholders' excessive desire to maximise profits. This study focuses on the activities and social movements for an ecologically and socially just world. Such practices related to post-growth societies already take place, for example in the use of community currencies and peer-to-peer production. Yet, previous research is scarce on the notion of entrepreneurship in post-growth societies. This study focuses on exploring activities related to gaining a livelihood when aiming for an ecologically and socially just world. In the wake of changes in contemporary working life, such practices are attached to self-employment (entrepreneurship) and at times to 'social entrepreneurship'. This multi-sited ethnographic study aims to understand the paradoxes related to self-employment for and in post-growth societies. The contributions of this study relate to rethinking the notion of entrepreneurship and raising awareness of alternative forms of economic activities in the Global North.

Since I will start my fieldwork in January 2017, in my June 2017 presentation I would like to focus on the methodological choices and presumptions for my four-year study and how they have worked out by the time of the presentation. I will discuss the possibilities of George E. Marcus' multi-sited ethnography and Dorothy Smith's institutional ethnography. They allow me to look for differences and similarities while following self-employment in and for post-growth in Finland, phenomenon not attached to only one type of organising, such as cooperatives. In addition, I will explore how the approaches relate to my plans to co-produce videos with the participants and publish them under the Creative Commons licence.

TRACK 7: ENVIRONMENTAL CONFLICTS

7.1. Interventions in prolonged environmental conflicts, Room A08

Convenors:

Lasse Peltonen, University of Eastern Finland, lasse.peltonen(at)uef.fi

Taru Peltola, Finnish Environment Institute, taru.peltola(at)ymparisto.fi

Nina Nygren, University of Tampere, nina.nygren(at)uta.fi

Outi Ratamäki, University of Eastern Finland, outi.ratamaki(at)uef.fi

Tuesday 6 June, 11:30 - 13:00

Flying squirrels in negotiation, experiments and art

Nygren, Nina V.

Strictly protected flying squirrels have messed up land use planning in Finland since early 2000. Recently there have been certain promising projects that attempt to reconcile humans and flying squirrels. These projects have taken place locally, for example in Espoo, and Tampere region, as well as nationally (an EU LIFE -project proposal).

After my PhD research in collaborative flying squirrel conservation and management in Tampere region, completed in 2013, I have been interested more in concrete and experimental projects and have participated different projects in different roles.

In my paper and presentation I will discuss an ongoing, not-yet-published collaborative project-in-the-making in the city of Tampere where participation, experimentation, conservation and art should mix to the benefit of flying squirrels, local residents and city planning. This project will hopefully have a long time-span and there is room for new ideas.

Collaborative governance in the face of conflict - intervention in the river Iijoki visioning process

Peltonen, Lasse

The paper builds on reflections from the Iijoki river visioning process, a strategic planning initiative convened by the Regional Council of Northern Ostrobothnia (Pohjois-Pohjanmaan liitto) in Northern Finland, which started in 2015 and is ongoing until 2018. The Iijoki visioning process focuses especially on the restoration of migratory fish in a regulated river system, in the context of a historical conflict between hydropower development and fisheries. The conflict at Iijoki dates back to the post-war years and the construction of hydropower dams in river systems in Northern Finland, and it is one of the reasons of impasse accounting

Drawing on the author's practical experiences of process design and facilitation from within the visioning process, the paper seeks to understand the intervention as an experiment in collaborative governance, defined as "the processes and structures of public policy decision making and management that engage people constructively across the boundaries of public agencies, levels of government, and/or the public, private and civic spheres in order to carry out a public purpose that could not otherwise be accomplished" (Emerson, Nabatchi, & Balogh, 2012).

This definition implies that non-state participants such as citizens and interest groups are not merely consulted by public agencies but their role is redefined as active partners in co-creation of a public purpose. It also implies a degree of interdependence between actors where no single actor has the knowledge, instruments, resources or authority to tackle complex societal problems unilaterally. Both of these factors are critical for both collaboration and conflict resolution, and thus critical for a successful intervention in long-term conflict. The question is how do they play out in the Iijoki case and the Finnish context? Is collaborative governance an applicable framework for resolving conflict and related impasse in Finnish natural resource governance?

Tuesday 6 June, 14:00 - 15:30

The conflict between environmental and economic interests in decision making

Ågren, Åsa

Behind some of the most long lasting environmental conflicts there is a conflict between economic and environmental interests. In my opinion several of the topics of the "Prolonged conflicts"-project include

monetary values. To understand the long standing nature and intervene in environmental conflicts there is a need to get knowledge about the relation between economy and environment.

Environmental courts are important actors in environmental conflicts. In Sweden like many other countries the courts are obliged by law to balance between economy and environmental interests. The Swedish land- and environmental courts give permissions to hazardous activities and in this process the courts have to take measures to limit the cost of the environmental protection.

As a former employee at one of the Swedish environmental courts I find this balance act especially interesting, both from a practical and a theoretical approach. There are limited guidance papers or principles that the judges can use in their decision-making process. In my experience even the judges have difficulties in explaining this process.

How can we get more knowledge about this trade-off? In legal theory the concept of rationality can work as an explanatory model. The judges have to rely on their rationality when they have nothing else to rely on. Normally we are speaking about rationality as something instrumental but there are many researchers who mean that the concept of rationality includes norms, power, interests, and so on. In the balance act between environmental and economic interests there is an interaction between ecological, economical and judicial norms and rationalities. Can a misused concept of rationality make parts of the judgement procedure inaccessible and what will this imply? To conclude, in order to intervene more effectively we need more knowledge about the decision-making process.

Co-production of knowledge for natural resource management: whose knowledge and whose legitimacy?

Haaland, Hanne & Jørn Cruickshank, Hans Kjetil Lysegård og Mikaela Vasstrøm

During the past decades, there has been a shift in management regime of natural resources in Norway, based on the idea of providing more responsibility to local municipalities, land owners and organisations. The shift can in many ways be described as a democratization of environmental management; a shift from a top-down, science based approach to natural resource management towards an idea of an adaptive management where experience based knowledge is increasingly acknowledged. There are several reasons driving this shift; one is of course that it is considered important to include the parties affected by a management regime in the development of the same regime. Another equally important factor is the need to resolve conflicts which frequently emerge in natural resource management (Skogen and Haaland 2001). Ideally, the participation and influence of affected groups is assumed to reduce the level of conflicts. Based on a case study from Lista (southern Norway), a landscape with a high density of protected natural and cultural values and a long history of management conflicts, we find that discussions of co-production of knowledge and adaptive management processes are mainly defined and driven by the management authorities, but supported by a group of landowners and farmers increasingly adapting to a management discourse and vocabulary. The "new alliance" between public management and local farmers has seemingly reduced some of the conflict in the resource management in Lista, but through our case study we discuss how new user groups with strong attachments to the landscape cause new conflicts and challenge dominant assumptions about what knowledge(s) and interests to include in current management regimes

The hidden costs of participation: Urbergsgruppen as an example of Swedish anti-mining activism

Kaijser, Anna & Björn Wallsten

Historically, the importance of Sweden's mining sector for the country's industry, exports and diplomacy can not be underrated, and this sector has been researched from a variety of disciplines and angles. Less well known and academically understudied until the recent decade, are the high-pitched concerns and

persistent resistance at several (future) exploration sites. These have all surged since the Swedish mining boom starting in the early 2000's.

As a conflict around a proposed limestone quarry escalated in 2012, environmental activists initiated the national anti-mining network, 'Urberggruppen'. This network was created with the ambition to gather and share knowledge and support among different local protest groups. It was also formed in response to a particular requirement in Swedish legislation, giving NGOs the right to appeal against court decisions on the conditions that they have a minimum of 100 members and have existed for at least three years. Urberggruppen is a loosely knitted network with several local branches. Members perform a variety of strategies, from participation in legal processes to protests and direct action.

This study draws on deep interviews with former and current members and affiliates of Urberggruppen, along with document studies of the network's activities. We explore the network's highly flexible organisation and working methods, and how it is continuously adjusted according to the settings in which they operate. We also look into how knowledge is accumulated and shared within and between different sites of resistance.

Swedish legislation allows NGOs to take part in decision-making around mining projects. However, NGOs generally have very limited resources. Participation tends to depend on a few activists' unpaid work in acquiring knowledge and dedicating time. Thus, in the name of democracy, decision-making processes imply costs of participation that are borne by the NGOs and generally not recognised.

7.2. Gender and power in natural resource and wildlife management, Room A08

Convenor:

Minna Santaoja, University of Tampere, Finland, minna.santaoja(at)uta.fi

Wednesday 7 June, 11:00 - 12:30

Gender justice and climate change: discussing the case of China

Moriggi, Angela

In recent years, a renewed attention to the "human face" of climate change has brought awareness over the specific climate-induced struggles experienced by women, particularly in underdeveloped rural areas. It is now an established fact that conditions of gender inequality cause greater vulnerability for women as a result of climate change impacts.

Lack of natural resources' access and management is one of the main contributing factors to gender vulnerability to climate change across the world.

This research work explores in particular the case of China - not only the world's largest contributor to greenhouse gas emissions, but also one of the countries most vulnerable to climate change globally. Against this background, social vulnerability to climate change is still poorly understood across the country. In particular, gender-sensitive perspectives are almost absent from the climate change debate. At scientific level, very limited attempts have been made to investigate the relevance of gender differentials to adaptation and mitigation efforts. This lack of awareness and action is inextricably linked to issues of power and justice, affecting women in China today.

This research work contributes to this field of study in two valuable ways: firstly, it provides an analysis of the structural conditions of gender inequality affecting the country today, highlighting their close link to social vulnerability to climate change; secondly, it discusses potential and limits for further development vis-à-vis China' specific socio-cultural and political peculiarities, contributing to a problematic

understanding of the nexus between gender and environmental governance (including natural resource management).

The findings draw from an extensive literary review and from results of fieldwork research carried out in Beijing between June and December 2014.

Why the whiteness in Swedish outdoor recreation? : a discourse analysis of gender and ethnicity in Swedish environmental policy and practice

Ågren, Ida Maria

As of 2009, Swedish Outdoor Recreation is guided by public policy, pleading for everyone's equal value and right to experience and be outdoors, regardless of gender, age or colour (2009/10:238). Given Swedish Outdoor Recreation history of being founded upon the perspectives of a white, male middle class (Sandell, 2009), this opens up for the questions of how the goals of equality are achieved and what ideas about nature, gender and ethnicity are actually being reproduced.

The objective of this study is divided into three parts. First, a literature study of Swedish Outdoor Recreation is conducted to understand the context of study and its particular historical representation of gender and ethnicity. Second, the thesis examines public policy document Future Outdoor Recreation (Governmental bill 2009/10:238) to see how different ideas about gender and ethnicity are described in relation to nature and reflects upon its relation to the history of Outdoor Recreation. Third, the study presents a case study consisting of an analysis of how gender and ethnicity are framed in the practices of the environmental non-governmental organisation Swedish Society for Nature Conservation (SSNC).

The results show that in the policy document Future Outdoor Recreation, white, male persons were found to be more positively framed in relation to nature than females and immigrants. Being female, "immigrant" or/and "non-Nordic" was either less represented in text or images or specifically described as something negative, in terms of a need of education and training to be out in nature. Similar presentations of gender and ethnicity were also found in the case study of SSNC along with observed perceptions of difficulties for women and immigrants to feel welcome in the organisation. The study suggests that to reach the goals of equality in Swedish Outdoor Recreation, the negative stereotypes about immigrants and women in outdoor recreation need to be actively challenged by both public policy makers as well as SSNC, perhaps also through addressing the idea of nature and culture as separated.

7.3. Challenges of conservation: collaboration, conflict, knowledge, and equity, Room A08

Convenors:

Chance Finegan, York University, Toronto, finegan(at)yorku.ca

Elsa Reimerson, Umeå University, Sweden, elsa.reimerson(at)umu.se

Wednesday 7 June, 14:00 - 15:30

Co-Management for Fish Conservation in Rural Philippines: An Effective Enough Arrangement in Managing the Marine Commons?

Valones, Roderick

Using a case in rural Philippines, this study examines the effectiveness of the organisations of the State, the private sector, and the community in regenerating fishery resources, conserving marine habitat, and deterring illegal fishers. It also investigates the role of institutions in the functioning of participating

organisations and the way they influence the cooperation and complementation between and among organisations on the management of common pool resources within marine protected areas. Furthermore, it examines the effects of cooperation and complementation of the different organisational arrangements on fishery resource conservation. The lessons from the case study provide an understanding on the effective arrangements in managing the commons in marine ecosystems.

Of Bison and Men - Institutional analysis of controversies concerning European bison conservation in Poland

Niedziałkowski, Krzysztof

Poland hosts World's biggest population of the European bison – the largest herbivore of Europe. The species, extinct in the wild in the early 20th century and successfully restored from a few captive individuals, is now strictly protected by national and EU legislation. In recent years a few large European bison conservation projects have been implemented in Poland, financed predominantly with the EU funds, which contributed to the doubling of the free-ranging population between 2001 and 2015. This conservation success, however, has been accompanied by a heated discussion concerning European bison management, widely reported by Polish and international media as a “conservation battle”. By means of discursive-institutional approach, the paper investigates the socio-political aspects of the European bison conservation and maps key factors influencing the way the species has been managed in the last 60 years. It also identifies political and institutional background to the current conflict. The data was collected through desk research as well as by means of 22 semi-structured interviews with key people involved in bison management in Poland. It is argued that bison conservation has been developing along a path instigated during re-introduction of the species and led by an epistemic community of specialists in veterinary and animal science. Recently, it has been challenged by a coalition of specialists in animal ecology and animal welfare activists who construe bison differently and oppose its culling. These two coalitions try to reinterpret legislation and informal rules regulating bison management and have an impact on conservation activities. Political transformations provided windows of opportunity for their actions. It is suggested that rather than choosing one of the competing options the sustainable bison conservation strategy should include a mixed approach allowing for both approaches to be applied in different sites.

Wednesday 7 June, 15:45 - 17:15

Indigenous Peoples' agency in the REDD+ implementation: Peru's case study

Lozano, Liliana

As argued by a number of scientists, there is increasing empirical evidence that the world's climate is changing and that these changes in the climate ‘pose risks for human and natural systems’ (IPCC, 2014). At least 17% of global greenhouse emissions (GHE) that contribute to climate change comes from deforestation (Hiraldo & Tanner, 2011; Lyster, 2011). In this context, forest conservation in forest-rich developing countries represents an important way to mitigate climate change. The global environmental community, organized in the United Nations Framework Convention on Climate or the Convention (UNFCCC), has promoted the establishment of a new market mechanism, Reducing Emissions from Deforestation and Degradation (REDD+) in order to control the growing rates of deforestation and degradation in the tropical forest and their impacts on the climate. At global level, the design of the REDD+ mechanism has been finalized in 2015 and now countries are urged to implement the agreements. Nationally, several developing countries have already finished the readiness phase while some of them are moving forward into the implementation phase. Within the REDD+ framework, the call for agency of indigenous peoples and local communities has been considered of vast importance (IPCC, 2014; Marjo Lindroth & Sinevaara-Niskanen, 2014). The research aims to analyze if the process of design and implementation of the REDD+ mechanism has represented an opportunity to strengthen (sub)national forestry governance in Peru and how indigenous people have engaged into the REDD+

process. Results have showed that Amazonian indigenous peoples have become active actor in the REDD+ regime as a tactic to make progress in its political agenda -land rights and participation- as these elements have become critical and compulsory in the framing and implementation of REDD+ as well as to transform its indigenous organization into a more desired state of legitimacy and representation both locally and globally.

The Interpreter as Researcher: Ethical Heritage Interpretation in Indigenous Contexts

Finegan, Chance

This paper integrates Indigenous research methodology literature with heritage interpretation scholarship. By placing these two fields in conversation with one another, we can create space for a discussion about interpretation as a process of research and meaning-making (in addition to communication). The interpretation of Indigenous themes is a task fraught with difficulties; I argue that more attention must be paid to Indigenous research methodologies and to the problems of relying on Western, positivist research in order to better inform interpretation of Indigeneity. This paper concludes by offering some concrete suggestions for permanent staff to improve their interpretive practice and engagement with Indigenous peoples.

Farmer perceptions of 'results' and "good-farmer" in the context of a proposed payment-for-results agri-environment scheme

Birge, Traci & Irina Herzon

Agri-environment schemes (AES) are the most important policy instruments for conservation of biodiversity in the European Union, including in Finland. AES are mainly action-based, meaning payment is made for following specific farming practices, with the assumption that the management will result in desired outcome. Shortcomings of the current system are found in policy aims and monitoring, in implementation under varied site conditions, and in cultural sustainability. AES efficiency could be improved by becoming more results-oriented, improving targeting and tailoring of measures, articulating objectives more clearly, and creating clearer indicators for measuring success.

The payment-by-results (PBR) approach has been recommended as a way to overcome obstacles of the action-based approach. PBR refers to payment schemes that reward farmers or land managers for results achieved rather than actions undertaken and can be considered a type of payment for ecosystem services.

We developed a hypothetical PBR scheme (Birge et al. 2017) using nature management field (NMG) (luonnonhoitopelto), an existing measure, as an example. We interviewed 20 farmers with NMG in Uusimaa, Finland. Farmers were generally favourable toward the approach.

A particular theme of interest for development of the PBR approach that emerged from the interviews is farmer perceptions of what constitutes an "outcome", or result, of an AES. We hypothesise that the current practice in AES of paying for actions rather than outcome has obscured the nature conservation meaning behind measures like NMG. This may affect farmer understanding of the principle underpinning the PBR scheme and may have implications for successful introduction of PBR for achieving biodiversity targets.

In this paper, we examine farmer perceptions of 'result' in regard to NMG and the proposed PBR bonus scheme alternative, and explore the implications of those perceptions for developing PBR schemes for managing for nature values, particularly biodiversity.

7.4. Urban wildernesses: new paradigms of conservation, Room C6

Convenors:

Ari Jokinen, University of Tampere, ari.jokinen(at)uta.fi

Jere Nieminen, University of Tampere, jere.nieminen(at)uta.fi

Wednesday 7 June, 15:45 - 17:15

From conservation to generation: the inversion of temporality of conservation in urban context

Dos Santos, Antonio

This communication, based on a sociology thesis research, explores the implications and issues of nature conservation in an eco-neighborhood project located in the north of France, from the specific angle of its temporality. The "Union", an 80-hectare program on a polluted urban industrial wasteland, is part of a metropolitan policy for urban regeneration in Lille, and aim to be a "generating and diffusing space for biodiversity".

Generally, an ecological restoration device presupposes the definition of an initial state, undisturbed, and towards which it would be necessary to tend. The delimitation of this point of reference implies considerable problems, and not only from an ecological point of view. The possible designation of a space-time referent is also a social construct, and therefore an object of negotiations (Terrasson and Friedberg, 2002).

However, in the case of the Union's program, no reference is clearly identified and it is not necessarily a question of returning to an initial state. In a context where reintroduction occurs without a reference point, it is more relevant to talk about generation than conservation / preservation of nature. Research shows that, contrary to the dynamics of non-artificialized spaces, in which anthropic intervention determines the "degree of naturalness" granted to spaces according to a negative correlation, the reintroduction of nature in the city reverse this correlation. Nature is then perceived according to an anticipatory regime.

This approach represents a reversal of the usual temporality of conservation, which is useful for approaching the city as a new territory of biodiversity and as a space for the expression of alternatives conservation paradigms.

Devolving Power from the State: Local Initiatives for Nature Protection and Recreation

Eckerberg, Katarina & Therese Bjärstig, Matilda Miljand and Irina Mancheva

The quests for devolving more power for nature protection from national to local governments stem from policies at both international and national levels, in line with the UN Convention on Biological Diversity. Likewise, there is growing recognition of the need for local governments to strengthen green infrastructure for citizens for recreation and learning about their environment. In Sweden, starting in 2004, the government has allocated special funding towards this end, to be matched by local funding. In total, 261 of the 290 municipalities have received such funding towards new local projects. The projects should build upon broad local engagement in order to facilitate broad access to nature and promote recreational activities, including the protection of nature areas, creating pathways and nature information devices, and promoting new societal groups to enjoy these areas. This paper presents the results of ten years' experiences. Our recent survey with responses from 191 municipalities and 20 county administrations, and interviews with key informants, show that the program has been a success in several respects: not only have most municipalities created a wealth of new ways to engage local interests and citizens in nature protection and recreation areas but it has also broadened the ways in which local governments think about how nature is important to their constituencies. Due to innovative ways to count voluntary work as local matching of funding, smaller and less resourceful municipalities have also become engaged. Still, the local needs for further initiatives are deemed considerable. The state support is

important both to show policy priority to such bottom-up initiatives and as budget support for nature and recreation interests especially for smaller municipalities. Alike many other local initiatives, however, the importance of key individuals at local level who inspire and facilitate new project ideas to become materialized is crucial.

Functions and flexibility: companies and stakeholder networks operating in storm water design

Nieminen, Jere & Ari Jokinen, Johanna Kujala, Anna Heikkinen, Hanna Rekola

Urban ecosystem services provide an important entry point for practices seeking increased resilience and transitions toward urban sustainability. Active generation of ecosystem services is required in cities, and both biodiversity and a diversity of human activities are needed to increase the resilience of ecosystem services. However, it is not well understood what kind of roles different actors are able to take in this process.

The purpose of this paper is to examine how private companies operate in the creation of storm water systems in urban areas. The storm water system planning projects aim to increase climate resilience and flood protection, but they also generate many other ecosystem services. Our task is to analyze how the companies (1) operate through stakeholder networks; (2) how they deal with uncertainties, the emerging possibilities, and the feedbacks from the ecosystems; and (3) how ecosystem services take shape in the storm water system processes. We use three empirical cases of storm water management areas in Helsinki, Vantaa and Tampere. We focus on practices and use desk and field interviews with the companies' landscape planners and city officials.

Our preliminary findings show that the shifting relations between functions and flexibility are crucial in the storm water system processes. Functions refer to the primary goal of creating more space for flooding water in the urban landscape. Functions are based on quantified calculations and are attached to technical solutions of water purification, filtration and absorption. Flexibility refers to combinatorial elements through which the multiplicity of ecosystem services can be generated. We conclude that the reciprocal interaction between functions and flexibility can be used as an analytical lens to recognize different business-stakeholder-nature relationships that increase the diversity of human activities and are potentially useful in urban sustainability transitions.

Thursday 8 June, 9:15 - 10:45

Companies and urban ecology in Nordic cities: From social parks to generation of nature-based solutions

Jokinen, Ari & Johanna Kujala, Anna Heikkinen, Jere Nieminen

It is very usual to emphasise the cities as the primary sites of sustainability transformation, because they are engines of human interaction with high capacity for innovation. This thesis is shadowed by severe research gaps. One of them is related to urban green areas, which are often presented as sites that are almost outside of human influence. Although urban green areas have a long history, there is very little research on how business organisations participate in the development of ecological greening in cities. Addressing this challenge, this study examines the historical and current roles of companies in the co-creation of urban green environments in the Nordic context.

This study uses the perspective of co-evolution of technology, business, and culture, and examines how corporate related urban green environments have developed in the Nordic countries since the beginning of the industrial era. We utilize previous research and our recent studies in the examination, and use two Finnish cities, Helsinki and Tampere, as cases for a detailed analysis. The focus is on local adaptation of cities to global trends of urbanization. Particularly we analyse how adaptation results in systemic changes and creates new configurations for collaborative maintenance and management of urban green. We distinguish three historical phases in this development: (1) industrialisation and the social aspect of urban nature, (2) the development of green area network in modern city planning, and (3) the current situation,

in which co-generation of urban ecosystem services and nature-based solutions represent a new global trend again with Nordic solutions. Using these results, we discuss the business-stakeholder interaction in urban greening, the forms it has taken during different historical phases, and how urban systemic transitions have changed the roles of companies in this co-evolutionary development.

A fractal approach to sustainability transition of urban infrastructures

Rantanen, Annuska & Maarit Särkilahti, Ari Jokinen

Despite current political-economic debate on sustainability, which highlights topics such as resource efficiency, circular economy and decentralised production systems, in urban planning, tools and policies are lacking to put these prominent concepts into practice. We claim that one of the answers lies in the organisation of infrastructures. Infrastructure planning poses major, yet not fully uncovered potentials, which can help cities proceed toward sustainable transition. Infrastructures conduct human-natural resource flows and determine the degree of urban metabolism, and as such, lay the grounds for sustainability and resilience. Depending on their qualitative properties and production infrastructures either allow or hold back the emergence of more resource efficient, equally accessible practices and evolutionary behaviour. The resilient capacity of infrastructures to resist, sustain or enable systemic transition depends on their very persistence, the way they are organised, their configuration and governance.

We address the role and future organisation of infrastructures by claiming, first, that we would need to consider decentralised infrastructures, which are also integrated and multifunctional. Second, this would imply introducing practices of collaborative governance and integration of bottom-up and top-down policies. We explore these two sustainability ideas with an empirical case study of the Hiedanranta urban regeneration project in Tampere, Finland. We start by conceptualizing the relationship between fractal thinking and the need to develop decentralized, integrated and multifunctional infrastructures. We suppose that fractality is potentially useful, because sustainability transition requires systemic change and multiscale understanding. Fractal systems exhibit self-similarity across scales. Additionally, we use data from an envisioning project and stakeholder workshops dealing with Hiedanranta. We conclude by presenting central elements for further research on the relationship of fractality and infrastructures in the context of urban sustainability.

TRACK 8: TRANSITIONS AND TRANSFORMATIONS

8.1. Sustainability transformations in place, Room A31

Convenors:

Katriina Soini, University of Helsinki, katriina.soini(at)helsinki.fi

Kaisa Korhonen-Kurki, University of Helsinki, kaisa.korhonen(at)helsinki.fi

Tuesday 6 June, 11:30 - 13:00

Development of regenerative places and practices

Felcis, Elgars

This research project within SUSPLACE MSCA ITN aims to contribute to development of regenerative places and practices through action-oriented research in small, local places and in collaborations with diverse stakeholders in Latvia. The perspective of regeneration is taken in this research as crucial in light of mounting evidence of multiple interlinked environmental and socio-economic problems. Regeneration is understood in this research as means to stop creating new problems and threats to sustainability and to

develop mutually beneficial relationships capable to regenerate the negative impacts social and economic practices in places have made so far – aiming to leave a better world for future generations.

Interdisciplinary analysis demonstrate the impossibility of unlimited growth of economies and societal metabolism. Scientific debate of development should not be dominated by neo-liberal economic growth debates and through exploration of alternative practices and real utopias it is possible to re-frame the economy, contribute to abolishment of economic growth as a social objective, re-position practices and empower small places and communities as actors for regeneration.

The research is guided by key reference theories – Critical realism and Transformative Social Innovation Theory. In the perspective of Critical realism measurable manifestations of global problems can be acknowledged and simultaneously action can be taken to contribute to regenerative change of ‘reality’ in local settings of Latvia. The research aims contribute to scientific debate on place-based approach to improve their sustainability, resilience and regenerative capacity. Furthermore, it aims to provide insights on action-oriented research challenges in combining the roles of scientist and activist in Eastern European settings.

Can green care practices transform places? Introducing the elements of a novel theoretical framework

Moriggi, Angela

An innovative kind of place-shaping practice is becoming increasingly popular in several parts of Europe: green care (GC) - an umbrella term comprising social farming, animal-assisted therapy, therapeutic horticulture and other activities carried out in contact with nature, yielding beneficial social and health effects to different target groups. GC practices enable processes through which people connect to a place and establish with it a relational approach, which is cognitive, emotional and physical at the same time. This yields an unexplored transformative potential in human-human and human-nature connections.

The aim of this paper is to lay out a theoretical basis to understand the nature of transformation in relation to GC practices. The main assumption is that GC practices have the potential to shape places in transformative ways, as a result of two main dynamics: caring for places and caring with people (in places). In the first instance, GC activities are initiated for place-based reasons - to sustain and (re)generate places via a specific kind of socio-spatial practices; in the second condition, empowering caring practices allow the people engaged to become partners of a new social model and shape places in new ways, ideally contributing to social justice and inclusion. The framework builds on a scholarly tradition claiming the transformative potential of caring practices, while drawing on the conceptualization of transformational change elaborated in the field of sustainability studies.

This research work constitutes the theoretical backbone of a PhD project focused on green care practices in Finland, started in April 2016.

Decoding “Local”: the Geographic Imagination and Agroecological Symbiosis

Hagolani-Albov, Sophia

The “localness” of a particular product is a fluid concept that continues to defy objective classification. This lies in the power of the consumers’ geographic imagination and the role of place as it relates to “own” and “other”. Participatory mapping methods aid in accessing local knowledge which is essential to the development of effective sustainability measures. This research studies a pilot case for restructuring production and consumption in Palopuro village, Finland, premised on nutrient recycling and (re)localized production and consumption. The model for this redesigned social/ecological foodshed is called ‘agroecological symbiosis’ (AES). The AES model takes inspiration from ecological mutualism to create synergies between producers and integrates the surrounding consumers in an effort to foster creation of food communities and ease the ecological strain of agricultural activities. The AES model, started through a grassroots initiative in Palopuro village, is a strategy to maintain the unique character of their village and

to preserve their farming tradition in a sustainable way. In light of a dwindling population, this village has lost its train station and the local school. These fundamental changes to the fabric of the community brought to the forefront the potential danger of losing some of their unique cultural heritage. Palopuro village is adjacent to a growing urban area and the citizenry is adamant to maintain their culture and resist absorption into the encroaching city. Deliberate cooperation both with and among local farms has served toward creation of a (re)localized food and cultural community. This paper explores the cultural, social, political, ecological, and spatial changes to the agricultural landscape and Palopuro village as a result of implementation of the AES model. In addition, it serves as a basis for evaluating the strengths and weaknesses of AES and the potential for transfer-ability and scale-ability of the AES model.

Reimagining forest and territory: Processes of transformations in an indigenous forest community in Mexico

Gutiérrez Zamora, Violeta

Indigenous people's communities with forests resources have faced vital environmental and social challenges because of the particular material and cultural relations between their livelihoods, forest and land. Over the last four decades several indigenous communities in Mexico have struggled for the re-appropriation of their ancestral territories as a way to control natural resources and enhance systems of self-governance. In the southern state of Oaxaca, the devolution of forestry production processes from logging state concessions through the conformation of Community Forest Enterprises has boosted processes of transformation in the values and norms for managing forests in several indigenous communities. In this paper I analyze the strategies that the zapotec community of San Pedro El Alto, in Oaxaca, Mexico has created for deliberating community transformation in which social, economic and political orders are contested and alternative pathways are fashioned. Through the analysis of 20 in-depth interviews and ethnographic fieldwork notes, I examine how this indigenous community have reimagined their relationship with their territory and forests as part of a transformation process, conceiving future alternatives, contextualizing present socio-environmental contingencies, and reflecting on past experiences. This bring important insights on the strategies, imaginaries and practices that indigenous communities are employing as a response to current environmental and social challenges and the possible experiences that will experience in the Anthropocene.

Tuesday 6 June, 14:00 - 15:30

A tale of two technologies: sustainability transformations through public transport in two local governments in Norway

Ingeborgrud, Lina

Transition towards sustainable transport in cities has received great political attention in many countries. Such socio-technical transitions call for a broad array of transdisciplinary knowledges, actors and politics, but also technologies. What (hopeful) technologies are developed in order to enact urban sustainable transport? This paper adopts a bottom-up perspective focusing on the actor-networks constructing the transformation of sustainable public transport.

The paper empirically explores sustainability transformations through two public transport technologies in the Norwegian cities of Bergen and Trondheim. These cities have chosen different technologies: Trondheim has decided on a more sustainable bus system ('Super bus'), while Bergen has invested in a city light rail. The different choice of transport technologies in Bergen and Trondheim has been explained with topographical rationales (such as if the city is axis -or circle-shaped). Thus, in this view, the city as place is understood as a static entity which prescribes a certain type of technology. However, this paper found that such an understanding was too simple. Rather, the transport technologies were related to local governments' imaginaries of future development of these cities, understanding cities as dynamic places in the making. The transport technologies were being re-imagined and re-shaped in response to a series of

economic, political, and environmental problems, including climate change and rapid urbanization. To approach the city as a dynamic place can thus open up possibilities to explore and implement new sustainable transport technologies.

The paper draws on qualitative data, including one month of shadowing in the agencies of transport planning in Bergen and Trondheim, 25 in-depth interviews, and analysis of relevant documents and newspaper articles.

“More speed and new targets” – Intermediation and local trajectories towards carbon neutrality

Lukkarinen, Jani & Eeva Primmer, Paula Kivimaa, Aino Taskinen

The urban areas have been framed as ‘test laboratories’ and ‘examples’ for the solutions (Castan Broto and Bulkeley, 2013; Voytenko et al., 2016) in low-carbon transitions, highlighted by C40 and Covenant of Mayors initiative for sustainable cities. In smaller scale and in more sparsely populated context, the Finnish municipalities have formed a Network of Carbon Neutral Municipalities (HINKU) in which the municipalities with populations ranging between 2.000 and 50.000 inhabitants can bring together the authorities, businesses, citizens and experts. While the networks, large and small, have apparently generated momentum, their intermediary functions have not been systematically addressed.

Potentially, the networks of cities inhabit the crucial space of intermediation. Intermediation allows creating, transporting, materializing and contesting visions of sustainability. Intermediation can support the articulation of expectations and visions, contribute to social networks and provide a basis for learning processes and exploration (Kivimaa, 2014). Intermediation functions have been identified empirically but even in the single city of Brussels, intermediation has been shown to face challenges in crossing scales, or in coordinating action among different actors and activities (Kampelmann et al., 2016). How does intermediation then bridge different types of actors also across the network of intermediaries? How do the actors driving sustainability transitions perceive intermediation? Can the intermediary functions, indeed, be considered motivations for joining collaboration? And finally, do the advocated ‘best practices’ and ‘sustainability goals’ create new ‘lock-ins’ that narrow down the scope of local sustainability responses?

The paper develops and reports an empirical analysis of the intermediary functions of different actors in the HINKU municipalities. The analysis of interview and survey data collected in 2016 and early 2017 addresses knowledge, technology, vision articulation, resource mobilization and networking functions, and pays attention signals of challenges faced by intermediary actors.

Success and Failure in Energy Transition: Insights from two local energy projects

Collins, Beck

In the sustainability transitions literature, local projects are often viewed as opportunities for experimentation for new niches, be they products or projects. However, local projects are very complex, with multiple conceptions of the problem that they seek to address, and hence multiple conceptions of success. Local project participants’ conceptions of success are often different to those of transition scholars, and where scholars see a successful learning experience, participants may see a project which has failed to “deliver”. This research looks at two local UK case studies of potentially major domestic energy retrofit projects – Birmingham Energy Savers (a whole house retrofit project) in Birmingham, UK, and Warm Up North, a similar project run by a consortium of local-authorities in the North East of England, and the opportunities they had for learning. The research shows that this learning was limited by a perceived fear of failure, or ‘bad news narratives’, and the perception of reputational damage. This research makes an important contribution to the literature which has been criticised for focusing predominantly on innovation, and not on the place of failure within transition.

8.2. Transitions in the nexus of natural resources, climate change and sustainable production, Room A31

Convenor:

Mikael Hildén, Finnish Environment Institute, mikael.hilden(at)ymparisto.fi

Wednesday 7 June, 11:00 - 12:30

Social acceptance of transition of the electric energy system

Kojo, Matti & Pami Aalto, Ilkka Ruostetsaari, Mika Kari, Hannele Holttinen, Kirsi Kotilainen

The objective is to study social acceptance of transition of the electric energy system in Finland. Citizens and consumers are deemed to have a more central role in the future electric energy system which will be more automated or 'smarter' and decentralised. Therefore the opinions of citizens and consumers should matter in the planning and study of the energy transition. Social acceptance as defined by Wüstenhagen et al. can be understood to consist of three dimensions - socio-political, market and community - each with a character and dynamics of their own. Socio-political dimension refers to acceptance of technologies and policies, community dimension to siting decisions and market dimension to the process of market adoption of an innovation. The electric energy system, which is a combination of production, network and consumption, will be investigated from the perspective of these dimensions of social acceptance.

The study is based on a nation-wide survey carried out in Finland between August 23 and October 17 2016. The sample consisted of 4000 randomly selected 18 to 75 year-old Finns. The response rate was 33,6 (n=1344). The survey was carried out by the University of Tampere as part of the research project "Transition to a resource efficient and climate neutral electricity system" (EL-TRAN) funded by the Strategic Research Council of Finland.

The results of the survey help to better understand which dimensions of social acceptance of the transition of the electric energy system are potential bottlenecks demanding more attention in policymaking and which are more conducive to new policies.

The study contributes the discussion of social acceptance in the context of energy transition. We relate the results to other studies on opinions and views of citizens and stakeholders in the other Nordic countries which are also attempting an energy transition.

Topological Steps towards Post-Carbon Theory

Alhojärvi, Tuomo

This paper engages with what John Urry called "the problem of energy" in connection with space and social power. In social theory, cultural studies and human geography, the notion of topology has in recent years inspired diverse new takes on the space of social relations. Topological space is seen as a way out of Euclidean, "easy" geometries of power, with fresh insights for rethinking relationality across the spectrum of social life. Territories of governance are becoming obsolete, it is claimed, or at least facing the need to reinvent strategies for holding in space. Corporations and social movements, on the other hand, are developing inventive ways to reach across continents and to stretch beyond their localities. All of this should affect how we imagine post-carbon energy transitions to take place, shape, and scale. If topological twists reshape governance and politics in unforeseen ways, then spatial relations ought to form a key concern for scholars of energy transitions. And yet amidst this newfound spatial enthusiasm, energy is largely absent; it is written into an unexamined background of spatial change. Meanwhile, energy scholars to a large extent keep on treating transitions as temporal processes while the "geographies of energy transition" (Gavin Bridge et al.) are left unexplored. Space, energy, and social power are treated as separate issues, while theorising new forms of (social) power ought to be a prime

concern for scholars interested in the fate of (energetic) power – and vice versa. Through contrasting careful readings of literature on topology and energy transitions, this paper proposes a fresh agenda for studying space, energy, and social power together. With concrete implications for studying the topologies of energy transitions, the paper underlines the direct ties of concepts and practices. It is a small step towards Urry's "post-carbon theory", but one aimed at concretising hope.

Resilience: A Common Point of Reference?

Nielsen, Anne

Resilience is a rich and complex concept that has a variety of interpretations and applications across academic disciplines and industry sectors. Despite the fact that the concept has met a lot of critique among scholars in recent years, the concept seems to gain increasing popularity among political actors and institutions all over the world.

With a specific focus on city politics, this paper argues that the concept of resilience may work as a common point of reference across scales and actors. The loose character of the concept facilitates transformative and productive conditions, which allows different political actors with different contextual constraints to actively engage in joint political communities and share similar visions on how to act on a changing climate. The concept of resilience allows cities to adapt to local needs, however is robust enough to create a common identity; resilience has different meanings, however the concept is strong enough to make it recognizable and a mean of common transformation.

The paper highlights the importance of understanding resilience as a productive concept that allows political actors to use multiple strategies to understand and prepare the individual city for climate impacts. Instead of taking distance from the concept, scholars should try to understand the potential of resilience as a unifying concept for creating the necessary transition towards a more sustainable future. Instead of

The paper has a specific focus on urban politics, and the increasing focus on specific resilience strategies and plans that are developed across many cities in these days. The paper builds on document analysis of 20 official resilience strategies from 20 very different cities in terms of geographic location, institutional structure, exposure to risk and stage of economic development as well as more than 50 hours of fieldwork and observation.

Wednesday 7 June, 14:00 - 15:30

Transformation or U-turn? Interpreting the change of the Finnish forest industry 1996-2016

Donner-Amnell, Jakob

After 2000, the forest-based industry in Europe and North America has been strongly challenged by many factors. Shrinking paper demand and growing demand for new bio-based products (such as biofuels) have been the most important ones. These factors have been interpreted to constitute a strong case for a necessary and promising transformation of the sector into a key player in an emerging global bio economy.

Consequently, ambitious goals and programmes targeting a renewal of the forest-based industry and a considerable growth of its turnover have been formulated by industrial and public actors on different spatial levels. In order to reach the goals, many measures have been implemented by companies, R&D-bodies and through public policies.

Due to persisting challenges, a reorientation and restructuring of forest-industrial activity could anyway not be avoided. However, the present outcome of the process deviates strongly from stated goals and most expectations. The forest industry has not been able to grow nor to strongly enter into new produce. Instead, it has changed its focus from printing paper to other old products (such as pulp and board). The forest industry has lately had better profitability, a higher investment rate and more stable future

prospects than any time since 2001. Still, the change of strategy and activity is yet closer to a U-turn than a transformation.

Which factors can explain why a seemingly well-grounded and strongly supported transformation of the forest industry has not got momentum? What should happen and be done, if transformation is to speed up in the future? The purpose of this paper is to find answers to these questions. The theoretical framework is mainly built upon the Triple Embeddedness Framework (TEF). The empirical focus is on the change of the forest industry in Finland during 1996-2016.

Tensions in Enthusiasm - From What Kind of Perspectives the Circular Economy is made of?

Ojala, Erkki-Jussi

During the last three years several influential actors in Finland, in EU and growingly across the world, have promoted Circular Economy (CE) thinking in their speeches. These speeches aim to promote the displacement of the current linear “take-make-use-dispose” mode of production and consumption with more circular one, in which valuable materials increasingly circulate from consumption to production. The objective of this loop is to “take” and “dispose” significantly less. Though, success of CE depends on grassroots level. More precisely, in which scale actors in the grassroot level adopt and developed CE practices.

As a concept CE relatively new one. Mostly concept and its possibilities has been outlined in grey literacy, but academic community has started to shown growing interest. In my paper objective is to consider what kind of theoretical perspectives CE thinking conceptually bonds to, and map out tensions CE thinking brings up.

The need to mold production and consumption patterns as circular, has long roots and nowadays most of the commentators agree with the general idea of CE, but differences in opinion arise when thinking goes further in the details. Some see CE as a way to reconcile environmental sustainability and economic growth. Other see growth orientated CE as repetition of failed “weak” ecological modernization. In any case, CE has potential push for major reorganization of the production and consumption system. This potential transition leads to ask, how major change is driven in contemporary network society, where power is more polycentric? Beside issues of power and growth/degrowth related tension, CE movement brings interesting changes to real economy, it emphasizes locality of economic activity and cooperation between actors and different sectors. To summarize, CE thinking has clearly gained enthusiasm, but the road practices can be convoluted, which underlines the importance of social and political considerations.

Wednesday 7 June, 15:45 - 17:15

Emerging consumer perspectives on circular economy

Repo, Petteri & Markku Anttonen

Circular economy has become a concept that encompasses a number of environmental issues of interest such as restoration and regeneration of economy, rethinking of production and consumption, and reduction of waste. Key institutional developments, such as the establishment of the Ellen MacArthur Foundation and the adoption of the Circular Economy Package in the European Union, account for consumers in their activities. The academic community has at the same time shown interest in the concept of circular economy, and also identified consumers as players in the concept.

Yet the role of consumers is not prominent nor uniform in either. Instead, consumers are considered as a part of the economy and in connection to the use of products, but not as actors nor as active goal-setters nor even as domesticators of new opportunities. For consumers to become active players in the realm of circular economy, it is of key importance to identify how they respond to corresponding key elements of circular economy: sharing, repairing, reusing, recycling and reducing consumption.

This paper develops a consumer centred view on circular economy through topic modelling. As data, we use 85 visions on desirable and sustainable futures, which relate to circular economy and have been developed by over 1.000 people in 30 European countries (Jørgensen & Schøning 2016). The visions are analysed with the MALLEET toolkit for natural languages (McCallum 2002), thereby identifying and describing consumer perspectives on circular economy.

Our analysis shows that life resources, services, technological solutions, lifestyle choices, global urbanisation, and modern simplicity emerge as key topics in citizen visions relating to circular economy.

Transitions towards sustainable mobility – the potential of car sharing from an operator’s perspective

Mekenkamp, Dina Marcella & Mikael Hilden, Kirsi Mäkinen and Juha Peltomaa

Car usage has increased drastically in cities in the recent decades, resulting in major environmental and social problems. It has been argued that car sharing can provide a partial solution to these problems. Car sharing is assumed to ensure a more efficient use of automobiles and city infrastructure and to contribute to a transition towards mobility as a service. As a result, there has been an increasing scientific interest in the market potential of car sharing; evaluating its economic, social and environmental benefits, and its failures.

However, there has been less focus on how car sharing arises- and sustains itself within the broader context of societal change and entrepreneurship. These are important to understand as car sharing does not arise on its own. To emerge and develop, it needs users and an operational environment that supports it, but above all, it needs entrepreneurs who start- and maintain it.

This paper explores sharing schemes from the operators’ perspective. It discusses the motives behind these schemes, encountered difficulties and success factors, the involvement of urban dwellers, views on participatory governance, experiences with upscaling, and the changes that these initiatives may have contributed to. Hereby we explore the conditions for transitioning from an owner-based to a service-based use of private cars.

This paper is based on literature research, a web-based questionnaire sent to car sharing project leaders in Europe, and interviews.

The results will be analysed in the light of theories of transitions: are current car sharing efforts examples of niches that are about to become a new dominant service based solution for mobility? Or will car sharing remain a supplementary solution that cannot debase the dominant owner-based use of cars?

We conclude by reflecting on policy actions that may strengthen the niche development and the conditions for a transition to take place.

8.3. Theorising sustainability interventions: practice, consumption, technology and organization, Room A32

Convenors:

Tomas Moe Skjølsvold, tomas.skjolsvold(at)ntnu.no

Tullia Jack, tullia.jack(at)soc.lu.se

Tuesday 6 June, 11:30 - 13:00

Industrial chicken meat and the Good Life in Bolivia

Kollnig, Sarah

This paper is concerned with the role the current Bolivian government has played in the industrialization of the country's poultry sector. In-depth ethnographic fieldwork carried out by the author provides data that allows connecting the spheres of production, distribution, and consumption of industrial chicken meat. In the realm of production, recently, large industries are taking over the market, leaving small- and medium-scale producers to struggle for survival. The ecological effects of poultry production and slaughtering have so far been unaccounted for in Bolivia. The distribution of chicken meat is being organized in modern sales outlets geared towards the more privileged population, providing a fierce competition for traditional market vendors and leaving the less privileged population with meat of doubtful quality. Despite the success of chicken as fast food, traditional food habits have not been forgotten, and in the family circle, traditional chicken preparations are still of importance. Backyard chicken rearing has declined sharply, making the provision of chicken meat dependent on the market.

The Morales government, over the last ten years, has been unable to put its promise to support family agriculture into practice. The government discourse of *Vivir Bien* / the Good Life is evaluated critically against these developments "on the ground".

Experimenting with sustainable school lunch – interventions as spaces of hesitation

Kaljonen, Minna & Taru Peltola, Marja Salo, Eeva Furman

Experimental design is a key method in natural sciences. In social sciences, experimental design has had a strong foothold in behavioral sciences and economics, for example. The need for behavioral changes in solving environmental problems has raised novel interest in behavioral interventions and experiments also in environmental policy. Nudging small changes in eating or in energy use of households are good examples of that. In a classical behavioral experiment an intervention is made to investigate the effects of a certain causal variable to a particular test group. The variables to be controlled and monitored are carefully set beforehand and a control group is set for comparison. Such a setting leaves only little room for surprises and does not offer tools for capturing the un-intended, cumulative or dynamic effects of interventions. All these, we claim, are important in understanding the environmental consequences of small everyday practices and actions. In this paper, we seek and investigate theoretical resources for opening up the experimental design anew for interventions in sustainable everyday life practices. We turn to ideas of disruptive (practice theory, Shove) and hesitating (cosmopolitics, Stengers) practices in order to consider how experiments could offer ways for interrupting the usual state of affairs, calling into question the pre-existing rules and habits and giving rise to other speculative and even un-expected ways of doing. We develop the methodology in the context of school lunch. Having a warm lunch gives a daily rhythm to the eating of Finns. In the Finnish comprehensive schools and high schools nearly one million free lunches are offered daily. It is, hence, a critical target for experimenting change in daily eating practices. School lunch has also been a long-term target for behavioral interventions in healthy and nutritious eating. In this paper we ask how to break the behaviorist orientation and build experimental designs that allow considering practices of school lunch "as they may become" in terms of sustainability.

Tuesday 6 June, 14:00 - 15:30

Why prefer structural solutions to reduce environmental impact?

Kiisel, Maie

In my presentation I discuss the reasons why the structural sustainability interventions (like common rules, infrastructure, etc.) should be preferred to the attempts to promote sustainable lifestyle among individuals on voluntary bases. Despite the fact that voluntary action of sustainable lifestyle groups is well known for its creativity in finding new ways to solve diverse social problems the standards of this lifestyle should not be encouraged uncritically.

The realization of a random socially desirable deed is rather unlikely phenomenon. Empathic and considering lifestyle practices come in intermingled patterns of action and sophistication. Lifestyle practices order their reproduction in particular combination of reflexivity and action that mutually define and inspire each other. In order to assure oneself in the appropriateness of action regarding sustainable lifestyle, the individual has to share his ideas with his lifestyle idols and compare those with his followers, to read and observe, to meet people and move around. In order to express his dedication to the idea of sustainability the individual has to confirm this by observable action, e.g. by buying an electric car, shopping eco-food, dressing up ecologically, or changing the style of living. However, all these practices involve impact on environmental resources.

As a paradox, sustainable lifestyle practices enlarge the ecological footprint of the environmentally concerned individual, and vice versa, the individuals who do not worry about environment and do not take any relevant action, act more sustainably than the first ones. Therefore, in order to plan sustainability interventions, the structural approach that can affect the practices of a large scale of individuals without obligating them to possess particular ideological convictions, may serve as a better approach for sustainability interventions.

The discussion is inspired by Anthony Giddens and supported by empirical data. Some potential structural solutions are discussed.

The representation of users in energy pilots

Verkade, Nick & Johanna Höffken

This research studies energy pilots that intervene in domestic energy practices. The design process of domestic energy management innovations in some way incorporates envisioned users and their practices. Domestic energy experiments rely on participants to do a lot work in establishing “usership” (Kjellberg and Helgesson, 2009) and engaging in energy monitoring and planning. During the design process of pilots, decisions are made based on the envisioned users and uses. The question we ask is how user representation happens in energy pilots that often involve multiple actors, and that challenge established roles and regulations in the energy system. This is especially relevant because many of the energy system organisations that actively design energy pilots (grid operators, tech developers, software engineers) hold a particular rationalistic view of energy users (Strengers, 2013). We employ the collected “sources of user representation” in Hyysalo & Johnson (2015) to construct the vision held by designers about the user and practices in two Dutch smart grid pilots. Explicit sources of user representation involve interviewing and observing ‘people out there’, and involving them by co designing technology. Implicit sources however also partake in this envisioning, including the personal and professional experience of the designers, roadmaps, business models and regulatory demands. Especially implicit sources have been neglected in research-based advice for developers (Hyysalo & Johnson, 2016). We follow cases throughout their development and implementation process to see how users are envisioned. Consequently we hope to learn more about how an envisioned user comes about in a project with multiple actors; how this vision influences decision making about the affordances that technology should grant; and how it relates to the outcome of energy pilots.

Tuesday 6 June, 16:00 – 17:30

Intervening in dynamic systems of practices: how to change consumption routines of employees

Suessbauer, Elisabeth & Martina Schaefer

According to Shove et al. it is not possible to precisely steer consumption practices in specific directions. Rather, interventions “have effect (some intended, some not) within and as part of the ongoing dynamics of practice” (2012, p. 145). However, there is not much social practice theory (SPT) informed empirical work detecting ways to manage these dynamics and design interventions that foster sustainable consumption in everyday life. This paper refines the concept of interventions by applying it to the case of pro-environmental behaviour in the workplace (e.g. cycle to work, eating organic).

The work is based on an analysis of focus group discussions and interviews with employees in seven German companies from different sectors. We present a framework for designing “green workplaces” and illustrate it with empirical findings from the research project IMKoN.

The framework shows, firstly, that the design of interventions should consider three dimensions: a) providing supportive organisational and material structures (opportunity), b) motivating employees to experiment with new or existing consumption practices (experimentation) and c) taking up experiences gained through experimenting and strengthening links between new and existing elements (stabilisation).

Secondly, sustainable practices can be stabilised by recruiting employees throughout the entire company, and by bundling practices from different domains (e.g. mobility, nutrition, energy use) and life spheres (e.g. work and domestic life).

To find the central knots where practices interlock and form stable bundles of practices (Spurling and McMeekin, 2015), it is, thirdly, important to integrate employees’ needs and experiences in co-designing and continuously improving organisational and material structures. The last two points suggest that interventions should not only address single consumption practices but also the wider system they are embedded in (Watson 2012), in this case participatory management practices.

The co-production of interventions: the practices and expectations of householders who want to become part of a solar power demonstration project

Skjølsvold, Tomas Moe & William Throndsen, Marianne Ryghaug, Toke H. Christensen

Without looking closely, it is tempting to think about sustainability interventions as a unidirectional effort, where some actor(s), through political, social or technological interventions attempts to intervene in and change the practices some other social sphere. The introduction of “smart” electricity meters and in-home displays in households, could for instance, be considered as a material intervention introduced by electricity grid companies and electricity providers, meant to change household practices related to the consumption of electricity. This paper looks at the establishment of a socio-technical sustainability intervention as a much more distributed effort, where the agency to shape what the intervention is, resides with a multiplicity of heterogeneous actors, including those who are supposed to change their ways through the intervention.

As a basis for analysis, we study 1700 qualitative statements from prospective participants in a pilot project. Out of these 1700, only a few would be selected for the actual trial. The project aims at introducing photovoltaic (PV) solar cells to ordinary households in Norway, thereby transforming electricity consumers to “prosumers”, and establishing new practices associated with prosumption. The analysis of these statements highlights how respondents reflect on existing practices through material elements, competences, as well as compositions of existing collectives (e.g. families, neighborhoods) that prosumption would be conducted within. Through this, the paper sheds light on the respondents’ beliefs about how practice change occurs, what is needed, what the obstacles of such practice changes are, and what the opportunities are for creating new bundles of materialities, competences and norms, which might

produce radically different futures. In this sense, our paper explores the linkages between existing practices and future expectations, both theoretically and empirically.

Wednesday 7 June, 11:00 – 12:30

Prosumers in practice: energy transitions in everyday

Koksvik, Gitte & Tomas Skjølvold, Marianne Ryghaug

Many contemporary experts emphasize that so-called «prosumers» will become central to the energy system of the future. While expectations are high, few studies have been conducted of real prosumers, and few studies exist of the practical implications of prosumerism from a sociotechnical perspective. This paper aims to fill this gap by analyzing data from approximately 30 in-depth interviews with prosumers in Norway. The interviews were conducted with households that have installed solar panels as part of a demonstration project initiated by their energy providers. We conceptualize solar panel installations as a material intervention on the households in question, and our intention is to study what this reconfiguration means in practice. In which ways does engaging with the new set of technologies become part of a household's routines? Do new routines arise from this material invention? Further, how are everyday practices altered or reproduced by way of this material intervention? How do households enact their new role as prosumers, and which meanings are ascribed to the technologies? The analytical perspective of practice theory will be useful in order to elucidate these questions. By way of an analysis of the interview materials, our aim is to gain a better understanding of the social practices involved in "prosumption". In turn, this will enable us to shed new light on the role of ordinary householders in transitions to more distributed and heterogeneous energy systems.

Electricity storage experiments and the shaping of householder engagement in low-carbon energy systems

Kloppenborg, Sanneke & Robin Smale, Nick Verkade

Storage of renewable energy is increasingly recognised for its potential to contribute to a low-carbon energy system while empowering local actors. This paper critically examines 'interventions' in energy systems that include the introduction of electricity storage at household and neighbourhood level. It draws on an analysis of pilot projects and new storage products and services in the Netherlands, Germany and the United Kingdom. Although these 'interventions' all include similar battery technologies, the social and organisational aspects of electricity storage are still being experimented with. An important question thus is how storage is (re)shaping householder engagement in renewable energy production and consumption.

Based on our empirical work, we identify five storage modes, understood as different configurations of technology and social organisation (Walker and Cass 2007). These modes are: individual autonomy; local energy community; smart grid integration; virtual energy community; and power market integration. Embedded in these storage modes are different problematisations of electricity production and consumption, which entail specific ways of thinking about storage as a solution. We analyse how each mode 1) ascribes different meanings to energy as public good, (common pool) resource, and commodity), 2) entails a particular allocation of roles and responsibilities between households and other actors in the energy system, and between humans and technologies, and 3) (re)distributes costs and benefits in particular ways.

We draw out (potential) implications of the ways in which householders and their energy practices are enacted in these storage modes. We focus on the potential effects of not just enacting householders as individuals but also as collectives, the rise of intermediaries which act as aggregators and coordinators of householder's energy practices, and the delegation of agency and responsibilities to algorithms. This

allows us to critically assess the empowering potential of the low-carbon energy systems that are produced in these storage modes.

How to increase the flexibility of electricity consumption in private households – does gender matter?

Tjørring, Lise & Carsten Lyng Jensen, Lars Gårn Hansen, Laura Mørch Andersen

Increased reliance on renewable electricity production is important for reducing greenhouse gas emissions. Inducing households to adjust their electricity consumption to wind and climate induced variation in renewable electricity supply can help make this possible. In an intervention study, 71 Danish households received incentivized text messages suggesting that they shift electricity consumption to certain hours of the day. The study shows that when text messages were sent to women, there was a significantly greater reaction than when they were sent to men. We argue that an important reason for this is gender difference in household work task responsibility. Based on qualitative research methods, we find that when consumers reacted to text messages, it was mainly by rescheduling their use of their washing machine, tumble dryer and dishwasher, and that it was mainly the woman who used the washing machine and tumble dryer. Our intervention study suggests that incorporating knowledge about gendered practices when designing and targeting policies to change electricity consumption habits and induce flexibility could significantly increase their effectiveness.

Wednesday 7 June, 14:00 – 15:30

Sustainability concern in discourse and practice

Kjerulf Petersen, Lars & Martina Ferrucci

The aim of this paper is to present the theoretical framework and some preliminary findings (regarding reduced meat consumption) from a research project investigating the metabolism of meanings between public communication and socio-material practice. Investigating such a metabolism is important, because socio-cultural changes towards more sustainable societies comprise changes in habits, routines and the ways things are done as well as changes in basic conceptions, worldviews and the ways in which things are understood. And practical knowledge as well as general worldviews are conveyed and apprehended via a broad range of public media.

The project seeks to integrate media analyses with practice theory and actor-network theory (ANT). It is a central point in this project that the content of media texts is critical in the constitution, maintenance and transition of practices. There is a meaning metabolism between articulations in media texts and performances of social practice, and the study of media texts is therefore useful and relevant in practice analyses. It can contribute to an understanding of those shared meanings and shared competences through which practices are constituted and maintained, and it can identify some of those impulses through which practices are reconfigured.

We propose to apply ANT in order to track this meaning metabolism between media and practice. The basic idea is to analyse units of meaning in media texts as actors which connect to other actors within and outside texts. The units of meaning can be depictions of artefacts, depictions of specific practices and specific tropes. The project seeks to identify such sustainability related in-text actors and follow them within and outside the text and into household practices. The project conversely seeks to identify meanings and competences enacted in specific practice changes and track how these meanings and competences connect to wider societal discourses articulated in public media.

When nature intervenes: practical consequences of Öland's drought

Jack, Tullia

Discourse, culture and meaning play an important role in ways that everyday life plays out - with very real environmental consequences. Meanings, and even competencies, have thus seen increasing emphasis within theories of social practice, at the expense of understanding material elements. However, the material has a foundational bearing on practice, and so knowledge about the 'consequences, interventions, creative possibilities, and responsibilities of intra-acting within the world' (Barad, 2007:188) is needed especially if we are to deal with the sustainability challenges facing current and future generations.

This paper draws on the case of a Swedish island, Öland, which has been suffering drought conditions for two years. This drought has very quickly changed a range of everyday life activities: restaurant goers must use portaloos, inhabitants face watering restrictions, and some surprised summer residents found that no water flowed from their taps. This reduced availability of water has been very present in everyday life and has drastically changed a host of practices.

This case study promises new insights into ways that materiality underpins the creation of shared meanings and competencies that constitute social practices. By returning focus to materiality this paper provides understandings useful for incorporating consequences of the rapidly changing natural environment in decision making. Policy makers and others involved in responding to varying natural phenomena will benefit from understanding ways that people make meaning, create competencies and shape everyday life to material constrictions. An increasingly volatile changing climate will have an increasing impact on our everyday life. It is thus important to start addressing ways that society responds now.

TRACK 9: CLIMATE CHANGE

9.1. Local climate experiments: hopeful monstrosities and/or useful solutions?

Room A2b

Convenors:

Eva Heiskanen, University of Helsinki, [eva.heiskanen\(at\)helsinki.fi](mailto:eva.heiskanen(at)helsinki.fi)

Senja Laakso, University of Helsinki, [senja.laakso\(at\)helsinki.fi](mailto:senja.laakso(at)helsinki.fi)

Kaisa Matschoss, University of Helsinki, [kaisa.matschoss\(at\)helsinki.fi](mailto:kaisa.matschoss(at)helsinki.fi)

Tuesday 6 June, 11:30 - 13:00

A framework for analysing the contributions of experiments to sustainability transitions

Jalonen, Meri

Local experiments that develop radical, sustainable innovations hold great potential in sustainability transitions as they reframe sustainability to concrete and achievable actions that a variety of actors may undertake in specific settings (Evans, Karvonen & Raven 2016). Experiments in sustainability transitions are "socially inclusive, practice-based and challenge-led projects and initiatives that aim at developing systemic innovation through a guided process of social learning that is robust in addressing ambiguity and uncertainty" (Sengers, Berkhout, Wieczorek & Raven 2016, p. 23). However, despite numerous empirical studies on sustainability experiments across various settings, our understanding of the ability of experiments to stimulate profound transformation in established socio-technical systems and everyday practices remains limited.

The study develops a framework for analysing the contributions of experiments to sustainability transitions to be employed in case studies about experiments in public administration, energy and transportation. The framework draws on literature on sustainability transitions, science and technology studies and innovation studies to form a comprehensive understanding of the nature of experiments and the ways in which they organise innovation processes and produce effects.

The framework mobilises a practice-based understanding of experiments as sets of practices that focus on the definition of problems/needs, developing solutions, testing solutions and evaluating their outcomes. This implies that sustainability transitions unfold through activities of heterogeneous networks, whose accomplishments are uncertain and fragile (Latour 2005). Hence, the study will examine the carrying-out of experimentation practices and their consequences as part of socio-technical systems. It focuses on the interaction of the novel or transformed practices, produced by the experiments, with the prevailing practices of sociotechnical systems. In order to challenge unsustainable technologies and practices, the alternative practices either need to become embedded in existing socio-technical systems or to create competing systems.

From smart grid to smart city: for whom?

Parks, Darcy

Urban climate experiments invariably involve many actors such as city governments, energy companies and energy users. The success of experiments can depend on successfully negotiating different interests and values (Sengers et al. 2016) or recognising the vested interests and strategic purposes of different actors (Bulkeley and Castán Broto 2013). The continued success of ongoing experiments might also require showing short-term benefits within the local context or adapting visions (Heiskanen, Nissilä, and Lovio 2015). The actors with the most resources might exploit negotiations that put short-term benefits against long-term visions.

I analyse the changing vision for an urban climate experiment in Hyllie, a new city district Malmö, Sweden. In 2011, Malmö and Eon, an international and publicly traded energy company, envisioned Hyllie as “a world-leading demonstration area for climate-smart solutions” with a focus on a smart energy grid. In 2016, they applied for more funding from the Swedish Energy Agency that would expand Hyllie into “a national test bed for smart grids and smart cities” based on a real-time data platform. This data platform would expand the smart city beyond energy infrastructure and might allow Eon to own the hub of all urban data.

The expanding scope in Hyllie raises questions about the role of Eon, which funds most of this experimentation. Previous research on smart cities warns of the corporatisation of urban governance (Kitchin 2014). Eon’s involvement in Hyllie might allow it to ‘capture’ learning (Hendry, Harborne, and Brown 2010) and expand its local monopoly over urban infrastructure. However, both Malmö and the Swedish Energy Agency appear to benefit from this collaboration too. To better understand the dynamics of power and agency in this experiment, I bring in perspectives on the urban material politics of smart grids (Bulkeley, McGuirk, and Dowling 2016) and the performativity of socio-technical visions (Berkhout 2006; van Lente 1993).

The role of perceptions in analysing diverging views on EU-Maghreb renewable energy cooperation

Kilpeläinen, Sarah

Regional renewable energy cooperation with the Maghreb has been an important aspect of EU energy policy making for the past two decades. However, developments lag behind expectations. In this study main obstacles in further developing EU-Maghreb renewable energy relations are being examined through a focus on perceptions of the EU’s external renewable energy policy among stakeholders from the EU and the Maghreb. It is argued that differences in approaches to international renewable energy development account for some difficulties encountered in developing energy relations.

Focusing on perceptions highlights the complexity of energy policy making and the role of diverse stakeholder groups. There are no obvious choices for stakeholders and thus subjectivity and perceptions can provide a frame for how certain policy decisions have developed and evaluated. In addition, the inclusion of Maghreb stakeholders addresses concerns of EU-centrism in the proposed energy partnership.

This paper investigates stakeholder's views on the development of EU-Maghreb renewable energy cooperation from 2007 up to 2015. Special attention will be paid to highlighting the importance of understanding converging and non-converging views of international stakeholders in the evaluation and development of energy policy cooperation.

I use Q-methodology to examine the views of stakeholders from national governments in the Maghreb, the EU, energy associations as well as international think tanks. 30 respondents participated in Q-methodological experiments during which they sorted 53 theoretically chosen statements. Through factor analysis and with the help of data collected in post-sorting interviews, lines of division and agreement among stakeholder groups concerning pressing issues in EU-Maghreb renewable energy relations will be highlighted. This contributes to a better understanding of what kind of issues are identified as problematic in renewable energy cooperation as well as understanding to what extent differing issues are being highlighted by different stakeholder groups.

Practice approach to local experimental culture

Laakso, Senja

Sustainability experimentation has emerged as an approach that provides novel tools for tackling complex issues such as climate change or excess use of natural resources. Experimentation can provide new – and shared – knowledge, discourses, capacities, and resources, and can bring momentum for broader change of technologies, policies, and institutions. However, different actors are likely to experience experiments in different ways, and the perspective of ordinary, local people involved in experimentation has not received much attention. For experiments to promote sustainability, these experiences are nonetheless important, to gain understanding on the adoption of new practices and consumption patterns due to experimentation. How participating in an experiment affects participants' routines and everyday living, what effects these experiences have for the success (or failure) of experiments, and how could future experiments – and local policy in general – take these experiences into account? My presentation focuses on local experimentation in Jyväskylä, Finland. The results from three case studies show that the success or failure of experiments depends on the complex dynamics of everyday living, and on practices that are not even targeted in the particular experiment or intervention. Practice theoretical approach helps to understand the reasons behind stability, or change, in everyday routines, thus opening up new areas for experimenting. The results also show that small-scale experiments can be important in terms of learning and changing the ways of thinking at the local level, from residents to actors in policy and governance. As experiments work at multiple levels, the experiences of local actors are important for understanding how experiments work and contribute to sustainability transitions.

Tuesday 6 June, 14:00 - 15:30

Regulation of emerging energy technologies – the case of geothermal power plant in Otaniemi, Espoo

Nordberg, Jukka & Mikko Rask

Climate change and the efforts to develop more CO₂ friendly energy technologies have spurred technological innovation in the area of energy production. Green technological innovations have been introduced recently in the areas of wind energy, solar energy, wave energy, burning of biomass etc. Geothermal energy solutions are more familiar from central and southern parts of Europe, and from some

distant locations outside Europe. Most recently, however, the first geothermal power plant has been introduced in Espoo, Finland.

The concept of deep drilled geothermal energy is an interesting innovation in the Finnish context, as it promises potentially an emission free source of energy, while at the same time the technological challenges related to the harsh Nordic conditions are exceptional, and in most part, unexplored. As a CO₂-free energy production geothermal energy would offer an effective way to cut down the CO₂ emissions and replace energy production based on coal and natural gas. The potential of geothermal energy is highest in replacing more emission intensive energy production in district heating production in Finland.

The history of geothermal energy production dates back to early 20th century. The usage has been growing in recent decades, although it varies largely depending on different geological conditions in different parts of the world. Production of geothermal energy has been non-existent in Scandinavia due to the harsh geological conditions. Most recently, however, the improved technological know-how and drilling technology has led to the speculations and calculations among the Finnish experts that it is possible to build a geothermal power plant cost-efficiently manner in local conditions. Such speculations have been followed by the very first pilot in Otaniemi, Espoo. The pilot has been mostly welcomed by local media, due to the positive environmental expectations related to this technology.

A particular aspect of the introduction of deep drilled geothermal energy in Finland is the lack of laws, regulations and norms that would regulate the production of energy from such a source. The regulation has been based on ad hoc analogies to geoenergy at the surface level. Yet this can be an inadequate way of controlling this technology, since there are international examples, where deep drilled geothermal energy can cause earthquakes and concerns of environmental risks that can result in social resistance and political rejection of this technology.

Acknowledging the uncertainties related to the production of geothermal energy, our research questions focuses on demand of more detailed regulation and licensing process. We will discuss the following questions: 1) What kind of risk appraisal has been implemented by public authorities? 2) How has it influenced the licensing process? 3) In what ways could the regulation be developed according to the key players in the field?

Urban transport experiments in London: policy-makers' perspectives on outputs and scalability

Smeds, Emilia

Experimentation has quickly become a key feature of the transition towards more sustainable and smart urban transport systems. Piloting of urban mobility interventions has grown as a mode of experimental governance, and the enormous interest in 'smart mobility' has led to a second generation of technology demonstration projects within 'living labs'.

Despite these trends, experimentation is still far removed from the realities of most transport policy-makers in the UK. Indeed, regime-level effects from experimentation are rare (Sengers et al. 2016). Realising sustainability gains requires experiments to fulfil their key promise of scalability (Evans 2011), yet the scaling up of sustainable transport infrastructure requires the outputs of experiments to be recognised as relevant and useful by urban, and to some extent also national, government.

The proposed paper will investigate two case studies, both ongoing urban experiments in London: Transport for London's (TfL) Future Streets Incubator Fund and the GATEway Project. TfL is in the third year of running Future Streets as its innovation fund that allows local actors to apply for funding for small-scale, 'experimental' pilot interventions. GATEway is an £8m research project, led by private sector actors, that is trialling autonomous vehicles in the Greenwich 'UK Smart Mobility Lab' to understand adoption challenges.

Using the evaluation framework by Luederitz et al. (2016) the paper will consider the inputs, processes, outputs and outcomes of these experiments. Employing survey research and interviews with key project

actors, the focus will be on how London and national UK transport policy-makers judge the utility of outputs in informing decision-making, and how this is linked to the perceived and actual scalability potential of experiment technologies. Are data outputs viewed as useful, and to what extent do policy-makers acknowledge non-actionable knowledge, such as capacity-building? The widely contrasting case studies are expected to yield some interesting comparative results.

The particularities and messiness of an experimental bike lift – a monstrous solution?

Suboticki, Ivana

Climate experiments are increasingly recognized as important mechanisms for finding new and innovative solutions to tackle climate challenges and promote sustainability transition. In this regard, cities are crucial intervention sites where climate experiments are of great urgency. Yet, these types of experiments have been described having both hopeful and monstrous characteristics. In this paper, I will argue how this duality can be re-assessed if we acknowledge the messiness of experiments and the interests, concerns and goals significant in their assemblage.

I build this argument by drawing on ethnographic data from a particular case study – a bike lift on Branko's Bridge in Belgrade, Serbia. Using STS and actor-inspired approaches, I critically examine the lift assemblage and the multifaceted agencies involved in constructing this peculiar working hybrid. The bike lift was initiated by a cycling activist as a new and innovative solution to solve a transit problem and promote cycling, but other actors and concerns were vital to its construction e.g. concern for democracy, modernity, economic transitions were emphasized in varied ways by different actors. In Belgrade, climate concerns are just one among many pressing urban challenges. These different concerns have also been enacted in particular lift features. Today, the lift is dependent on a 24/7 lift operator, daily negotiation with and of users, an overheating hydraulic pump which needs regular rest to cool of, and help from fisherman working close by. While this may be seen as failed experiment, as it cannot be a neatly transferrable technological solution, I stress the opposite. Innovation and responses to climate challenges need not be neatly packed in project bundles nor exclusively rooted in climate concerns. Rather, by acknowledging the complex set of practices inherent to sociotechnical solutions, these types of experiments can become more hopeful contributions to mobility and energy use transitions.

Why Did Better Place Fail?: Range anxiety, interpretive flexibility, and electric vehicle promotion in Denmark and Israel

Lance, Noel & Benjamin Sovacool

With almost \$1 billion in funding, Better Place was poised to become one of the most innovative companies in the electric mobility market. The system Better Place proposed had two novel prongs; first, to reduce the cost of batteries, and second, to reduce range anxiety, public infrastructure concerns, and long charging times. Yet, despite this seemingly strong combination, Better Place failed to make any progress in Denmark and Israel, the first two markets it operated in, and subsequently declared bankruptcy, selling off its collective assets for less than \$500,000. Drawing from science and technology studies and the notion of "interpretive flexibility," this paper posits several reasons to explain the failure of Better Place, including that Denmark is not as "green" as it seems nor is the Israeli market as attractive as believed, and that Better Place's solution to charging time and range anxiety resolved a psychological, not a functional, barrier of the general public to adopt electric vehicles. Before investigating these two reasons, the paper presents a short history of Better Place and explores the contours of its operations in Denmark and Israel. It then discusses why Better Place "failed" across both countries before concluding with implications for energy planning, policy, and analysis.

Tuesday 6 June, 16:00 - 17:30

Researchers on the loose - two Norwegian housing experiments

Larssæther, Stig & Thomas Berker

In this paper we analyze two local experimental projects in Norway that both emerged from the knowledge community at NTNU ; Zero village Bergen and the carbon neutral settlement at Brøset, Trondheim. In both cases researchers, have left the ivory tower in search for generalized planning principles, methods and technologies to meet the climate challenge, actively engaging with local stakeholders. These projects are quite similar in their focus on integrating climate considerations in real-life housing developments in combination with research activities/experimentation. They have also run into prolonged and somewhat unforeseen controversies that have interfered with and even threatened to terminate their realization. Where they differ is on the role ascribed to technology and the positioning of public bodies and developers in their relative networks. Zero village Bergen is the first area development experiment of the research centre on Zero Emission Neighbourhoods in Smart Cities – a prestigious, technology- driven cooperation involving leading actors from the research community, architects and developers. While this project is now close to realization, the experimental status and calculative practice associated with zero emission buildings collided head-on with established principles of area planning, sustainable transport and recently, concerns about noise from aviation. Turning to the project of establishing a climate-neutral settlement at Brøset – this alliance has public authorities in the driving seat, rather than in a reactive position as is the case in Zero Village Bergen. At Brøset - a prolonged conflict among public owners of the site have pushed the project into a limbo with highly uncertain outcomes. However, the experiences from this experimental project have been forwarded as a new standard for area planning in Norway, and have also influenced municipal climate policies, positioning Trondheim as one of the leading cities in Norway when it comes to implementing measures to make the transport system more sustainable.

Everyday experimentation in energy transitions: A practice theoretical view to social experiments

Hyysalo, Sampsa & Mikko Jalas, Eva Heiskanen, Raimo Lovio, Ari Nissinen, Maija Mattinen, Jenny Rinkinen, Jouni K. Juntunen, Pasi Tainio, Heli Nissilä

Research on sustainable practices has attracted increasing interest as a way to understand energy demand and transitions towards sustainability. In this paper we elaborate how practice theoretical research can inform the discussion of experimentation. Practice theory suggest that the everyday life of people appears recalcitrant to traditional scientific experimentation. Practices are robust, resilient, have multiple, historically formed constituents and are thereby difficult to destabilize and change quickly. The making and breaking of links inside and between practices is highlighted as is the need for enduring, multi-sited change efforts. Practice theory further helps to better understand the constitution of new, leveled forms of expertise, distributed nature of experimenting and the enrollment of active participants of sustainability transitions. We have operationalized and examined these suggestions in a Finnish research project related to climate change mitigation. In addition to empirical support, the results bring forward a set of criteria for more sensitive, appreciative and effective public policies on sustainability transitions and cast experiments in a particular and partial role in the policy field of climate change mitigation.

Test bed sites as innovation practice: A (re)configuration of the social?

Engels, Franziska

“Test bed” innovation sites, often referred to as “living labs”, have been proliferating as innovation models across regions and domains. In times of complex sociotechnical transformations, these sites of experimentation are expected to pilot future sociotechnical arrangements under “real-world conditions” (Evans et al. 2016). Instead of expecting innovation to follow a linear model we observe a shift from innovation of invention towards innovation of testing and explicit social reconfiguration.

In my presentation, I empirically explore test bed sites as innovation practice and as a means of governing innovation. Then, I investigate, what understanding of society is stabilized within these sites of experimentation.

Following a co-productionist approach that treats techno scientific and societal changes as essentially interrelated and co-evolving, I hypothesize that there is a mutual stabilization of society and technology, and a (re)configuration of social order that is carried out by these experimental initiatives (e.g. Latour 1990; Jasanoff 2004). I argue that sociotechnical configurations in test bed settings express the design of social order rather than pure technological innovations, e.g. as addressed in the question of who is allowed to take part in these kinds of pioneering projects (Felt et al. 2015). I therefore take into account the politics of experimentation.

My study draws on a qualitative analysis of two case studies that illustrate the recent test bed phenomenon in the domain of energy transitions: an urban smart energy campus and an “energy avant-garde” regional network. Inspired by science and technology studies, I investigate the locally and temporally highly punctuated arrangements and the dynamics of these hybrid collectives. I elaborate the ways in which experiments shape local contexts and vice versa by scrutinizing sites of experimentation as “truth spots” (Gieryn 2006). Those demonstrate particular interests and strategies, and the contested nature of the innovation processes involved (Bulkeley/Castán Broto 2012: 367).

Local climate experiments balancing between broader learning goals and local improvements

Heiskanen, Eva & Kaisa Matschoss

Local sustainability experiments serve several aims. Many such experiments arise from local interests to find a way to solve climate challenges outside the existing channels of political authority (Hoffman 2011), taking the form of developing new urban infrastructure, trying out new energy solutions in the built environment, creating new transport systems, or experimentation in climate change adaptation (Bulkeley and Castán Broto 2013). Such initiatives have the capacity to provide valuable lessons for national or pan-national governance of sustainability transitions (Schot and Geels 2008). On the other hand, Living Labs and other similar urban experiments explicitly employ the local context as a site for experimentation with new technology in the hands of real users (Evans 2011; Evans and Karvonen 2014; Voytenko et al. 2015). When public (national or pan-national) funding is devoted to such experiments, they can serve the dual purposes of promoting local aims, while at the same time aiming to contribute to wider technological or governance developments (e.g. Hodson and Marvin 2009).

McFadgen (2014) has differentiated between technocratic experiments that aim to produce expert knowledge via trial-and-error in a scientific fashion, and advocacy experiments that aim to promote particular solutions and produce lay knowledge and competencies among participants. In local climate experimentation, those in charge of the experiment need to balance between these two aims of producing knowledge of “what works where” and promoting local improvements and competencies. Through case studies of local experimentation, we investigate how those in charge of the experiments balance between these different aims.

9.2. Post-COP21: transition to sustainable well-being in nordic welfare states, Room C2

Convenors:

Paavo Järvensivu, BIOS Research Unit, Finland, paavo.jarvensivu(at)bios.fi

Pernilla Hagbert, KTH Royal Institute of Technology, Sweden, pernilla.hagbert(at)abe.kth.se

Tuuli Hirvilammi, University of Jyväskylä / Kokkola University Consortium Chydenius,
tuuli.hirvilammi(at)chydenius.fi

Tuesday 6 June, 14:00 - 15:30

Contestation, contingency, and justice in the Nordic low-carbon energy transition

Sovacool, Benjamin

The five Nordic countries have aggressive climate and energy policies in place and have already emerged to be leaders in renewable energy and energy efficiency. Denmark is renowned for its pioneering use of wind energy, Finland and Sweden bioenergy, Norway hydroelectricity and Iceland geothermal energy. All countries aim to be virtually “fossil free” by 2050. This study explores the Nordic energy transition through the lens of three interconnected research questions: How are they doing it? What challenges exist? And what broader lessons result for energy policy? The study firstly investigates the pathways necessary for these five countries to achieve their low-carbon goals. It argues that a concerted effort must be made to (1) promote decentralized and renewable forms of electricity supply; (2) shift to more sustainable forms of transport; (3) further improve the energy efficiency of residential and commercial buildings; and (4) adopt carbon capture and storage technologies for industry. However, the section that follows emphasizes some of the empirical barriers the Nordic transition must confront, namely political contestation, technological contingency, and social justice and recognition concerns. The study concludes with implications for what such historical progress, and future transition pathways, mean for both energy researchers and energy planners

Towards a sustainable society beyond growth: strategies for Swedish policy and planning

Hagbert, Pernilla

While certainly not uncontested, there is nonetheless a growing recognition that a sustainable development – ensuring social justice while keeping within planetary boundaries - will require fundamental changes in society. This includes transforming contemporary power relations, prevalent norms and attitudes regarding progress and development. But what could such a transition look like in the context of an affluent welfare state such as Sweden? Within a dominant eco-modernist framing of the compatibility of environmental care and continued economic growth, Sweden has implemented policies that rely on the efficiency of large-scale infrastructure, and a techno-economic rationality in the incremental “greening” of society. While the “Nordic model” builds upon a culture of consensus, and an alliance between public and private interests, these characterizations are nonetheless increasingly contested, and a growing interest both among grassroots movements and in academia is instead calling for a critical examination of current growth paradigms and societal structures.

What a more radical transition towards a sustainable society might entail, and the implications for policy and planning, is explored in the research project “Beyond GDP growth: Scenarios for sustainable planning and building”, where we look at four different future scenarios for Sweden in the year 2050. Using the scenarios as a basis for discussion, the research aims to develop strategies for policy and planning in relation to four normative sustainability goals regarding climate and energy; land use; just distribution of resources; and power and participation. The role of various institutions and sectorial actors is addressed, exploring the prerequisites for engaging in alternative stories of development. What are the possibilities and conditions for change? How are such alternative storylines constructed and received?

Tuesday 6 June, 16:00 - 17:30

The dominant economic framework and post-fossil fuel reconstruction

Järvensivu, Paavo & Tero Toivanen

To mitigate global warming industrialized societies need to reconstruct their infrastructure. This should be accomplished in a way that enables good life without a massive use of fossil fuels. In practice, transitioning to a post-fossil fuel society requires limits to the fossil economy and significant investments in new technology, built environment, education and work. The changes need to be realized rapidly: global greenhouse gas emissions need to be reduced 85-100% by 2050 in order to avoid the most destructive consequences of climate change.

We argue that the dominant economic framework that defines the possibilities for societal solutions and guides political decision-making is incapable to rise to the challenge. It does not properly allow designing, guiding and financing a future society. Therefore we examine the challengers of the dominant economic framework, in particular Post-Keynesian thinking, which gives more attention to the political guidance of the economy and its practical possibilities.

So far, however, a post-fossil fuel transition has not really been part of the Post-Keynesian discussions (with some exceptions, e.g., <http://neweconomicperspectives.org/2015/09/a-us-climate-platform-anchoring-climate-policy-in-reality-13.html>). Moreover, Post-Keynesian theory has not gained such a foothold in economic policy discussions that one could base one's thinking on it for instance when politicians challenge each other publicly. In our presentation we propose that a multidisciplinary approach could advance the situation. It would diversify the toolbox used in the discursive struggle over the economy by extending it from the narrow economic frameworks to the direction of social and natural sciences. In this case, a researcher, a journalist or a politician could challenge those experts that approach economic issues narrowly from distinct economic-theoretical viewpoints by invoking the necessity of a post-fossil fuel reconstruction. The discussion would no longer operate in the limited economic framework but answers would be demanded to the question "what kind of economic activities need to be accomplished in order to achieve the material and social goals of the reconstruction".

Grassroots innovations in Finnish welfare state – creating alternative ways of work and participation

Hirvilammi, Tuuli

The present production, employment and income systems in Nordic welfare states are built on the premises of an unsustainable growth economy. Within this economic system, the challenge of unemployment is often seen as a social risk and an economic problem without understanding how employment is intertwined with the broader social-ecological system. Consequently, the aim of increasing production can result in improving the employment situation in a society at the expense of the resilience of the biosphere.

Arguing that welfare states cannot be fixed with incremental policy changes in order to meet the climate targets, we call for a more fundamental transition. The transdisciplinary research on sustainability transition understands transition as a system shift towards sustainable society. A multi-level perspective on transitions sees them as outcomes of the developments at three levels: landscape, regime and niche. Niche level refers to individual actors, small-scale technologies, and local practices developed by grassroots actors. This presentation focuses on not-for-profit grassroots innovations that are creating sustainable production and consumption patterns and new participation possibilities outside the formal labour market.

Based on case study data, the presentation shows how grassroots innovations such as food co-operatives, social kitchens and open art galleries contribute to sustainability transition in the area of work and participation. The development of these initiatives requires a strong commitment and engagement but rarely offers a sufficient source of income for the participants. Therefore, we study why people do

voluntary work, how they make their living and what kind of work is needed to advance alternative economy building. We also discuss what structural obstacles the grassroots innovations face and what policy changes could improve their transformative potential in the context of the Finnish welfare state. The presentation is based on a 4-year-long research project funded by the Academy of Finland.

Carbon footprint calculators for citizens – opportunities and limitations in changing consumption practices

Salo, Marja

Consumption is recognised as important in reducing greenhouse gas (GHG) as roughly 70 % of the GHG emissions result from household consumption. Online carbon footprint calculators illustrating e.g. the GHG emissions of our consumption (housing, mobility, food, consumption of other goods and services) have been introduced by e.g. research and non-governmental organisations. Calculators are used to raise awareness, provide tailored footprint information for citizens and advice for taking action as well as in interventions aiming to make consumption more sustainable.

While many studies on calculators have focused on calculation methodologies, our attempt is to shed light on the impact of calculators (sustainable) consumption practices and opportunities and limitations of calculators in tackling the unsustainable consumption patterns. The lessons are relevant for policy and intervention design.

The data consists of a desktop study of ten carbon footprint calculators for citizens and six interviews of calculator developers. Eight of the examined calculators are from the Nordic countries, one from the UK and one aimed for a global audience. The desktop study and interviews provide a data on: calculation principles and scope of the calculator, features to engage users, campaigns and interventions using the calculator, and number of users and impact on their personal footprint.

In this paper, we focus on the expectations on calculators (from calculator host perspective) and how the calculators were used in interventions. We use the practice theory approach in our analysis. The approach allows us to look into of material, competence and meaning dimensions of practices. We use the dimensions of practices to analyse the features of the interventions, especially the role of calculators, and discuss our findings in relation to policies of sustainable consumption.

9.3. Governing risk society – climate change adaptation policies and measures in comparative light, Room C1

Convenors:

Lennart Lundqvist, University of Gothenburg, Sweden, lennart.lundqvist@pol.gu.se

Hege Hofstad, Norwegian Institute of Urban and Regional Research (NIBR),

hege.hofstad@nibr.hioa.no

Tuesday 6 June, 11:30 - 13:00

Determinants of insurance companies' engagement in climate change adaptation – a cross country comparison

Seifert-Dähnn, Isabel

Insurance companies are considered as important actors to bring forward climate change adaptation, especially the adaptation to natural hazards. In Europe different natural hazard insurance systems exist in each country. They can be distinguished by the degree of governmental involvement, reaching from monopoly insurance over governmental relief funds to nearly pure free market natural hazard insurance

systems. Recent research suggested that policy as well as market factors influence the insurance sector involvement in adaptation.

In this study we hypothesize that in addition to those factors the type of risk and the insurance system play an important role in insurance sectors engagement in adaptation. The article is guided by the question under which circumstances it is considered “profitable” by insurance companies to engaged in adaptation, how they get engaged and what kind of adaptation measures are preferred under which conditions. The study uses a comparative approach and is designed as desk study supplemented with semi-structured interviews with insurance company representatives.

First results indicate that insurance companies have a broad range of options to get engaged in adaptation. Their main counterparts for adaptation activities are individual policy holders and government institutions and here especially those found at municipal level. In monopoly insurance systems i.e. system without market competition as e.g. in Switzerland, insurance companies directly invest in municipal precaution measures. They will directly receive the benefits of their investment in form of reduced claims after an event. The same investment would not pay-off in a competitive insurance system as policyholders are free to change to other insurance companies. Transfer of information to municipalities for better risk planning, but also education of policy holders concerning adaptation measures are important measures, which work out in all insurance systems. They can be further incentivized by risk-adapted premiums i.e. discounts in premiums for taking actions.

Resilience, its limits and the risk of flooding: the case of small firms and their dependent communities in the UK

Sharpe, Rebecca & Barry Goodchild

In the UK flooding has emerged as the most commonly experienced environmental disaster or near disaster, the consequences of which have involved great personal, social and economic cost in the past few years. Flooding has long been a problem in the UK and is likely to increase significantly in the future due to global warming and the consequent increase in rainfall and sea levels. In this context, there is almost unanimous agreement that ‘something needs to be done’. Public sector financial austerity and the need to find land for development of all types, including employment and housing have meant that ‘hard’ engineering solutions are no longer adequate. Instead, the promotion of resilience through ‘soft’ measures are increasingly necessary, either as a supplement or as a replacement for engineering works. There are questions, however, about the exact character of resilience measures and the extent to which policy and practice can rely wholly or mainly on resilience measures, especially as different communities and different firms vary so much in their capacity to cope.

This research proposal will focus on employment issues, the economic resilience of small firms and their dependent communities. Other studies have examined business resilience per se. The emphasis here is on the spatial aspects of business resilience and the relationship between business resilience and the process of urban governance. We intend to map the locations at risk in a case study area (South Yorkshire), estimate the numbers of jobs and then interview the key private and public sector actors. The analytical framework will be provided through adapting the socio-cultural risk theories of Douglas (1999: 2003) and Douglas and Wildavsky (1982). Planning theory and planning research is sometimes said to have moved towards a postpositivist research strategy (Allmendinger 2002). The example of flooding shows that postpositivist research is best understood as a mixed strategy combining the analysis of quantitative and qualitative material and recognising that risk itself has both subjective and objective characteristics.

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Tuesday 6 June, 14:00 - 15:30

A socio-technical analysis of electrified transport systems in emergency, disastrous and conflict situations; a case study of Canada, Mexico and Ethiopia

Zarazua de Rubens, Gerardo & Lance Noel, Kerry Probert

In light of climate change pressures and targets, several studies have investigated the electrification of transportation across many geographies; with much of this work focused on analysing the costs and benefits of achieving and supporting an electrified transport system. At the same time, there is a vast array of literature, particularly from international relations (IR) scholarship, that analyses emergency, disastrous, conflict and post-conflict development situations. However, little work has brought these two areas of study together to analyse the potential impacts of electrified transport systems under such situations of stress. Therefore, this paper builds a conceptual framework to analyse the socio-technical aspects of an electrified transport system under emergency, disastrous and conflict situations. As case studies, we apply this framework to the Fort McMurray wildfire in Canada 2016, the gasoline price crisis in Mexico (2016-17), and the Ethiopia-Eritrea post-conflict 2000.

The results of this paper will expand the discussion on the transition to electrified transport systems, exploring its feasibility and applicability during times of economic, social, political and environmental stress. Additionally, the results will highlight further the benefits and costs of the electrification of transport, and how these emerge and interact in emergency and conflict situations: such as potential reduced corruption or the potential range anxiety due to the state of charge of electric vehicles. Moreover, the results of this paper may encourage further studies on this area and serve to assist policy-makers and stakeholders when planning the development of electrified transport fleets, as well as develop guidelines of action during events of stress. The results will also contribute to the literature by utilising and intertwining aspects of theories of transitions, sustainability, socio-technical systems and IR scholarship. Therefore, this paper will provide further contribution in exploring the decarbonising of the transport sector and thus supporting the achievement of climate targets.

Governance of climate services: improving knowledge networks for climate risks and transformation

Vedeld, Trond & Mihir Matur, Aditi Phansalkar, Neha Bharti, Frode Stordal, Patrick Bueker

Networks have received prominent attention in the literature on public and private governing structures for climate change adaptation. A variety of positive attributes of networks is proposed – the capacity to share knowledge, create mutual learning opportunities, govern shared resources and address shared goals. The literature developing is preoccupied with the conditions under which networks can realize such key network attributes in an effective and efficient manner. This paper suggests that the conditions under which collaborative networks assume such attributes in a developing country context depend on a variety of factors beyond those often presented in the international network literature, and those often thought of by the service providers.

Using the analytical framework offered by network governance theory, the paper explores institutional changes related to the governance of climate services that have emerged in response to climate change challenges in the Monsoon belt of India over the last couple of decades (in the state of Maharashtra). A case study of the Norwegian climate services system is weaved into the paper in order to illustrate similarities and differences in conditions for operating similar networks under different social and political-economic settings. Empirically, the paper outlines the evolution in the landscape of a variety of climate service providers, both public, private and civic, and analyses their institutional features and strategies for communicating agro-metrological information to planners and farmers. These providers operate under hierarchical, market-based and network modes of governance - respectively.

A key challenge to effectively manage any public problem in a network setting is the appropriate transfer, receipt and integration of knowledge across participants. The paper raises a set of challenges related to

the management of the networks and transformation of appropriate climate/agro-weather messages to farmers regarding institutional capacities, managerial skills for integration of knowledge, collaborative strategies, as well as poverty and lack of access to tools and managerial skills among the poor/female farmers/end-users e.g. to smart phones and internet. The service provider-user relationships face challenges of tailoring, accessibility, costs, timeliness and two-way communication.

Torn between war and peace: critiquing the use of war to mobilize peaceful climate action

Kester, Johannes & Benjamin Sovacool

Notable studies have suggested the potentiality of the WWII wartime mobilization as a model for climate change adaptation and/or mitigation. The argument being that we need a similar rapid and total shift in our industrial social and economic environment to prevent or at least address the pending impacts of climate change. This argument and these studies have inspired us to think with them on what it means to use the WWII war analogy as a security claim in energy and climate change debates. Here, we would like to use this opportunity to draw attention to some of the implicit dangers of a call to war in such discussions. Among others we observe, first, the absence of any attention to the actual mobilization policies, in terms of garnishing public support. Second, based on the insights from Critical Security Studies, we question the historical incongruence of the case study especially by comparing the perceived enemy in both cases. Lastly, building on that same security literature, we point to some undesirable and perhaps unintended consequences of the use of war analogies in climate change debates.

Tuesday 6 June, 16:00 - 17:30

Politics of knowledge in Euro-Arctic adaptive governance

Tennberg, Monica

This presentation will discuss climate change adaptation from the perspective of governance in the European Arctic. The countries in the region, Finland, Sweden and Norway, have been active in developing climate change adaptation at different levels, and collaborate also on the international level, in various regional bodies, such as Arctic council, Nordic Council of Ministers and Barents cooperation, on climate change issues while Russian Northwest is still in the early stages in awareness of adaptation issues. The ideals of adaptive governance – such as diversity, cooperation, mobility and flexibility – require broad, multidisciplinary and effective use of knowledge, inclusive participation and multilevel coordination among actors, and commitment to continuous learning based on knowledge. These issues will be discussed on the basis of recent experiences in a government-funded project and report (Tennberg et al. 2017) on “The changing Barents region – How will Finland adapt?”, in particular to discuss the role of regionally based knowledge for development of adaptive governance.

Is the problem global mean temperatures, or political will? Navigating varied problem definitions while co-producing research about albedo modification in the Arctic

Buck, Holly & Ilona Mettiäinen

Given the slow progress of decarbonizing energy systems, some scientists have modeled modifying the albedo to reflect incoming sunlight as a climate intervention. This could cool the planet globally, or regionally in the Arctic, bringing risks, possible benefits, and political complexity. Climate intervention strategies are not created equally: different designs can produce different climatic results, and this is one of many reasons why the co-production of knowledge about them is crucial. This paper presents an example of a project which incorporates citizen ideas, concerns, and questions early into the research of albedo modification in the Arctic, with the rationale that “upstream public engagement” is better for science and society. We conducted semi-structured interviews, public lectures and focus groups in Finnish Lapland about climate intervention, and are conducting climate modeling work based upon this qualitative work to examine scenarios of winter duration and conditions under climate change and climate

engineering. While stakeholder participants were generally interested in learning about and discussing the implications of albedo modification strategies in the Arctic, they also were interested in placing these strategies in a broader frame of climate solutions and wider range of places, with interest in research on issues like consumer lifestyle changes, re-localization, renewable energy research, and the lack of political will to mitigate emissions. In the paper, we discuss the tension between different boundings of the problem under investigation in projects of knowledge co-production, and how to use that tension productively.

Wednesday 7 June, 11:00 - 12:30

Positive impacts of climate change adaptation projects on non-urban communities in Denmark

Baron, Nina

In recent years, climate change adaption research has focused on larger cities. However, many of the areas facing extensive challenges from climate change are located outside urban areas. Municipalities furthest away from large cities often face various challenges connected to population decline, loss of workplaces and social problems. This makes their economic situations difficult and the resources the public can spend on climate change, limited. With limited resources and struggles concerning responsibility for protection, it is relevant to explore if climate change adaptation can be more than an expense. In this project we explore how climate change adaptation projects outside larger cities can provide value to local communities in ways that reach further than only flood protection.

This research focuses on the different types of actors, such as municipalities, utility companies, citizens, politicians and emergency management organizations and how they contribute to climate change adaptation measures in local communities. The Danish municipalities have different practices for climate adaption projects. Cases in three different Danish municipalities are investigated to identify variations in those practices. We do this by analyzing case studies focusing on dikes – their building, maintenance and administration. Dike building and maintenance are often the center of conflict, grounded in different values connected to local areas. However, insights into those controversies can be a way to gather knowledge about potential improvements of local communities. How can resources spent on climate adaptation also have positive impacts, such as improvement of nature, livability, local tourism and business opportunities? Through this research, we aim to spur learning and broader understanding of potential ways to improve the value of climate change adaptation projects outside of cities.

Governing local risk societies – how to ensure coordination and durability in local adaptation work?

Hanssen, Gro & Hege Hofstad

In recent year, it has been acknowledged that climate change adaptation has to b mainstreamed into existing policy domains in order to achieve cooperation across sectors, coherence and durable and long-term strategies and measures (Rauken et al 2015, Hanssen et al 2013, Rydell et al. 2010). In Norway, local government has the main responsibility for climate change adaptation, while regional and national level have a facilitating and controlling role. Local government has a wide room of maneuver for how they define the need and operationalization of adapting to future climate changes (St.meld. 33 (2012-2013)). Thus, in this paper we study local climate change adaptation, by analyzing a nation-wide survey to all municipalities. Here we ask if climate change adaptation has been mainstreamed into existing policy domains, ensuring coordination, comprehensiveness and durability. This is operationalized by, firstly, asking the municipalities if climate change adaptation has been mainstreamed into the local planning hierarchy (all the plan-types of the municipalities). Secondly, the municipalities are asked if they work cross-sectoral (whether or not they have established cross-sector groups/networks, have a coordinator etc). Thirdly, it is operationalized by the extent the political leadership, ensuring an overall political direction to the work, is perceived to embrace this cross-sectoral policy field. Lastly, we analyze the

variation between municipalities, more specifically how size, affluence, vulnerability to natural hazards, experienced with natural hazards and political affiliation can explain the variations we find.

Wednesday 7 June, 14:00 - 15:30

Adaptation to climate change and the importance of knowledge – results from a multi-level study the public sector in Norway

Orderud, Geir Inge & Jon Naustdalslid

Based on literature studies and semi-structured interviews with government employees, this paper is presenting findings from a project on the use of and role played by knowledge in adaptation policies of central government agencies (national and regional administrative levels) and the local government (small and medium sized municipalities) in Norway. The transformation of (scientific) knowledge to policies and policy measures and subsequent implementation, or action, is at the centre of climate change adaptation. This applies to each of the administrative levels, as well as between the levels of the governmental hierarchy. For the hierarchy of Central to Local government the issue of bridging gaps between global, scientific knowledge and local, context dependent knowledge also makes its entrance. Within this frame of transformation of (scientific) knowledge, the paper will discuss the importance of different types of knowledge at different levels, the role of uncertainty for how this knowledge is applied for taking actions or not, thereby situating knowledge in the broader field of barriers to climate change adaptation.

Translating Knowledge on Climate Change Risks into Urban Planning: A comparison of local climate adaptation in Germany, Sweden and Norway

Hofstad, Hege & Lennart Lundqvist, Stefan Görlitz, Eduard Interwies

This paper analyzes the interplay between climate scientific information/projections and political judgments as expressed in local planning. Starting from an institutional framework that highlights the differences and similarities among the three countries, we combine data from one city case study in each country to answer three research questions: A) How and to what extent is climate change knowledge translated into local planning? B) Who are the local and regional translators or transmitters of climate knowledge into planning? C) What are the drivers of and barriers to the uptake of information? Legal and institutional factors contribute to the translation process by providing both legal demands on the assessment of risks and channels of learning about adaptive measures. As for transmitters, local planning administrations actively seek information and frequently use internal and/or external networks and expertise to guide urban planning. However, the information uptake into planning practice varies. Concrete measures for channeling climate change information into planning have been developed and used in the Swedish and Norwegian cases. The German case, however, to a lesser extent have translated climate knowledge into concrete planning measures. A mixture of institutional differences, risk exposure and political willingness helps to explain this pattern.

TRACK 10: CAPACITY AND KNOWLEDGE

10.1. Co-production of knowledge for sustainable futures, Room D14

Convenors:

Heli Saarikoski, Finnish environment institute, heli.saarikoski(at)ymparisto.fi

Taru Peltola, Finnish environment institute, taru.peltola(at)ymparisto.fi

Maria Åkerman, VTT Technical Research Centre of Finland Ltd, maria.akerman(at)vtt.fi

Tuesday 6 June, 11:30 - 13:00

Futures in the making: Smart Energy Finland 2030 in a Delphi survey

Jalas, Mikko & Mikko Rask, Tatu Marttila

Science and technology studies have highlighted the enmeshing of academic work and policy processes. Our case, 'Smart Energy', refers to an ongoing sociotechnical change in which researchers are increasingly involved while seeking to address social challenges. Thriving from such stand-points, academics engage in transformational future-oriented work. However, such work raises many questions. While academics are expected to 'talk truth to power', more cynical views recognize their interests as well. Moreover, pragmatic views underscore the need to negotiate with and yield to existing social orders. We report on an ongoing Finnish major, six-year research project 'Smart Energy Transition' (SET). This project is funded through a novel funding instrument Strategic Research Council (SRC), which aims bring about policy-relevant research. The SET-project included a Delphi survey, which aimed to generate foresight and exploratory scenarios about possible changes in the Finnish energy system. We focus on the drafting of the survey which led into particular technologies, time frames and questions, and thus treat the survey as an outcome of selective 'futures work' by academics.

We provide a close-range, self-reflexive view on performing energy visions as academics. We ask 1) how and to what degree funding instruments such as the SRC frame energy futures, and 2) how researchers negotiate the agenda and inherent politics of futures work.

Drawing on documents, external evaluations, internal position papers, participant observation and interview data, we account for the enactment of a shared academic vision of Smart Energy Finland 2030 in a form of a Delphi panel composition and survey questions. The energy future which emerges, we argue, is a mix of methodological considerations, specific academic backgrounds and expertise, public energy discourses such as 'energy security', established national and industry interests as well as neoliberal policy approaches of seeing futures as business opportunities.

Shaping policy development in a UK Government department

Zimmermann, Nici

Policy-making organisations are often accused of linear and narrow-focused thinking and decision-making, failing to account for the diversity of human needs and goals, even the diversity of goals existing across different government departments. Accordingly, resulting government policies can be fragmented and do not account for the multiple aspects important for human wellbeing. As unintended consequences arise across a broad range of outcomes, an integrated, system-wide and participatory approach to policy-making is needed. It needs to shape thinking around policy-making to interlink the different individuals and organisations interacting with these policies.

This paper suggests a participatory systems approach that engages diverse policy-makers in a process of co-creation and shared learning. Instead of focusing on single policy development, it develops a process fuelled by systems thinking and participatory system dynamics modelling to shape policy-making. It refers

to a collaboration with a UK government department and takes policy-making about domestic heating energy use as an example. The collaborative approach uses interviews, workshops, qualitative mapping and causal loop diagramming to jointly establish causal maps of nonlinearities, complex interrelationships and feedback processes in the area of domestic heating energy efficiency and use.

The collaborative project shows that interest in systems thinking can be triggered through a participatory research project and interaction with a simulation environment. It also presents a process for engaging collaborators with different interdisciplinary background and discusses challenges and successes. Finally it reveals how participants unfamiliar to systems thinking can engage in a new way of thinking and collaborating.

From 'speaking-truth-to-power' to collaborative knowledge exchange: the science-policy nexus in forest bioenergy policy

Saarela, Sanna-Riikka

Researchers' role has changed. No longer can researchers be perceived as objective and autonomous knowledge producers sitting in their ivory towers and speaking truth to power. It has been pointed out that particularly for current societal and environmental problems, often labeled as post-normal or wicked, dialogue and interaction between policy-makers and researchers with respect to policy issues is essential. However, despite the decades-long debate and developments around science-policy nexus, day-to-day interaction and impact remain a challenge – scientific evidence is often disregarded in policy-making. By investigating and reflecting researchers' perspective on challenges and opportunities of evolving interaction between science and policy in a context of post-normal policy problem, namely forest bioenergy, this paper contributes to ongoing discussions on and development of workable and effective science-policy nexus. Research material consists of 12 in-depth interviews with experienced forest researchers working at different research organisations and universities in Finland. The results highlight multiple challenges that researchers constantly meet with, such as diversity of roles, difficulties in recognizing and acknowledging the context of science policy nexus and problems with coping with politicization of science. At the same time it proves to be important and rewarding for a researcher to contribute to policy-making. Thus, it appears that more emphasis should still be put on establishment of effective boundary work and inclusive knowledge production practices around science-policy nexus.

Tuesday 6 June, 14:00 - 15:30

Elements of success in discussion platforms for knowledge co-production

Girard, Jennifer & Larissa Koch, Martin Kowarsch

We conceptualize discussion platforms as forums at the science-policy interface for bringing together diverse individuals to exchange scientific and other knowledge on a given topic to provide legitimate input to decision-making. Under some conditions, for example where participants are treated as equals and exhibit mutual respect, these platforms may foster deliberation and knowledge co-production. Discussion platforms have the potential to provide a space for different actors to 'reason together' and to build trust, shifting the focus from the products of knowledge integration to the process (Jasanoff, 1998; Miller and Erickson, 2006; Goodin, 2008; Renn and Schweizer, 2009; Armitage et al., 2011; Kowarsch et al., 2016).

This research investigates what particular aspects of discussion platforms have proven successful in facilitating deliberation and knowledge co-production via knowledge exchange. We focus our analysis on national-scale discussion platforms (mainly Germany) convening knowledgeable and influential stakeholders on sustainability-related topics requiring action in the medium- to long-term. We have conducted a review of the literature as well as a thematic analysis relying on relational coding of a small number of select, semi-structured background interviews with highly experienced individuals. We then

sketch out what characteristics are most appropriate for discussion platforms in the specific context of exploring the social aspects of the energy transformation in Germany.

Our findings highlight several aspects of discussion platforms which are more likely to result in deliberation and knowledge co-production. These include: better aligning the objectives with the design of discussion platforms; clarifying the objectives and expectations amongst participants and organizers alike; designing platforms as adaptive learning processes; avoiding processes seeking consensus on ultimate findings or solutions, but rather seeking consensus on the major points of disagreement between participants; presenting multiple perspectives on the same scientific findings during discussions; and finally, ensuring platforms offer follow-ups with participants and avoiding one-off engagement practices.

Participatory knowledge production in environmental expertise: Beyond institutional fixes to co-production

Kunselser, Eva

This contribution evaluates critically the notion of institutional fixes in participatory knowledge production. In institutional settings of environmental expertise, such as the IPCC or IPBES, the implementation of more participatory ways of working hardly challenges the predominant technocratic way of working and the linear view on the relation of expert agencies to their publics. Scholars in science policy studies have pointed to institutional fixes as an important reason for innovative participatory attempts, like transdisciplinary research, to lack transformative power. Stakeholders become encapsulated as extended peers within technical assessment processes. A phenomenon described as 'technocracy of participation'.

I go beyond the notion of institutional fixes to a co-productionist view on participatory knowledge production in institutionalised expert settings. Through the lens of co-production, social structures and institutions are not simply considered as given. Instead, institutions are interpreted and re-interpreted in the day-to-day work of social actors. From a co-productionist angle, practices of participatory knowledge production are, in fact, meaning-making and identity-forming activities.

Using the transition process in the PBL Netherlands Environmental Assessment Agency in the period from 2008 to 2015 as an exemplary case, I analysed how environmental experts connect participatory forms of knowledge production to their traditional assessment repertoires. My findings illustrate how PBL experts creatively seek to engage with 'extended peers' in an independent, rigorous and legitimate manner. During participatory assessment processes they encounter institutional fixes, which they challenge at the same time through the very act of participation and reflecting on what counts as policy relevant, scientifically sound and independent advising in participatory settings. Through the lens of co-production, experts appear to diversify their meanings of what counts as a 'good' advice and what is presumed to be a legitimate role for agencies, like PBL, which aim to produce transformative knowledge for sustainable futures.

The knowledge co-production and effectiveness of the EIA

Käpylä, Jonna

Large projects that have significant effects on environment, such as industrial plants, mining establishments, or road infrastructures, require the making of environmental impact assessment (EIA) that is a preventive and participatory environmental policy and management instrument. Many studies have concluded that the main challenges of EIA lie outside the assessment process, in the decision-making phase, and how the EIA is linked to the decision-making. The developer, who is responsible for the preparation and implementation of a project and making of planning decisions, has a key role in the EIA process, because the developer owns the power to determine the timing of assessment and how much resources are put into it, and how well the assessment (including participation and knowledge co-production) is linked to the planning of the project.

This study approaches the problem, the vague relationship between EIA and decision-making, by scrutinizing how the co-production of knowledge in the EIA affects the relationship between EIA and decision-making. The paper aims to answer the following research questions: (1) What kind of new knowledge is currently created (not created) in collaboration? (2) How this knowledge is used (not used) in the decision-making of the planned project? (3) What opportunities and threats are related to the knowledge co-production in the EIA?

Data is collected by conducting an interview study among developers and EIA-consultants. Analysis is based on a method of qualitative content analysis.

The paper offers an analysis of the current and future value of knowledge co-production in EIA, from the perspective of the developer. How the need for – or redundancy of – knowledge co-production is justified by the developer, helps to identify the key motivation and obstacles of knowledge co-production, and furthermore, to find ways to develop knowledge practices in EIA that are beneficial both for the developers and society.

Tuesday 6 June, 16:00 - 17:30

Community Gardens and Cross-Institutional Knowledge Production

Bársony, Fanni

There is a rich literature investigating the positive social impacts of community gardening. The typically urban initiatives are considered as sites for leisure activities, food production, and various social interactions that increase the quality of life within and beyond the gardening communities. Much has been written on the potential of the gardens in sustainability related knowledge creation concerning both practical ecological knowledge (e.g. waste minimization, composting, water usage techniques etc.) and the cooperative and collaborative practices that promote civic engagement and local participation. There is little empirical evidence however on how the place-based knowledge produced by community gardens can be integrated in the neighbourhood or city scale context. I investigate community gardening projects in a European metropolis (Budapest) and their interaction and collaborative processes with multiple stakeholders such as local governments, educational institutions and civil society organisations. I ask if there is an interaction taking place between the gardens and the local stakeholders with the aim of knowledge sharing and co-production (i); what kind of knowledge is being produced (ii); and how the practical knowledge and social values gained through the gardening can be transferred into other stakeholders' approaches and institutional practices (iii). My qualitative data suggest that much depends on the profiles, motivations and collective identities of the particular gardens. In case there is institutional openness and the local tradition of cooperation between stakeholders, knowledge can be co-produced by the actors that strengthen community resilience and also have the potential to challenge the existing practices of local decision- and policy making.

Methodology for demystifying the futures of cities with dwellers

Wessberg, Nina & Anu Tuominen, Maria Åkerman, Mikko Dufva

The significance of cities as living, working, leisure and travel environments continues to grow through increasing urbanization. The future strategies of cities should acknowledge the changing needs of various dwellers and respond to trends changing the operating environment. Accordingly, there is a need for deeper understanding on the future ways of living and emerging needs. External trends and other expert knowledge need to be interpreted in the context of everyday life of the dwellers. In this paper, we introduce a methodological approach to incorporate dwellers into the often expert driven knowledge production concerning the future of cities.

In the first phase our approach is the systematic mapping of future trends related to development of urban areas. During this phase, interesting urban plans and developments, experiments, pilots and ways to

operate are identified. The mapping process provides examples of how on-going and emerging trends such as aging, immigration, digitalization, sharing economies, urban food production, climate change and sustainability materialize in different cities.

In the second phase this expert knowledge is used to feed participatory scenario building with dwellers. We understand the scenario building as a form of participatory urban governance operating at the interface between politics and everyday living. To create a dialogue between expert knowledge and dwellers' experiential knowledge, we utilise methods from arts and design. The aim is to make space for dwellers' knowledge expressed ie. in terms of emotions, to challenge the implicit assumptions about futures and demystify the future.

In addition to the methodology, we present the scenarios produced in the process. We also elaborate the opportunities and challenges for creating actionable and policy relevant knowledge through the introduced methodology. The study is a part of the Dwellers in Agile Cities strategic research project funded by the Academy of Finland.

Community based geospatial platform as knowledge co-production tool in Marine Spatial Planning

Menegon, Stefano & Federica Appiotti, Daniel Depellegrin, Elena Gissi, Chiara Venier, Irene Bianchi, Denis Maragno, Alberto Innocenti, Andrea Barbanti, Francesco Musco, Alessandro Sarretta

Maritime Spatial Planning is a planning process aiming at promoting a rational organization of maritime uses and marine resources, minimizing conflicts that may emerge among activities taking place in the maritime space, to ensure a sustainable future of marine areas. The analysis of current and potential interactions among users and user-environment are crucial for an equitable and accepted planning process. Many information platforms exist that provide decision makers and stakeholders with data and information aiming at highlighting anthropic and environmental dynamics in maritime spaces, but, currently, there is no consensus about spatially-aware tools capable of effectively supporting decisions.

This research presents the ADRIPLAN Portal (data.adriplan.eu), which is an integrated, collaborative Spatial Data Infrastructure (SDI) and web-based platform for publishing, sharing and processing of MSP relevant data in the Adriatic-Ionian Region (AIR). The platform is based on open source standards focused on three shared knowledge principles:

(1) Shared data. The platform allows user communities to create and share multidisciplinary geospatial data on anthropogenic uses (e.g. maritime traffic, aquaculture, tourism) and environmental features (e.g. habitats, mammals, birds) of sea areas in the AIR. (2) Shared analysis. The built-in web-based tools named Tools4MSP allow user communities to run geospatial scenario analysis of (i) cumulative impacts of anthropogenic activities on the marine environment, (ii) sea use conflicts based on FP7 COEXIST Project methodology and (iii) socio-ecological dimension of marine resources through habitat based ecosystem services capacity mapping. (3) Shared Knowledge. Geospatial datasets, user generated thematic maps and the customized scenario runs are open accessible among users.

In conclusion, we discuss the importance of shared SDIs supporting MSP enabling an active co-production of knowledge as well as a deeper involvement of key actors and citizens' communities in knowledge generation and in planning and decision-making processes.

Wednesday 7 June, 11:00 - 12:30

Agricultural water protection projects creating knowledge for sustainability transformations in Finland

Huttunen, Suvi

More sustainable farming practices are actively promoted at multiple levels of governance in the European Union. Part of the implementation of agri-environmental policies has occurred through providing funding for local level environmental projects with direct aims at creating and promoting environmentally friendly farming practices in particular places. In Finland, these projects have mainly focused on water protection. The projects produce and spread knowledge related to water protecting cultivation practices with different ways of engaging local farmers and their knowledge. The purpose of this paper is to examine the functioning of these projects from the perspective of practice theory and assess how the knowledge creation and spreading practices within the projects interact with the cultivation practices they aim at influencing. Empirically the research is based on thematic interviews of people employed in the water protection projects and participating farmers. Three distinct knowledge practices were identified: top down informing, two-way intermediation, and role mixing knowledge co-production. These practices contributed to cultivation practices in different ways. While top-down informing aimed at influencing the meanings and knowledge farmers attach to cultivation practices and this way influence their behavior, the other two knowledge practices engaged concretely with cultivation practices. This way they managed to better mobilize material, spatial and temporal dimensions of cultivation with potential to develop locally functioning solutions and induce more rapid and permanent transformation in cultivation practices. The co-production of knowledge and meanings occurring in some of the projects demonstrates the applicability of the project approach in successfully engaging different knowledges. Simultaneously it raises questions related to the organization of the projects and their relationship to policy-making and scientific knowledge more widely.

Increasing effectiveness of nature conservation through science-policy interface

Salomaa, Anna

We live in the time when scientific knowledge has showed global trends of degrading quality of the environment and diverse drivers for the change. Unfortunately societies have not been able to translate this knowledge into actions that would have reversed worrying trends. Policies for sustainable future require understanding complicated knowledge-decision making dynamic with various stakeholders. I have studied topical Finnish empirical cases on science-policy links focusing on knowledges, policy instruments and their interaction in order to understand how to improve the effectiveness of conservation of nature, especially mires and forests. In both cases voluntariness and connectivity have been central aspects. The results show how policies should be designed and existing practises improved to allow practical and local application of knowledge. Combination of policy instruments should also be considered when planning holistic policies, like green infrastructure. Voluntary instruments highlight the need to understand the roles of different knowledges in policy processes. With voluntary forest conservation instrument, collaboration of stakeholders was integral part of increasing conservation. Interaction of various knowledges may have a complicating effect on knowledge use in practice, but different knowledges can be integrated to get more effective results. In a case of political conflict, policies benefiting from ecological knowledge can be overrun by powerful interest group, which was particularly visible in mire policy case. We argue that the involvement of stakeholders needs to be combined with the evidence-informed approach. In this way a combination of policy instruments which simultaneously increase evidence uptake, acceptance, and effectiveness leading to more sustainable future, can be developed.

Sustainable futures: comparing methodologies for identifying topics across citizen visions

Repo, Petteri & Kaisa Matschoss, Päivi Timonen

Citizens are increasingly engaged in co-producing sustainable futures for reasons ranging from improving quality of insights to accountability and empowerment (Renn & Schweizer 2009, Jasanoff 2003). Methodologies for sequential involvement have been designed to secure citizens' integrity in such foresight (Gudowsky et al. 2012): citizens envision first, experts then analyse their visions, and finally citizens review outcomes. It is then a key task to analyse citizen produced knowledge to make it usable in forthcoming sequences. Such analysis is often conducted manually due to the relatively small amount of data, which makes qualitative methodologies a viable option. Nevertheless, such methodologies are laborious and may be difficult to report transparently.

Yet when engagement is of large scale and creates much data that needs to be analysed quickly, computer tools could be a useful option to rely on. This paper reviews the usefulness of applying an established tool to this aim: the NLTK toolkit for the analysis of human language data (Bird et al. 2009). As data it uses 179 visions on desirable and sustainable futures which were developed by over 1.000 citizens in European 30 countries (Jørgensen & Schøning 2016). The toolkit is used to identify topics through co-occurrence of words using dedicated scripts which prepare the text for analysis (Davis 2013), and results are visualised using Gephi software. The outcomes of this analysis are then compared with results from a dedicated two-day workshop in which experts analysed the visions.

Topics ranging from education to alternative economic systems and from health to global conflict emerge in the analysis. These topics adhere to results that emerged in the workshop, and the analysis shows that large amounts of citizen generated data can be reviewed quickly and reliably with computer tools. Such analysis further follows citizen contributions closely as it eliminates the need for separate interpretive frameworks.

10.2. Globalization and the right to research, Room D14

Convenor:

Emma Jane Lord, emmajlord(at)gmail.com

Wednesday 7 June, 14:00 - 15:30

Democratic POE methods for sustainable schools

Wheeler, Andrea (talk through Skype)

Green or sustainable schools are an important typology from which to explore questions of changing social behaviors, inclusivity and difference, as well as the more usual objective of reductions in energy efficiency and innovation in material production. Building performance studies, including post-occupancy evaluations (POE), are increasingly taking into account behavioral and social dimensions of sustainability; and adopting ethnographic and art-based research methodologies to examine building users' relationship to their environments. The need to create new ways to inhabit is not in question, nor is the role of the built environment in this task; but confronting methods of scientific norms and accounting perspectives that promise to build future ecological worlds: these are difficult to challenge faced with the biases of the profession. In this paper I examine contemporary evaluation methods that adopt alternative research philosophies to build agency in young people and foster democratic and inclusive school communities, and with reference to studies carried out with children in their own school environments, demonstrate how different POE approaches can address "green wash" and also confront the limited expectations of architects working in sustainable design. It is crucial that we are able to contest what is meant by sustainable design and sustainable lifestyles: and evaluation tools that include radical educational objectives, and allow communities to explore futures that demand both social and technical change, have potential in their feedback to significantly transform the ways architects design.

Schooling, Expertise and REDD+, by lake Tanganyika

Lord, Emma Jane

Co-benefits put the + on the end of Reducing Emissions from Deforestation and forest Degradation (REDD+), conceptualized as a triple win for climate, biodiversity and communities. However, performance indicators, used to ensure co-benefits through UN safeguards, are non-mandatory following discussions at COP17 in Durban, South Africa. Scholars have predicted –when introduced into contexts of unequal access to capital, labor and credit– REDD+ will be biased against the interests of rural communities and maximize exploitation by elites. Sociologically speaking, how does this process take place? This article focuses on how power dynamics, social-political relations and technical expertise shape REDD+ financial distribution, looking specifically at excluded actor groups and their interactions with the forest conservation planning and management process. Analysis is based on five months of observation and comprehensive interviews at a REDD+ pilot site, on the Western Tanzanian border, interviews in Morogoro and Dar es Salaam. Understanding organizations as human constructs, we approach the global policy of REDD+ as itself constituted within a concrete local project, within a real international conservation NGO, their practices and interactions with communities, politicians, experts and intermediately actors linked to global hierarchical chains. Results reveal how REDD+ intensified pre-existing tendencies towards elite capture, through the use of jargon to justify hierarchies of expertise. Costs of forest protection were borne by shifting cultivators and pastoralists, who were marginalized and stigmatized as backwards, in accordance to post-colonial norms of modernization and post-independence state promotion of sedentary village formations. Evidence from this study, combined with the non-materialization of results based payments at the global level, casts serious doubt on the advantages of a market-based approach to REDD+.

Neoliberalism and the environmental crisis

Nikula, Ilari

The paper aims to explore the connections of neoliberalization and the prevailing conception of the 'global environment' and its crisis. Thus far, the global environmental prescriptions (the policy decisions that are guided and justified by the prevailing understanding of 'global environment' and its crisis) have been complicit with and supportive of the growth of neoliberal systems of governance and depoliticized instruments of power. They have created a set of circumstances which increase the penetration of neoliberal markets and neoliberal ideas of organizing the social. The depoliticizing effects, in turn, reduce the sphere of democratic political deliberation and debate while issues are placed under technocratic management and consensual policy-making of global institutions.

These issues are studied through the works and ideas of Michel Foucault, especially through his ideas about how power works, and about governing, and his understanding of the nature of our social reality. He approached the world, and all the truths we hold about it, discursively. The paper views the construction of the 'global environment' as a creation of an object of knowledge and a sphere within which certain types of intervention and management are made possible, while contributing to the larger aim of managing the lives of populations. I focus my attention specifically on the implicit social order environmental prescriptions embrace. From the production of 'environment' as global and all-encompassing it occurs that these prescriptions and their implications are biopolitical in nature. Thus, the paper analyzes the conception of the 'global environment' and its problematique as a part of what Foucault called "the regulatory biopolitics of the population."

TRACK 11: WATER GOVERNANCE

11.1. Is strengthening spatial thinking the new hope for sustainable marine governance? Constructing a critical social science perspective, Room D12

Convenors:

Riku Varjopuro, Finnish Environment Institute, riku.varjopuro(at)ymparisto.fi

Andrea Morf, NORDREGIO, Sweden

Fred Saunders, Södertörn University, Sweden

Kira Gee, Helmholtz-Zentrum Geesthacht, Germany

Tuesday 6 June, 11:30 - 13:00

Introduction to the session

Riku Varjopuro

Creating space for theoretical reflections on marine governance and MSP

The shifting sea: Lively space, immersed planning

Jay, Stephen

It is widely acknowledged that marine spatial planning (MSP) should be responsive to the dynamism of the marine environment and the relatively tenuous human relationship with the sea. However, MSP remains conceptualised mostly within rationalistic terms that limit this potential. This paper seeks to place MSP within the context of wider spatial theory that holds greater promise for developing more progressive practice. Firstly, the interrelation of MSP with current notions of soft space is explored, suggesting that MSP is expressing some of the geographical and institutional freedoms of soft space and also contributes new insights to this debate. Secondly, an analytical and normative framework is developed that builds upon soft space principles, but also draws in, on the one hand, underlying relational understandings of space, and on the other hand, further insights from marine contexts. This leads to a picture of marine space-being-planned that is described as lively space, expressing, amongst other things, the sea's materiality and nature-dominance. This concept is illustrated through an empirical study, based upon the framework, of a strategic MSP exercise for the Baltic Sea region. Finally, it is suggested that MSP itself should be reconceptualised as immersed into this spatial ontology, with the agents and practices of planning taking their place within the wider assemblage of marine actants and relations.

Empirical perspectives on integration challenges and ongoing institutional learning in MSP

Institutional learning in Maritime Spatial Planning from a Territorial Governance perspective – Lessons from Baltic SCOPE

Giacometti, Alberto & Michael Kull, John Moodie, Andrea Morf

Robust governance structures are needed for solving cross-border problems in marine use and governance. Their construction and maintenance implies developing features and methods for different types of integration and the need for multilevel (i.e. individual, group, institutional) learning. The learning environment encompasses multiple actors and sectors, embedded in multi-levelled governance structures featuring institutional and other differences between countries, different planning stages and aims.

This paper focuses on the Baltic SCOPE project, a rich case of institutional learning and in order to shed a light on how processes of institutional development and learning occur in transboundary MSP. Baltic SCOPE is one of the pilot projects involving marine planning authorities, research and other marine

knowledge actors in collaborative processes to develop contacts and cross-nationally coordinated marine spatial plans in the Baltic Sea area.

The theoretical foundation of this paper is the concept of Territorial Governance (Schmitt & Van Well 2016, Lidström 2007; Gualini 2008; Davoudi et al 2008), applied to examine how territorial specificities and place-based knowledge is identified, understood and integrated. Novel from a research perspective is the application of Territorial Governance in MSP. We answer three sets of questions:

- 1) How does integration develop and occur with regard to:
 - Institutional actors' collaboration
 - Stakeholder engagement
 - Cross-sector integration
 - Marine / country specifics and the role of site specific characteristics and place-based knowledge in this context?
- 2) What are obstacles and enablers for institutional, group and individual learning?
- 3) What are implications for future institutional development, a related research agenda and MSP theory development?

Baltic SCOPE gave birth to a nascent transboundary network. It fostered cross-border integration and learning through site-specific knowledge. A still fragile pan-Baltic epistemic community (Haas 1992) emerged. Among the obstacles was lack of political ownership; issues observed need to be resolved and up-scaled to other levels and forums.

Challenges and opportunities of transboundary integration in Marine Spatial Planning – The multidimensional integration puzzle in the Sound between Denmark and Sweden

Morf, Andrea & Helena Strand

During the last years a rapid development of institutions and instruments to manage coastal and marine space has occurred, not the least under the label of Marine Spatial Planning (MSP). Although MSP is anchored in national legislation, it reaches beyond national boundaries. Coherence of national plans within a marine basin has to be ensured by transnational coordination. Driven by the EU's recently adopted MSP directive, member states are presently developing their institutional frameworks and preparing marine plans required by 2021. The Baltic Sea area is a forerunner, with some existing marine plans, a transnational collaboration forum (HELCOM-VASAB working group on MSP) and a row of MSP-related projects. As a multi-level, cross-sector spatial coordination process, MSP needs to "integrate" various dimensions, including nations, administrative levels and sectors (balancing use and environmental interests) and stakeholders and their knowledge. The BALTSPEACE project aims to investigate what integration implies, what its challenges are and how they are addressed in practice and provide insights on how integration praxis and theoretical reflection on MSP could be developed further. This paper explores challenges and potentials of transboundary integration in the Sound between Denmark and Sweden based on on-going MSP and other planning. The Sound is a highly attractive coastal area with a sensitive environment under high use pressure and a long tradition of local level transboundary interaction but institutional fragmentation and gaps at higher levels. With the development of transboundary national MSP, the challenges include two nations with differing priorities in different planning phases, overlapping institutional responsibilities and, and numerous unmobilised stakeholders. Our analysis explores this setting and the links between different integration dimensions to discuss potentials and limitations of transboundary integration in MSP on a local level – including implications on planning theory, methods and capacity development in MSP.

Tuesday 6 June, 14:00 - 15:30

Challenges and opportunities of stakeholder integration in MSP – in transnational contexts

'The living Q' – A Methodological approach to support stakeholders in exploring their viewpoints on transnational Maritime Spatial Planning

Ripken, Malena & Xander Keijser, Thomas Klenke, Igor Mayer

Emerging marine spatial planning (MSP) practices in European seas are characterized by diverse approaches and lacking transnational cooperation. MSP can be considered as a societal process to balance conflicting interests of maritime stakeholders, as well as the environment. MSP is of high interest in international marine policy development. Research and the identification of mismatches and synergies is necessary to eventually aim towards a coherent and coordinated process at European sea basins. The Q Methodology is a tool to systematically study participant's viewpoint and to investigate expert's perspectives and values that shape MSP interaction. We ask participants to rank a series of statements about MSP into categories from strongly disagree to strongly agree, in order to engage stakeholders in ongoing MSP discussions on the dimensions and mindsets of transnational collaboration. We developed the 'the living Q' exercise as an adaptation from the Q Methodology. The 'living Q' has been applied in context of the EU Interreg NSR NorthSEE project where we showed a number of pre-selected statements on MSP to a larger group of stakeholders. Subsequently, participants ranked and sorted these statements into predefined categories in a living environment, by moving around the room. These statements cover key MSP aspects from ecosystem-based management, to harmonization of rules and policies. Predefined rules encourage participants to decide on a different category for each statement. The method has hence been tested in a living, communicative and playful environment. The method fosters communication and interaction among actors and demonstrates a new participatory approach. This access to transnational cooperation in MSP represents an instrument that has the potential to generate added value by a more informed actor participation when investigating experts' mindsets in a collaborative setting.

Exploring challenges and enablers of stakeholder integration in transboundary Marine Spatial Planning – results and reflections from the Baltic Sea Region

Morf, Andrea & Helena Strand, Kira Gee, Holger Janssen, Anne Luttmann, Joanna Piwowarczyk, Igne Stalmokaite and Jacek Zaucha

The last decade has seen a rapid development of management institutions for marine space, not the least under the label of Marine Spatial Planning (MSP). Driven by a recently adopted MSP directive, European Union member states are presently developing their institutional frameworks and have to present transnationally aligned marine plans by 2021. The Baltic Sea area is a forerunner, with some existing marine plans, a transnational collaboration forum (HELCOM-VASAB working group on MSP) and a row of MSP-related projects. As a multi-level, cross-sector spatial coordination process, MSP needs to "integrate" a number of dimensions, including nations, administrative levels and sectors (balancing use and environmental interests), and last but not least stakeholders and their knowledge. The BaltSpace project aims to investigate what this integration implies, what its challenges are and how they are addressed in practice and discuss how both integration praxis and theoretical reflection on it could be promoted. This paper explores challenges and potentials of stakeholder integration comparing cases in Germany (national-regional), Latvia/Lithuania, Poland (fisheries in MSP), the Oeresund (Denmark/Sweden), and the Baltic (working group on MSP). In legislation, there are often high ambitions to involve citizens and user communities beyond administrative and powerful organised stakeholders, but so far reality looks different – and may do so in future. There is a large field of relevant experience and theory that can inform marine planners. They are struggling with similar problems as territorial planners, but are in the complicated situation to plan transboundary, across different institutional systems and cultures and with a highly mobile user community interacting in changing marine ecosystems they know still little about – while developing institutional structures and procedures. Based on the situation in Baltic

Sea we discuss potentials and pitfalls of stakeholder involvement in MSP and the implications for methods, capacity development and planning theory.

Challenges and opportunities of stakeholder integration in MSP – empirical insights and method development

Using a Coastal Character Assessment as a public engagement tool for Marine Spatial Planning

Slater, Charlotte

Coastal character assessments, also known as seascape character assessments, are a relatively new method of assessment and is strongly related to landscape character assessments which were carried out extensively across the United Kingdom during the 1990s. A coastal character assessment can work alongside a marine spatial plan and help to provide a link between the terrestrial and marine environments, as it considers the connections between and made by our coastal landscapes.

The Shetland Islands, Scotland, have developed significant experience of marine spatial planning, with work beginning in 2006 on the first edition of the marine spatial plan as a pilot project. Now in its fourth edition, which has been adopted by the local authority to guide and assess licence applications, in 2016 a regional planning partnership was formed to deliver statutory regional marine planning on behalf of Scottish Ministers, the first partnership of its type in Scotland.

In 2014 a pilot coastal character assessment was initiated, before being extended across the entire archipelago over the next two years. The purpose of a coastal character assessment is to survey a specific stretch of coastline looking at a variety of topics such as historic uses, geology, the surrounding landscape and experiential values. This paper will consider how the work done for the Shetland coastal character assessment, which incorporates an assessment of the inspiration the coastline provides culturally, where people value and use around the coast and which informal activities are carried out while visiting the shore, showing how this type of assessment can be a valuable tool to engage with the public and allow for more public participation within marine spatial planning.

Tuesday 6 June, 16:00 - 17:30

More creative space for reflection on marine governance and spatial planning – and next steps

A Foucauldian Discourse Analysis of Marine Spatial Planning in the UK

Flannery, Wesley & Geraint Ellis

Spatial management measures in relational marine space – implications for maritime spatial planning

Varjopuro, Riku

Two on-going global policy developments, namely the designation of marine protected areas and spatial planning of the seas, are approaches that strengthen the spatial thinking and practices of marine governance. Spatial management measures are interventions into dynamic and ever changing socio-material environments, which have implications on various actors and their relationships.

This paper studies how introduction of a new spatial management measure changed the conditions for human activities in the case area and sparked fierce debates on higher level policy arenas, as well. The intervention created new boundaries and also new linkages between places and levels, altered power relations among the actors, but also enacted new stakeholder interactions by introducing collaborative planning processes.

This paper improves the relational understanding of the making of spaces and places in marine contexts to inform of the increasing implementation of spatial approaches in marine governance. Methodologically,

the paper analyses marine place in the making. The paper builds on a discussion on the relational understanding of space and place and the emerging discussion on the spatiality of marine areas. This paper shows how introduction of new spatial management measures brings forth the existing spatial relationships and people's various relations with the space and resources at sea. Also, the questions of power and sovereignty surface as a result of the intervention. This calls for a respect for pluralism in the process. The spatial management initiatives should avoid single hierarchy definitions of the marine space to allow impartial negotiations and discussion on the desired futures of marine areas.

Wrapping up and the next steps

Varjopuro, Riku & Andrea Morf (together with all workshop participants)

Summing up the workshop and exchange on developing a social science research agenda to contribute to development of marine spatial governance practices. Reflect and collect ideas for future activities of the European MSP Research Network.