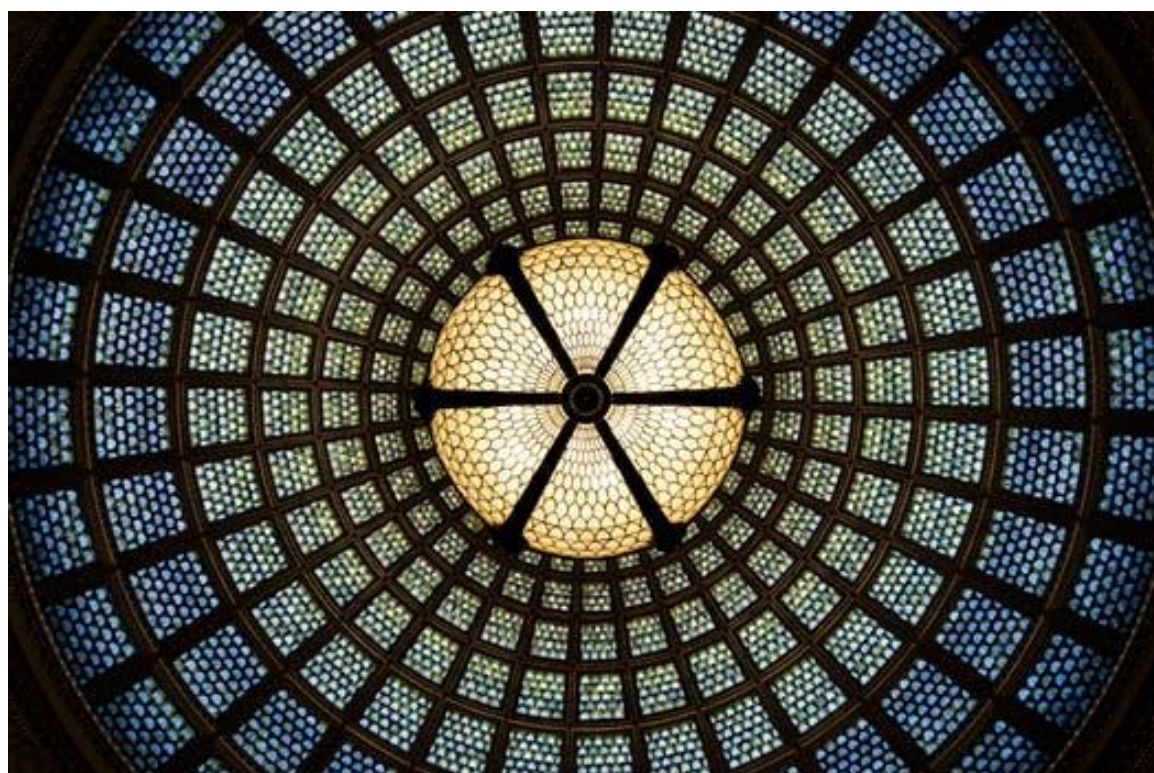


4TH ENERGY AND SOCIETY CONFERENCE

University of Exeter, September 2018

Abstract Book



Monday 3rd September 2.40 – 4.10

Public engagement

Rm 2.1

Chair: Catherine Butler

Author(s):	Sarah Becker, C. Demski, D. Evensen, E. Roberts, N. Pidgeon
Title	Energy, Technology and Society: Socio-technical Imaginaries
Abstract	Public acceptance and engagement will be crucial to the necessary shift in the energy system away from fossil fuel dependence. Building on previous work on public values towards energy system change (Demski et al., 2015) this study examined public views on responsibility for funding the transition to a lower carbon energy system in the UK. Five focus groups (6-9 participants each) were conducted in Glasgow, Cardiff, Birmingham and London (x2). The thematic analysis showed general support for a move towards a low carbon energy system, while some concerns were raised, e.g. over affordability. Government and energy companies were seen to have greater responsibility to finance such a transition, given their larger structural power and their financial means. The public was already seen to be paying their share through bills and taxes. Distrust was evident in participants' criticism of energy companies' profits, which were particularly problematised in the context of fuel poverty. Distrust was further highlighted in participants' concerns over a lack of transparency in energy companies' tariff structures and reporting of figures. Addressing profits and transparency will pose some of the factors likely to influence public engagement and willingness to support (including financially) the costs of an energy transition.

Author(s):	Varho Vilja (Luke), Riikka Paloniemi, Annukka Vainio, Anna Pulkka, Petri Tapio
Title	Citizens' views on the future transition towards decentralized renewable energy
Abstract	Decentralisation of the energy system is made increasingly possible with new energy technologies. In Finland, the distributed renewable energy forms could play a central role in the transition towards the decarbonization of the energy system. Citizens' engagement is important for the transition to be successful and therefore we need to know citizens' views of the transition. In this study, we explore citizen perspectives of transition dimensions and pathways, with a focus on the renewable decentralized energy forms in Finland. We used the data gathered with a citizen survey (n=1000) of the adult population (17-75 years of age), conducted in Finland during the autumn 2017. The responses were analysed with exploratory factor analysis. Four dimensions of transition were identified: 1) renewing energy market, 2) state, 3) niche and, 4) consumer awareness. Transition was perceived as taking place through five pathways: 1) mainstreaming, 2) international actors' operations, 3) citizens' activeness, 4) profound systemic change, and 5) redistribution of political power. The results demonstrate the multidimensional nature of the

	citizens' views of the future of distributed renewable energy forms and of the energy transition potential. Both consumers' and citizens' roles in transition need to be included for understanding the possible energy transition pathways.
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Author(s):	Gareth Thomas, Christina Demski, Nicholas Pidgeon
Title	Deliberating Technologies and Governance for Energy Storage
Abstract	This paper examines findings from four deliberative workshops with members of the British public to explore the discourses and values underpinning perceptions of energy generation and storage systems at centralised, decentralised and domestic scales. Participants were recruited to reflect a range of community experiences including urban and suburban homeowners, private and social rented tenants in Birmingham and Aberdeen and a community living without connection to the national gas grid near Abergavenny, South Wales. While discussion at times necessarily centred the risks and benefits associated with different technologies, here we focus on six archetypal models which have been proposed for managing the introduction of energy storage as part of wider energy system transition processes: community energy, household energy independence, municipal energy provision, new user practices, traditional energy company provision and virtual power plants. Our analysis explores how participants received and rearticulated these logics of governance and elucidates how discourses and values associated with independence, fairness, trust in civil society, market and state agencies emerged in participants' discussion of different governance options. In so doing, we identify key perceptual fault lines underling imaginaries for future energy systems which shaped perceptions of different governance and technology combinations.

Author(s):	Elisabeth Franziska Ruef, Olivier Ejderyan
Title	Public engagement in a geothermal energy program: understanding the emergence of collectives of participation
Abstract	By looking at the development of a geothermal energy program in Geneva, Switzerland, this paper contributes to discussions on which forms of participation can support the transformation of energy systems. Research on participation often analyzes single cases without considering wider systems they might be part of. In return, research on energy transitions looking at participation as part of a socio-technical system, tends to take the system boundaries and the actors as given. We argue that especially for a new and unknown technology like geothermal, it is crucial to design, organize and analyze participation as part of a 'whole system' of transformation. We build on existing constructivist frameworks looking at participation 'in the making', and analyze the publics of geothermal energy as emerging collectives of participation in the Geneva context. Being reflexive about our role as researchers in the process, we draw insights on the emergence of collectives of participation as well as mechanisms of exclusion and resistance in order to evaluate different forms of participation.

Chair: Karen Bickerstaff	
Author(s):	Ana Horta, João Carlos Sousa, Luísa Schmidt
Title	Energy poverty in Portugal
Abstract	Energy poverty seriously affects living conditions and health, being associated with excess mortality in winter and summer. In spite of its mild climate, Portugal has been pointed out as being among the most vulnerable countries in the European Union. In general, a combination of factors including low income levels, high energy prices and poor thermal efficiency in buildings has been considered as driving energy poverty. However, until recently the problem has been overlooked by national decision-makers, and research conducted so far is also very scarce. This paper contributes to a better understanding of the forms of energy deprivation, as well as the specific socio-cultural factors affecting Portuguese households. This sociological study is based on interviews with energy poor households recently conducted across the country. In order to capture the diversity of individuals lacking adequate energy services at home, the sample of interviewees includes both rural and urban dwellers, several family types, and individuals of different ages, social and economic status, and living in different types of buildings. This research has been funded by the program PPEC 2017-2018.

Author(s):	Ioanna Kyprianou, D. K. Serghides and S. Dimitriou
Title	The Impact of Energy Policies and Measures on Energy Poverty in Mediterranean Countries
Abstract	The plight of Energy Poverty (EP) and its growing importance in the European Community, the need for action plans in all Member States, as well as the need to enable the protection of vulnerable consumers, are well recognised. Previous research has revealed that the economic crisis in Mediterranean countries has severe effects on the energy services (heating, cooling, lighting etc.) and the indoor environmental quality of the low-income households, putting at risk the health and even the life of the residents. This paper will focus on the need to strengthen the scientific basis for alleviating EP by identifying gaps in the existing energy policies, as well as opportunities for policy synergies in Mediterranean countries. The study will focus in Cyprus and the Energy Poverty orientated national policies and measures. The research will involve the compilation of an evidence base of scientific research and case studies of best practice, in combination with energy policies and measures, in order to alleviate energy poverty either directly or indirectly. The relationship between energy policy and population at risk will be further discussed. The study will conclude with recommendations regarding the energy policies and measures linking energy efficiency and other related energy policies (financing etc.) to targeted programmes and ways in which policy reform as well as the development of common frameworks to address the issue can best be used to combat energy poverty.

Author(s):	Bartiaux Françoise, Anne Baudaux
Title	Energy poverty in the Brussels' Region: Asymmetric social aid procedures, and (mis-)recognition
Abstract	Three years of fieldwork on energy poverty in the Brussels' Region and 20 in-depth interviews with persons experiencing a difficult access to domestic energy allow questioning the concept of social justice and the so-called energy justice paradigm. Neither access to energy nor access to social help are equal for all, as this presentation will show. In this Brussels' Region, policy instruments to fight energy poverty are numerous and varied re their funding: public (regional or municipal), public in cooperation with NGOs, and so on. The detailed observation of these procedures and their more or less bureaucratic and asymmetric characteristics appears to be linked to the feelings of misrecognition, both among "the users" (as they are called by the social workers) and among some social workers themselves. The individualisation of responsibilities is also at stake. For "the users", misrecognition is often associated with stress, lack of self-confidence, anger and/or shame that prevent them to keep track with administrative procedures and to get the best of institutional help.

Author(s):	Sylvia Mandl
Title	Energy cultures in the context of fuel poverty: Exploring the energy consumption patterns of Austrians living with limited resources.
Abstract	Unlike the United Kingdom, Austria has only just started to address the problem of fuel (or energy) poverty and existing measures lack a profound scientific basis. In order to identify different manifestations of the problem in Austria as well as different profiles, a multidimensional analysis of private energy consumption was carried out based on qualitative and quantitative secondary material of two Austrian research projects on fuel poverty. Drawing on the "energy cultures framework" of Stephenson et al. (2010), five different types of (fuel) poor energy users were identified. The results of the research show differences of people living in fuel poverty with regard to their material culture, norms, practices and knowledge/skills. In order to illustrate the impact of fuel poverty on the individual quality of life, the empirical results will be discussed in context of existing studies, definitions and strategies.

Theory, Concepts & Methods

Rm 2.3

Chair: Matthias Gross	
Author(s):	Chris Groves, Karen Henwood, Nick Pidgeon, Fiona Shirani, Erin Roberts
Title	Islanded, connected, visible, intangible? Mapping expert imaginaries of whole energy system transition
Abstract	Whole energy system transition implies both complex processes of socio-technical change and complex sets of public values.

	Making sense of what may happen (the future ‘possibility space’) and what is at stake (the ‘issue space’) are social tasks to which, as science and technology studies (STS) scholars have argued, future imaginaries contribute resources. Such imaginaries provide symbolic templates (Mordini 2007) for understanding possible futures. Often such imaginaries have been associated with single technologies. STS has mapped numerous examples in relation to energy, such as nuclear and all-electric futures. The complexity of a coming renewables-based transition, however, mobilises imaginaries that include within them multiple energy vectors, the governance of the energy system, and the role of publics and other stakeholders. To explore these whole-system imaginaries, we report on interviews undertaken with academic engineering experts and others involved in demonstrator project delivery working on the ERDF-funded Flexis project in South Wales, UK (http://flexis.wales). Despite there being much shared common ground, in the shape of a whole systems imaginary of decentralisation, this brings with it a complex space of possibilities within which different socio-technical constellations can be imagined. These constellations have characteristics with very different implications for energy research and energy policy.
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Author(s):	Paula Kivimaa, Wouter Boon, Sampsa Hyysalo, Laurens Klerkx, Mari Martiskainen, Johan Schot
Title	How do intermediaries advance sustainability transitions? Conceptual insights on intermediary action in different transition phases
Abstract	Increasing attention has been paid to intermediaries, i.e. actors that connect multiple other actors involved in transitions and the processes at play. Previously, it has been highlighted that intermediary actors appear necessary and they operate in many levels to advance transitions; building from grassroots action to delegitimising existing institutional frameworks and lobbying for new ones. We hypothesise that such actions and the need for them vary during the course of transitions. Yet, little explicit insight is available on this that would cover particularly the later transition phases. We create an analytical framework that builds on phases and levels of transition. Through this framework, we argue that the functions and activities of intermediaries can be differentiated on the basis of their level and phase of operation. Thus, we elaborate a conceptual proposal for intermediation in pre-development, take-off, acceleration and embedding, destabilisation and stabilisation phases, showing that important changes in intermediary actors/functions are partially related to different transition phases but also to battles between different intermediaries. We empirically illustrate our framework drawing on examples from car clubs, community energy, heat pumps, wind energy and low energy building transitions.

Author(s):	Kaisa J Matschoss, Petteri Repo
Title	Actor-network analysis of sustainable energy experiments
Abstract	Transition theory holds that experimentation and innovation activities taking place in niches are essential for systemic change. Among scholars, studying representative cases has become a

	widely applied procedure for assessing technological and economic stages of sustainability transition (Geels 2002; Raven 2007; Verbong & Geels 2007; Verbong et al. 2008; Matschoss et al. 2016). To go beyond single case studies, this paper examines a large collection of energy related experiments as actor-networks in order to reveal, which kinds of experimental transition processes proceed jointly and how subnetworks connect to each other. Studying energy experiments beyond the perspective of individual cases provides novel, systemic knowledge on sustainability transition. Taking theoretical cue from actor-network theory (Callon 1986; Law and Hassard 1999; Latour 2005), we examine connections between identified case characteristics. We use data from the Energiakokeilut database which contains over carefully and systematically collected 100 Finnish cases on energy pilots and experiments (www.energiakokeilut.fi). Particular focus is on energy sources, technologies, site, forms of energy use and locality. The visualization and exploration software Gephi is used in the analysis. Key connections and their relevance to energy transition are given particular attention.
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Author(s):	Claudia Foltyn, Matthias Sebastian Klaes, Reiner Keller
Title	Comparing Energy Discourses – The controversies on hydraulic fracturing and shale gas in Germany and Poland
Abstract	Over the last few years, hydraulic fracturing has captured the interest of scholars from the social sciences seeking to understand the controversies and the sociocultural consequences surrounding the use of this technology. Within this context, discourse oriented research has been concerned with media representations or with the construction and use of different narratives within shale gas debates. However, this research has mainly focused on national debates, while comparative discourse analysis is still rare. Drawing on the Sociology of Knowledge Approach to Discourse (SKAD, Reiner Keller), and on examples from the debates on shale gas and fracking in Germany and Poland, we suggest a discourse analytical perspective to comparatively examine different politics of knowledge with regard to country-specific constellations of economic, political and environmental narratives. In doing so, we intend to provide a contribution towards understanding current conflicts under the conditions of transformative energy politics.

Politics and Governance

Rm 2.4

Chair: Alena Bleicher	
Author(s):	Margaret Tingey
Title	Business models and citizen activism in the German municipal energy sector: key insights for UK and Scottish energy contexts
Abstract	In Hamburg, Germany, a 2013 referendum resulted in initiation of a process by the Hamburg city state to buy back the energy distribution grids which had been owned and operated by E.ON and Vattenfall since privatisation in the 1990s. This paper

	examines this process in the context of increasing knowledge about prospects for UK municipal energy. In UK and Scottish energy contexts there is emerging consensus around the need for a new energy role for local authorities that could include coordinating energy retrofit of buildings, district heating development, and assisting in developing smart, flexible and resilient local energy systems. This opens the potential for a democratisation of energy with increased diversity in forms of ownership and control, some being municipal and community based. Such democratisation would represent a significant shift in modes of governing in UK energy since privatisation. Two key insights from the Hamburg case are identified. First, the ownership and business models in use and their connection to values. In Hamburg, municipal ownership is thought to enable achievement of the social and environmental values of democratic control, renewable energy sources, and energy justice. Second, the citizen engagement and consensus building processes across city partners. The processes aim to enhance strategic decision-making and investment for clean energy systems.
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Author(s):	François Joseph Daniel, Rémi Barbier, Victor Bailly
Title	The Moral Economies of Biogas in France
Abstract	Over the past 20 years, biogas production has become a source of alternative energy that contributes to the development of circular economy. Its development relies on a genuine techno-economic sector which is composed of a heterogeneous set of actors that include engineers, project holders, equipment suppliers, consulting agencies, public planners, etc. Not only does this sector aim to develop the technological aspects of biogas, but it also organizes material flows, negotiates the production and distribution of value, and more broadly frames the economic relationships between the different actors. Our exploration of this topic, which is based on the case study of French biogas production, shows that the deployment of such sectors brings into play « moral economies » that structure economic exchanges and govern the circulating of material flows. In this context, the concept of moral economies refers to the values, the norms and the moral principles that frame human activities by selecting / excluding entities, dividing constraints and responsibilities, and allotting charges and profits.

Author(s):	Julian R Dobson
Title	Are energy transitions societal transitions? The excluded imaginaries of environmental leaders
Abstract	What happens when the institutions that anchor and stabilise modern cities seek to become agents of environmental transformation? Can environmentally sustainable futures be fashioned by the institutions that contribute to fossil fuel dependency? This paper explores the construction of environmental imaginaries within urban 'anchor institutions' in the north of England, exploring the contested discourses, restricted visions and 'saliently unsaid' critiques (Linde, 2001) in play as institutions seek to escape from 'carbon lock-in' (Unruh, 2000).

	Based on empirical research in three cities, it reveals how potential alternative futures are both constrained by embedded institutional logics (Thornton, Ocasio & Lounsbury, 2012) and enabled through the everyday praxis and 'institutional work' of situated actors (Seo & Creed, 2002; Lawrence & Suddaby, 2006). In particular, it examines how constructions of 'low carbon' futures confine organisations and actors within the bounds of a limited concept of ecological modernisation (Jänicke, 2008). By paying attention to the sensemaking and interpretive processes at work in everyday practice and institutional discourse, it is argued that institutional spaces can be identified in which rupture and dilemma (Bevir & Rhodes, 2005) can become creative tools for challenge and long-term change, opening up the possibility of rewriting broader institutional narratives.
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Dynamics of Demand

Rm 2.5

Chair: Pia Laborgne	
Author(s):	Nicolette Fox
Title	Here Comes the Sun: The evolution of a Prosuming Project within a social housing estate
Abstract	"There have been times when I couldn't afford to do their washing. I've done it flipping hand washing just because I couldn't afford to run the washing machine, but now I haven't got to worry about that... 'Right kids, chuck it in!'" This is a story of how seven families in social housing became prosumers - producers and consumers - of solar power. The mother who stopped worrying about having to pay for new shoes for her children. Another who, for at least part of the year, no longer had to choose between cooking a Sunday roast and washing her family's clothes. The teenager who started to time her clothes washing to coincide with solar generation. And yet at the outset many of the households ignored the offer of the free solar panels. Prosuming was associated with "posh" homeowners rather than their community which is in the top ten percent most deprived areas of England (DCLG, 2015). However, what was striking from the research was how quickly this meaning changed. As panels appeared on roofs, knowledge became embodied, and friends shared solar stories, so the physical and social fabric of the estate began to change. Alongside this was a shifting sense of solar entitlement and the desire to share the homemade energy within their community. My SPRU doctoral research explored how 'prosuming' solar electricity evolves among social housing tenants with prepayment electricity meters. It directly engages with Gordon Walker's call for more studies to explore potential future sustainability "losers" (2013. p. 182). Using a Social Practice Theory framework, but also drawing on Time Geography, the study analysed prosuming as a 'project' (eg Hagerstrand, 1982; Hui and Spurling, 2013; Pred, 1981, Shove et al., 2012; Watson and Shove, 2008). This involved prosuming practitioners actively

	“mobilising” three elements - meanings, skills and materials (Shove et al., 2012, p. 78) - and “orchestrating” social practices such as laundering (Watson and Shove, 2008, p. 81) to the fulfilment of the project. Additionally, the empirical research highlighted the important role of two dominant institutional projects: ‘Feeding-the-Meter’ and ‘Maintaining-Family-Routines’, for making space for prosuming in the daily pathways of busy families. The empirical study highlighted how, in line with my conceptual framework, the Prosuming Project evolved across three stages - adopting, establishing and committing to it. What also emerged from the research was a fluid typology of prosuming practitioners: tentative, periodic and transformative. Additionally, I advised three local authorities on how to improve their solar PV rollout programmes based on the research, as well as producing a booklet and YouTube film with the families involved in my study.
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Author(s):	Tom Roberts
Title	Let’s talk about thermal comfort
Abstract	Scientists and engineers have been developing models of thermal comfort since the emergence of the heating, ventilation and air-conditioning industry at the beginning of the 20th century. These models are highly technical and based on concepts such as temperature, humidity and air speed, clothing insulation and watts of metabolic heat/m². Such approaches may be ‘useful’ for designing heating and cooling systems but fail to recognise that comfort has a strong social dimension. In more recent years, social scientists have started to address this through a wide range of empirical studies focusing on economic behavioural and social aspects of thermal comfort. However, a major challenge associated with documenting the ‘social’ aspects of thermal comfort is finding innovative ways to encourage people to articulate thoughts about mundane practices which are undertaken largely unconsciously as part of everyday routines. This paper explores the advantages of utilising thermal imaging technology to help people visualise the thermal efficiency of their homes and consider their heating practices. The paper explores the possibility that by helping people understand about the thermal efficiency of their homes they will be in a stronger position to make changes to their practices.

Author(s):	Georgina Wood, Rosie Day, Emily Creamer* , Dan van der Horst, Atif Hussain, Shuli Liu, Ashish Shukla, Mark Gaterell, Panagiotis Petridis, Nicholas Adams, Victoria Brown
Title	Sensors, sense making and sensitivities: Household’s experience with a feedback display on energy consumption and indoor environmental conditions.
Abstract	In-Home Displays (IHDs) have been described as “drivers of revolutionary change” in the way feedback on energy use is provided (Faruqui et al, 2010, p.1599). One observed limitation of standard IHDs, however, is a lack of “sense-making” information to support decisions about lifestyle changes related to energy use (Buchanan et al, 2015, p.92). Information on indoor environmental

	conditions (IECs), such as temperature, humidity and carbon dioxide (CO₂) levels, may help individuals connect changes in energy consumption with changes in domestic comfort. This could reduce the risk of individuals responding to energy consumption data in ways which may be detrimental to wellbeing, e.g. turning heating down too low or preventing ventilation. However, there is a lack of studies that have investigated the impact of installing these systems in standard homes. We report on a six-month trial of a novel integrated energy meter and IEC sensor system and custom-designed display with 19 households in the Midlands of England. Drawing on two rounds of semi-structured interviews with participants, we explore how this data was interpreted and any resulting changes to household practices, to consider the potential utility of integrating IECs in energy feedback display.
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Locality, energy and community

Rm 2.6

Chair: Aleksandra Wagner	
Author(s):	Fionnguala Sherry-Brennan, Patrick Devine-Wright
Title	Putting shared ownership of renewable energy projects into practice: practical challenges and policy turbulence
Abstract	The potential for alternative business models to increase the social acceptance of controversial low carbon energy technologies, notably onshore wind farms, has led several European governments to recommend the shared ownership of renewable energy projects. In the UK, both the 2014 Community Energy Strategy and subsequent Task Force recommended developers take a voluntary approach to sharing between 5-25% of project equity with communities. Despite the potential for shared ownership to increase distributive and procedural justice associated with energy projects, little research to date has examined the challenges faced by diverse actors involved in making shared ownership work in practice. To address this gap, a qualitative method was employed involving 15 in-depth interviews with industry and community stakeholders actively involved in four shared ownership projects in England. Thematic analysis revealed that there were ambiguous definitions of shared ownership and uncertainty around workable financial models. Diverse actors, including lawyers, PR companies, Ofgem, and intermediary organisations, coalesced to manage the perceived risks of community involvement. Novel community organisations were created by intermediaries to enable 'communities' to work with developers in their pursuit of innovative shared ownership arrangements and in the developers' haste to meet feed-in tariff deadlines in a turbulent policy environment. We conclude that shared ownership in practice faces significant challenges requiring not least a financially stable policy environment, guidance/assistance for communities around working with large-scale infrastructure, and mechanisms enabling diverse stakeholders to come together and develop best practice guidelines.

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Author(s):	Michael Ornetzeder, Alicia Gutting, Tanja Sinozic
Title	User and community involvement in the integration of renewables in a local energy distribution network
Abstract	Local communities may play a multifaceted role in the transition of the energy system. They not only depend various forms of energy to provide services for their users, they also are places of distributed production and flexible demand. In recent years, small localities have been conceived as testing beds for the role of households, buildings and electromobility in future smart energy systems, with capacities to combine energy efficiency with flexible forms of production and consumption. However, comprehensive and integrated solutions for local communities have only been tested and implemented in a few pilot and demonstration projects (PDPs) so far. PDPs serve as a learning environment for different aspects of technology such as functionality, acceptability, usability and scalability of products and systems. Yet, apart from information on how PDPs have met their own project goals, little is known about the role of users in the successful implementation and durability of their tested solutions. This paper examines user and community involvement in the integration of renewables in a local distribution network in Köstendorf, a rural municipality in the smart grid model region Salzburg in Austria. In recent years, Köstendorf has become a pioneer testing site for the implementation of a range of technologies via smart grid PDPs. The projects focused on the integration of photovoltaics, electromobility and buildings, with a total of 90 buildings, 43 households with PVs and 36 electric vehicles taking part. The paper uses a case study approach to collect novel empirical data using interviews with engineers, policy-makers and users, and observations gathered in site visits. When analysed using a socio-technical perspective of technological change, we expect the findings to highlight the importance of active user involvement, local networks, and pre-existing social resources.

Author(s):	Alessandro Sciullo, Winston Gilcrease
Title	Communities Supporting the Energy Transition: conceptual and practical remarks
Abstract	In the face of increasing threats of climate change and energy security, one positive outlook is the drive for innovative grassroots approaches towards a more sustainable energy system. Local Energy Communities (LECs), often organized in a cooperative model, are a key player in grassroots innovation, aiming to create more economically inclusive and sustainable systems. LECs contribute to a more secure, affordable, inclusive and sustainable energy system by moving the incumbent centralized model based on fossil fuels to a decentralized model based on renewable energy technologies. As the energy transition intensifies, an increasing number of scholars, citizens and policy-makers are advocating for a more decentralized structure. The current energy transition will be accelerated and more widespread when citizen involvement is at its core. By driving

	citizens to produce and consume their own energy, LECs bring multiple benefits to grid management, the environment, and, cooperation among citizens on local or regional levels. We will investigate how varying regulatory systems, trust in institutions and various financial mechanisms can support community energy projects and contribute to a successful energy transition.
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Author(s):	Michiel A. Heldeweg, Séverine Saintier
Title	Community Energy Initiatives as a 'Socio-Legal Institution': towards a social Right of Access to affordable, secure and sustainable energy?
Abstract	The rise of renewable energy sources and the need for an energy transition come with a shift in attention from government and market energy governance to local community initiatives and self-regulation. Although the European Union and many of its Member States appear to welcome this shift, the issues of regulatory adaptation to the rise of such community energy initiatives and 'prosumerism' remain as yet unresolved. This is regrettable since in practice such actors struggle to find proper institutional formats to organise their efforts. The aim of this paper is to offer some legal analysis and institutional models as guidelines to assist in these efforts. Through a 'top-down' line of analysis, we will consider when and how to treat community energy governance as a separate socio-legal institutional sphere, co-existing along state and market energy governance, with its own legal characteristics. In particular, we will consider how we can reconcile voluntary networking and prosumerism, key underlying concepts of community energy initiatives and cooperatives, with the rules that govern the regulated energy market? Then, through a 'bottom-up' line of analysis, we will consider different legal formats for community energy initiatives as applied in practice, particularly in cases in the Netherlands and in the UK, in order to mapping key distinctive types/features as a basis for this socio-legal institution. Those two approaches will then be brought together, in a 'whole systems' approach, and evaluated on their potential in delivering a just transition.

Tuesday 4th September

Public engagement

Rm 2.1 (& 2.6)

9.00 – 10.30

Chair: Catherine Butler	
Author(s):	Christina Demski, S. Becker, G. Thomas, D. Evensen, N. Pidgeon
Title	Public conceptualizations of energy as a need and basic right
Abstract	
Author(s):	Regine Sønderland Saga, Rachel Dunk, Paul O'Hare

Title	Understandings of the Smart City: The Perspective of University Students
Abstract	

Author(s):	Catherine Cherry, Nick Pidgeon
Title	Exploring public values for a low material future
Abstract	

Author(s):	Fulvio Biddau, Mauro Sarrica, Barbara Di Pietro, Paol Cotton
Title	Public participation and social acceptability of energy system change: Findings from a longitudinal and multi-scalar investigation of a regional case study
Abstract	

11.00 – 12.30

Rm 2.1

Chair: Catherine Butler	
Author(s):	Catherine Queen
Title	Exploring public disengagement from proposed overhead powerline consultation processes through a Bourdieuan lens
Abstract	

Author(s):	Mel Rohse, Rosie Day , David Llewellyn
Title	Emotions in an energy system: the case of a South Wales former mining village
Abstract	

Author(s):	Etienne Bailey, Patrick Devine-Wright, Susana Batel
Title	Understanding public responses to power line siting: combining place and project-based research pathways
Abstract	

Author(s):	Susana Batel, Patrick Devine-Wright
Title	Populism, different-level identities and responses to energy infrastructures at different scales: A post-Brexit reflection
Abstract	

11.00 – 12.30

Rm 2.6

Chair: Giorgio Osti	
Author(s):	Ilona Jędrasik
Title	Civil society's impact on the Polish energy transition
Abstract	
Author(s):	Alex Boso, Cristian B. Oltra Algado
Title	The adoption of wood pellet heating systems in households: the role of affects, perceptions and social practices

Abstract	
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Author(s):	Hawal Shamon, Diana Schumann, Jurgen-Friedrich Hake
Title	Determinants of Local Acceptance – Insights from a Representative Experimental Survey in Germany
Abstract	

1.30 – 3.00

Chair: Sophie Nemoz

Author(s):	David Krantz
Title	Is fracking Kosher? The Jewish Response to a transforming energy system
Abstract	

Author(s):	Imogen Rattle
Title	Postpolitics and the online: the divisive case of shale gas in Lancashire, UK
Abstract	

Author(s):	Maija Hujala, Anssi Tarkiainen, Sari Janhunen, Satu Pätäri
Title	Acceptability and acceptance of wind power – a holistic view
Abstract	

Author(s):	Midori Aoyagi
Title	Economy versus environment revisited: from the analysis of the combination of public opinion survey and focus groups in Japan.
Abstract	

9.00 – 10.30

Chair: Andre Schaffrin

Author(s):	Adolfo Mejia Montero
Title	An interdisciplinary categorization of perceived injustices around wind energy projects in Oaxaca Mexico using the energy justice conceptual framework
Abstract	

Author(s):	Lourdes Alonso Serna
Title	Negotiation and conflict in the deployment of wind farms in the Isthmus of Tehuantepec, Oaxaca
Abstract	

Author(s):	Anna Berka
Title	Characterising inclusive governance in a post- Feed-in-Tariff World: an international review
Abstract	

11.00 – 12.30

Chair: Ana Horta

Author(s):	Xavier Lemaire
Title	Energy Transition and Energy Justice in the Global South
Abstract	

Author(s):	Lucie Middlemiss, Pepa Ambrosio Albala, Nick Emmel, Jan Gilbertson, Ross Gillard, Tom Hargreaves* , Caroline Mullen, Tony Ryan, Carolyn Snell, Angela Tod
Title	Energy poverty and social relations: using a capabilities approach to understand the social dimension of energy vulnerability
Abstract	

Author(s):	Robert Lindner, Andrew Cock
Title	Energy access and rural electrification in Myanmar
Abstract	

Author(s):	Ute Dubois, Hicham Sebti
Title	Energy poverty identification on the field: Analysing the variety of approaches
Abstract	

1.30 – 3.00

Chair: Francoise Bartiaux	
Author(s):	Neil Simcock
Title	Recognising recognition: incorporating concepts of misrecognition into energy justice
Abstract	
Author(s):	Noel Longhurst, Tom Hargreaves*
Title	(Dis)assembling fuel poverty: Exploring relations of energy, knowledge, finance and affect among energy vulnerability social housing tenants
Abstract	
Author(s):	Karen Parkhill, Catherine Butler
Title	Exploring the impact of welfare and employment policy on energy vulnerabilities.
Abstract	
Author(s):	Lior Herman, Ashik Movshovitz
Title	Energy Justice from International and Transnational Perspectives
Abstract	

Theory, Concepts & Methods

Rm 2.3

9.00 – 10.30

Chair: Pia Laborgne	
Author(s):	Sophie Nemoz
Title	When energy transitions confuse or how to rethink a divided world
Abstract	
Author(s):	Julia Backhaus, Harro van Lente
Title	Hegemonic and counter-hegemonic theories-in-use in sustainable energy initiatives
Abstract	
Author(s):	Sanneke Kloppenburg, Marten Boekelo
Title	Plug into your energy: energy platforms and the future of the decentralized grid
Abstract	
Author(s):	Miroslav B. Milovanović Dragan S. Antić, Milena N. Rajić* , Pedja M. Milosavljevi, Dragan LJ. Pavlović
Title	Energy consumption forecasting based on endocrine neural network application
Abstract	

Author(s):	Clare Hanmer, David Shipworth, Michelle Shipworth
Title	Methods for investigating householder response to transitions in home heating technologies
Abstract	

11.00 – 12.30

Chair: Matthias Gross

Author(s):	Lars Holstenkamp, Jörg Radtke
Title	Walker/Devine-Wright at Ten: Reflections on the Meaning of "Community Energy"
Abstract	

Author(s):	Natalia Magnani, Dario Minervini
Title	Investigating renewable energy commons as translation, morphological policentricity and intermediation
Abstract	

Author(s):	Rosie Robison, Chris Foulds
Title	Critiquing storytelling: local participation in low-carbon collaborations
Abstract	

Author(s):	Osman Arrobbio, Giulia Sonetti
Title	Barriers to the integration of Social Sciences and Humanities in the energy-related sectors outside academia
Abstract	

1.30 – 3.00

Chair: Alena Bleicher

Author(s):	Laure Dobigny, Marlyne Sahakian
Title	Comparing energy-using practice across European countries: methodological considerations
Abstract	

Author(s):	Tineke van der Schoor
Title	Community energy, it's coming up roses!
Abstract	

Author(s):	Michael Kunkis
Title	De-Carbonized Futures in Energy-Producing and Energy-intensive Companies
Abstract	

Author(s):	Mirko Suhari
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Title	Knowledge Brokers, Change Agents, or Process Mediators? Actor roles and methodological reflexivity in transdisciplinary approaches of energy research
Abstract	

Politics and Governance

Rm 2.4 (& 2.5)

9.00 – 10.30

Chair: Ana Horta

Author(s):	Andreas Röhring
Title	Energy transition between climate protection, profit orientation and regional interests
Abstract	

Author(s):	Thomas Reverdy, Frederic Marty
Title	Legitimacy constraints and strategic interdependencies between political authorities and independent authorities in the French electricity-market regulation
Abstract	

Author(s):	Agatino Nicita
Title	The consumer engagement in the energy market in Mediterranean area: review of barriers challenges and approaches
Abstract	

11.00 – 12.30

Chair: Celia Robbins

Author(s):	Çigdem Adem
Title	Renewable Energy Cooperatives in Turkey: Challenges and Opportunities for Energy Governance
Abstract	

Author(s):	Richard Lowes, Bridget Woodman
Title	The emerging hydrogen vision for the decarbonisation of heat in the UK: a ploy by incumbents to protect existing interests?

Author(s):	Arie Yanwar Kapriadi
Title	Political Ecology of Biofuel Policy Development in Indonesia
Abstract	

Author(s):	Örn D Jónsson
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Title	Taming the elements: The varied utilization of geothermal energy in Iceland
Abstract	

1.30 – 3.00

Rm 2.4

Chair: Celia Robbins

Author(s):	Laura Brinker
Title	Of markets and monopolies: competing discourses at play in the design of retail electricity markets
Abstract	

Author(s):	Kat Buchmann
Title	Corporate Sponsored Climate Denial
Abstract	

Author(s):	Dagmar Lorenz-Meyer
Title	On the technoecologies of solar energy
Abstract	

Author(s):	Roberto Cantoni
Title	Shale Tales: A Comparative Study of the Shale Gas Promise in France and Poland
Abstract	

1.30 – 3.00

Rm 2.5

Chair: Andre Schaffrin

Author(s):	Marie Claire Brisbois
Title	The disruptive political potential of decentralized renewable energy production: empirical evidence from the Powershifts project
Abstract	

Author(s):	Jon Phillips, Federico Caprotti
Title	The political and technological decentralisation of energy in South African cities
Abstract	

Author(s):	Martin Burgess
Title	Achieving social change around fuel use with Personal Carbon Accounts
Abstract	

Author(s):	Emi Ichiyanagi
Title	Comparison of the decision making process of energy policy between Germany and Japan after Fukushima
Abstract	

Dynamics of Demand

Rm 2.5

9.00 – 10.30

Chair: Giorgio Osti

Author(s):	Joana Abreu, Nathalie Wingartz, Claire McIlvennie, Kurt Roth
Title	What would you do to keep the lights on in your community?
Abstract	

Author(s):	Marta Pappalardo, Thomas Reverdy
Title	Improving the energy performance in service building through collective learning and regulation: how socio-technical dependencies are convened in a deliberative space
Abstract	

Author(s):	Gary Goggins, Frances Fahy , Charlotte Louise Jensen
Title	Unpacking efforts to reduce domestic energy use across urban areas in Europe
Abstract	

Author(s):	Amélie Anciaux, Françoise Bartiaux
Title	The eclecticism of practices: when compartmentalisation becomes the norm
Abstract	

Author(s):	Marco Sonnberger, Antonia Graf
Title	Imagining sustainable and energy-efficient mobility futures – Concepts of needs in sociotechnical imaginaries of passenger mobility
Abstract	

Locality, energy and community

Rm 2.6

9.00 – 10.30

Chair: Aleksandra Wagner

Author(s):	Thomas Bauwens, Boris Gotchev, Lars Holstenkamp, Jörg Radtke, Daan F.J. Schraven, Özgür Yildiz
Title	Community Energy, Citizen Energy, and other concepts – same same but different?
Abstract	

Author(s):	Jessica Balest, Barbara Di Pietro, Giulia Garegnani
Title	Cooperative And Integrated Energy Plan: Recommendations from socio-energy viewpoint
Abstract	

Author(s):	Poppy Walter
Title	Public engagement with heat decarbonisation
Abstract	

Author(s):	Diana Süsser, Anderas Kannen
Title	Renewables? Yes Please!': Understanding the facets of community renewable energy
Abstract	

Wednesday 5th September 9.30 – 11.00

Public engagement

Rm 2.1 & 2.6

Rm 2.1

Chair: Sophie Nemoz

Author(s):	Ruth Woods, Thomas Berker
Title	Supporting sustainable ambitions: a zero emission neighbourhood living lab
Abstract	

Author(s):	Maria Busse, Rosemarie Siebert
Title	The acceptability of local biomass heating plants – Experiences from a real-life lab in the Spreewald region (Germany)
Abstract	

Author(s):	Bastien Tavner, Laura Draetta
Title	Diverging concerns and converging distrust: The public controversy over the smart metering initiative in France
Abstract	

Rm 2.6

Chair: Pia Laborgne

Author(s):	Iwińska Katarzyna
Title	Energy transition in Poland: social perception of the Nuclear Power Plant Programme
Abstract	

Author(s):	Karel Deneckere
Title	The nature of nuclear power: Giving meaning to the environment in the Belgian nuclear power debate on the occasion of the Fukushima disaster
Abstract	

Author(s):	Agne Budzyte
Title	How preventable actions on energy technologies distort the perception of environmental issues?
Abstract	

Author(s):	Jason Harold, Valentin Bertsch
Title	A multi-national examination of public acceptance of future electricity generation mixes
Abstract	

Justice and Vulnerability

Rm 2.2

Chair: Francoise Bartiaux

Author(s):	Rachel Guyet
Title	Energy innovations in the social housing sector in Europe
Abstract	

Author(s):	Petteri Repo, Markku Anttonen, Minna Lammi, Juri Mykkänen
Title	Green economy, circular economy, and visions of the future
Abstract	

Author(s):	Xaquín Pérez-Sindín López, Xoan Doldán, Aleksandra Wagner, Martin David
Title	Energy production and regional inequality: quantitative analysis of energy production and consumption across regions in Spain, Poland, Germany and UK
Abstract	

Author(s):	Iván López
Title	Socio-economic characterization of energy poverty in Spain: a survey data analysis of households
Abstract	

Theory, Concepts & Methods

Rm 2.3

Chair: Karen Bickerstaff

Author(s):	Gerardo A. Torres Contreras
Title	The Politics of Wind Energy in the Isthmus of Tehuantepec: Wind, Land and Livelihoods
Abstract	

Author(s):	Franco Ruzzenenti
Title	The Governance of RES: The Role of the Network
Abstract	

Author(s):	Ioanna Kyprianou, D. K. Serghides, S. Dimitriou
Title	The Bioclimatic Approach in Developing Smart Urban Isles for Sustainable Cities
Abstract	

Author(s):	Rebecca Pearce
Title	Life in the Slow Lane: applying a current sun philosophy to Passive House dwelling
Abstract	

Politics and Governance

Rm 2.4 & 2.5

Rm 2.4

Chair: Catherine Butler

Author(s):	Matthew Lockwood
Title	Energy transitions and direction-setting in comparative perspective: Do governance paradigms matter?
Abstract	

Author(s):	Sandra Wassermann, Marc Deissenroth, Ulrich Frey
Title	Fit and conform vs. stretch and transform storage strategies of incumbent and challenger actors
Abstract	

Author(s):	Paul Upham, Katinka Johanssen
Title	Environmental impact assessment in an era of scientific and political post-normality: the case of the Sejerø Bugt nearshore wind farm bid for tender
Abstract	

Author(s):	Marek Józefiak
Title	Air pollution in Poland: From 'myth' to one of nation's most disputed topics
Abstract	

Rm 2.5

Chair: Ana Horta

Author(s):	Andrzej Strzałkowski
Title	Implications of practice theory, multi-level perspective and behavioural insights for local scale energy transitions in Po(Coal)land
Abstract	

Author(s):	Talia Contreras Tapia
Title	A combined framework to analyse Mexico's energy transition
Abstract	

Author(s):	Giorgio Osti, Giovanni Carrosio
Title	Energy transition in between scales and games: two Italian regions compared
Abstract	

Author(s):	Paola Velasco Herrejo
Title	Sustainability, Capabilities, and Power: Building a Framework to Analyse Business-Community Relations in Mexico's Wind Energy Sector
Abstract	