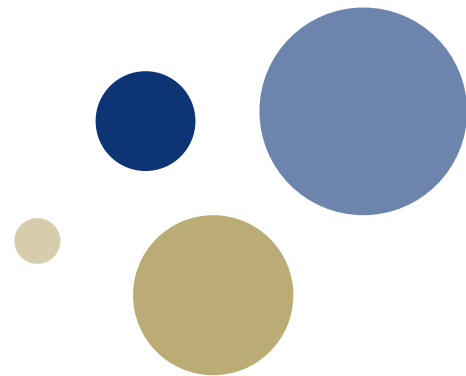




The Sociology of Energy Infrastructures: Observing the Unexpected

Antti Silvast, Researcher, Department of
Interdisciplinary Studies of Culture

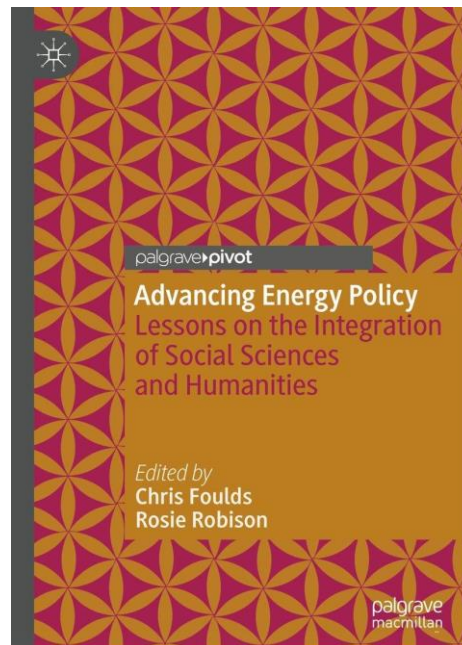
Themes of the talk



- 1. The role of social sciences in the ongoing energy transition?**
2. How can social sciences reveal new knowledge that is key to understanding energy technology?
3. What are the implications?

Where are the Social Sciences and Humanities (SSH)?*

1. SSH is being **mainstreamed**: increasingly in every project?
2. In Horizon 2020 Societal Challenge 3, *Secure, Clean and Efficient Energy*, just **3% of the total call budget** to SSH partners
3. In this 3%, there is **1% (1)** Humanities/Arts expert
4. The **diversity** of SSH is not **present** – labels, discipline listings
5. SSH is often **used instrumentally**: SSH issues listed – individuals, consumers, and acceptance the key ones



*: Foulds, Chris, 21.3.2019, 'Disrupting energy research and innovation via the Social Sciences & Humanities: Policy expectations, funding conventions, and visions of interdisciplinarity', Durham Energy Institute Seminar Series, Durham, UK

ProblematISING disciplines?

- Reporting the SSH integration depends on explicit labels given to academic disciplines, e.g. from project applications
- Where do 'interdisciplines' like **Science and Technology Studies** or **Gender Studies** stand? Where is **architecture** or **planning**?
- When to discuss academic disciplines, theories, and methods – and when **findings, scopes, and themes**?

Discipline prevalence in projects funded under SSH flagged topics		
Disciplines and clusters of disciplines	Number of experts per discipline	Share of experts that include partner-level expertise
Non - Research activities (Business, Communication, Project management)	58	42%
Economics	21	15%
Political science/public policy	15	11%
Business/marketing	13	9%
Psychology	10	7%
Communication	8	6%
Law	7	5%
Sociology	3	2%
Education	1	1%
Humanities/Arts	1	1%

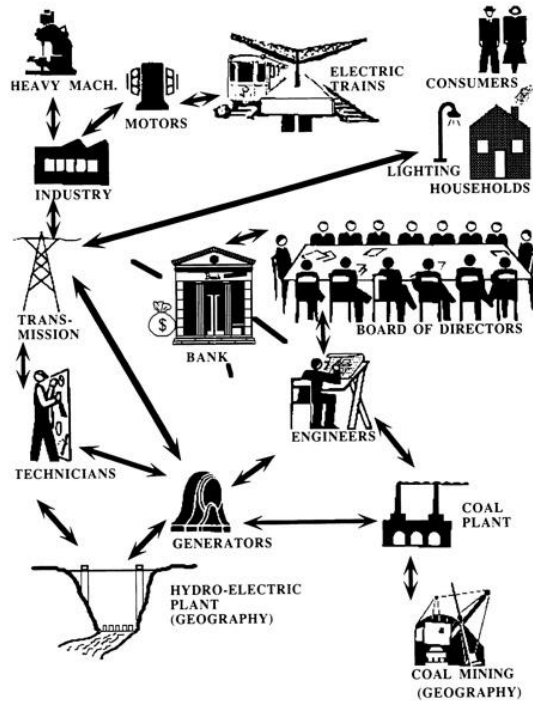
Source: Integration of social sciences and humanities in Horizon 2020

Themes of the talk



1. The role of social sciences in the ongoing energy transition?
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The sociology of infrastructure

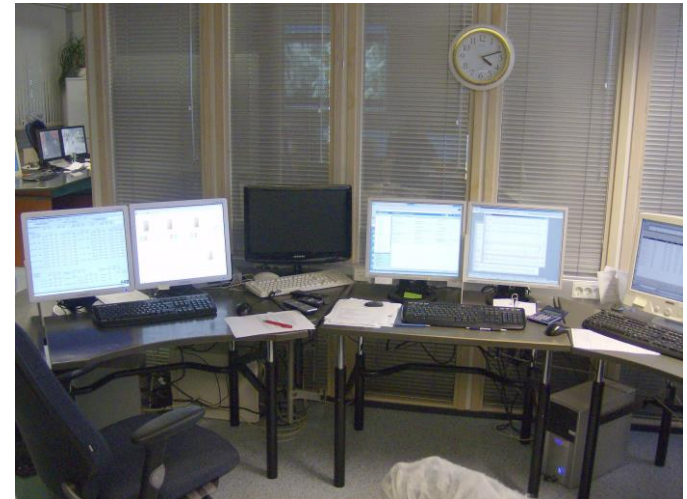


Hughes, 1991

1. **Sociotechnical analysis:** e.g. infrastructures, seamless webs, large technical systems
2. **Heterogeneous actors:** who is implied and acts upon the energy infrastructure?
3. **Performativity:** the sociology of scientific knowledge and social study of markets
4. **Participant observation:** observing the unexpected

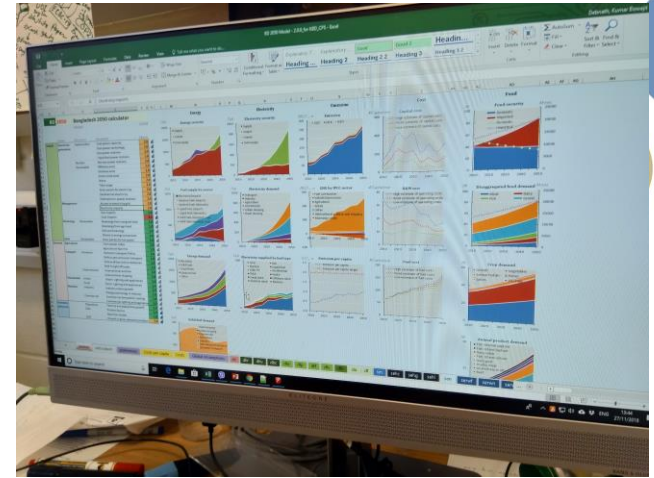
Energy control rooms

- How are electricity networks and electricity markets produced **in practice and in real time**?
 - Ethnographic fieldwork in Finland and on Nord Pool
 - Scientific monograph
 - Integrated control?
Workplace study in gas and electricity control rooms with Durham University (with PI Simone Abram)



Energy modelling

- Developing an analysis of **epistemic values** among energy modellers and energy modelling
 - 40 workplace interviews and fieldwork with Durham (with PI Simone Abram)
 - Journal article in review with Durham and Eindhoven University of Technology



Dynamics of interdisciplinary energy projects

- Developing **sociology of scientific knowledge** to examine how interdisciplinary energy projects have worked:
 - Whole systems modelling in the UK
 - Centres for Environment-friendly Energy Research in Norway (FME:s)
 - Modelling critical infrastructure risk in Finland

**Sociology of Interdisciplinarity:
The Dynamics of Energy
Research**

Proposed monograph
Antti Silvast & Chris Foulds
Palgrave Macmillan Pivot
accepted through peer review
planned in 2021

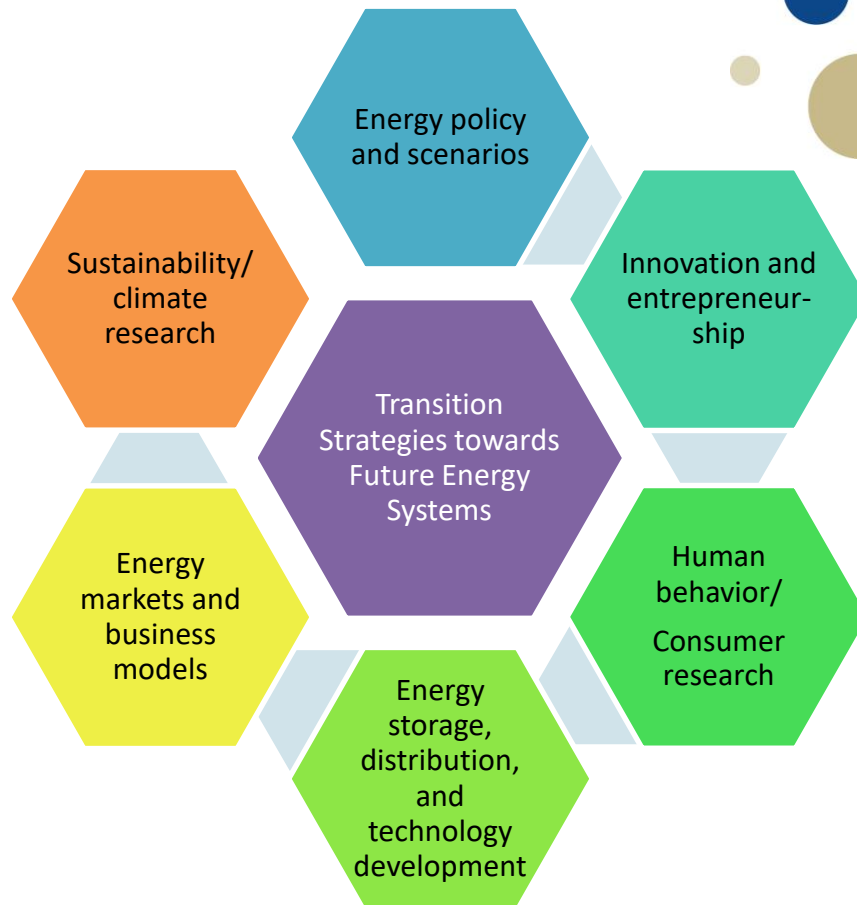
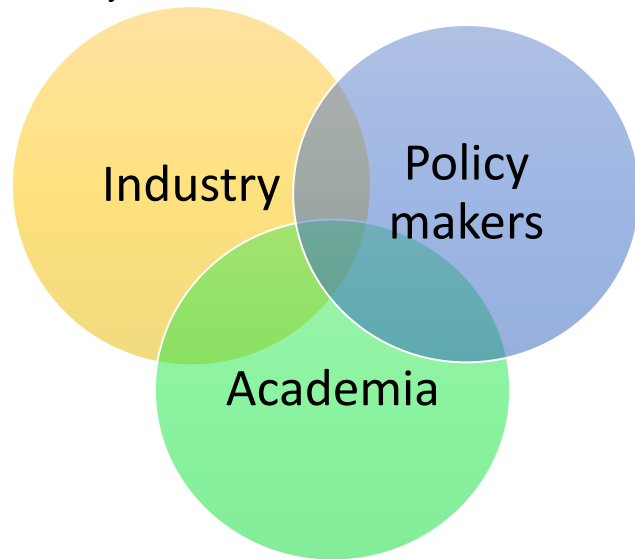
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NTNU Energy Transition Initiative

"Build a world leading research programme focused on *strategies for the transition to a future sustainable energy system*, including the energy mix on the way to a low carbon society."



CANDID Primer* (Horizon 2020)

- Innovation placed in a life-cycle perspective
 - technologies developed and tried out in recursive and reiterative stages
- Certain societal choices and values are made explicit at key stages
 - About society, culture, individuals, certain groups, citizens in general (or particular), disciplinary and knowledge hierarchies, and the everyday goings-on for which the innovation is supposedly purposed

