

The Social Organization of of Energy Research: A Review (Typology and Landscape Map) of Recent Initiatives

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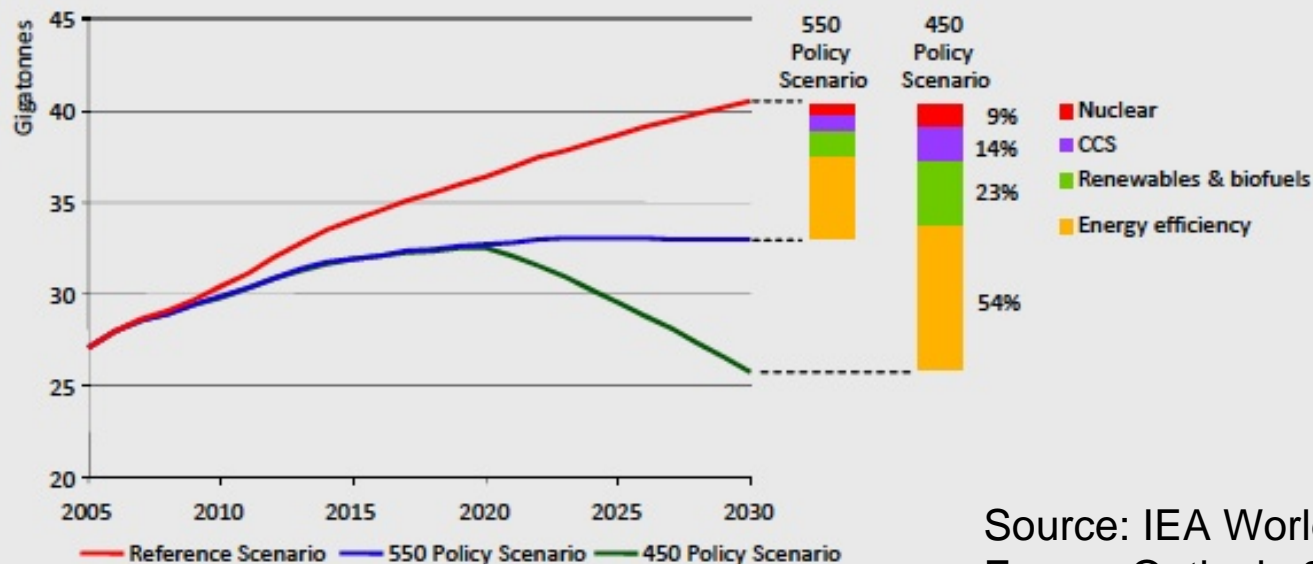
Behavior, Energy & Climate Change Conference
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Why Explore Social Dimensions of Energy Research?

Reductions in energy-related CO₂ emissions in the climate-policy scenarios

World Energy Outlook 2008



While technological progress is needed to achieve some emissions reductions, efficiency gains and deployment of existing low-carbon energy accounts for most of the savings

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Energy & Society: A New (?) Relationship

- Not enough social science in energy research (or vice versa), or missing key aspects
 - Lutzenhiser & Shove (1999)
 - Wilhite, Shove, et al. (2000)
 - Berkhout et al. (2003)
 - Biggart & Lutzenhiser (2007)
- Social science on the rise
 - Owens & Driffill (2008)
 - ”evolution of social scientific understanding has been rapid over the past few years, and this is reflected in substantial investment in research”

Mapping Landscapes in Energy & Social Research

- What is “cutting edge” research?
 - Are we rolling along, reinventing the wheel, or exploring new directions?
- Are there any gaps in the current understanding?
- What kinds of new research directions could be undertaken to help bridge these gaps?
 - What kinds of institutions/programmes are likely to undertake this research?

UK/US Research Landscapes

- 13 initiatives
 - 11 research programmes (10 UK, 1 US)
 - 1 conference (US)
 - 1 workshop (UN IHDP)
- Via:
 - Content analysis of text on the web
 - corpus analysis & concordancing
- Two stages:
 - Overall characterization
 - Keywords & descriptors
 - Categorization
 - 4 types, developed from keywords

Initiative Name	Type	Year	Location	Disciplines Cited						Keywords Used																		
				Economics	Politics	Policy	Sociology	Psychology	Interdisciplinary	Markets	Supply	Demand	Efficiency	Conservation	Consumption	Sustainability	Survivability	Adaptation	Climate Change	Energy	Carbon	The Public	Technology	Systems	Lifestyles	Behaviour	Transition	Governance
Surrey Energy Economics Centre (SEEC) http://www.seec.surrey.ac.uk	RP	1980	UK	x						x	x	x	x						x									
Oxford Institute of Energy Studies http://www.oxfordenergy.org/research.html	RP	1982	UK	x	x		x			x	x	x							x									
Tyndall Centre for Climate Change Research "Constructing Energy Futures" theme (1 of 7) http://www.tyndall.ac.uk	RP	2000	UK	x	x	x					x	x						x	x	x						x		
Centre for Business Relationships, Accountability, Sustainability, and Society (BRASS) (9 areas) http://www.brass.cf.ac.uk	RP	2001	UK						x	x					x	x			x		x			x	x			x
UK Energy Research Centre "Demand Reduction" theme (1 of 7) http://www.ukerc.ac.uk	RP	2004	UK	x		x		x	x		x	x						x				x	x					
Carbon Vision Initiative "Buildings" theme (1 of 4) http://www.carbontrust.co.uk/technology/carbonvision	RP	2004	UK				x		x	x			x						x	x			x				x	
Sussex Energy Group http://www.sussex.ac.uk/sussexenergygroup	RP	2005	UK								x	x	x					x	x			x	x			x	x	
Precourt Institute for Energy Efficiency (PIEE) "Behavior" theme (1 of 6) http://piee.stanford.edu	RP	2006	US	x			x	x		x		x	x						x							x		
RESOLVE (5 of 5) http://www.surrey.ac.uk/resolve	RP	2006	UK	x			x	x				x							x	x	x				x	x	x	x
Behavior, Energy, & Climate Change Conference (BECC) http://piee.stanford.edu/cglbln/html/behavior/becc_conference.php	CF	2007	US			x	x						x						x	x			x				x	
Living With Environmental Change (LWEC) http://www.rcuk.ac.uk/research/ccprog/lwec.html	RP	2007	UK	x		x			x	x								x			x			x	x			
IHDP Science and Policy Dialogue "Energy, Sustainability and Societal Change" http://www.ihdp.unu.edu/article/431	WS	2008	INT								x	x	x					x	x	x				x	x	x		
Centre for Climate Change Economics and Policy (CCEP) http://www.ccecp.ac.uk	RP	2009	UK	x	x	x	x			x			x					x			x			x	x			
Totals:	n=13			8	3	5	6	3	4	7	6	8	7	0	3	7	1	1	7	10	5	5	6	5	4	7	2	3

Key: RP = Research Programme (n=11); CF = Conference (n=1); WS = Workshop (n=1)



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Characterization: Keywords

Frequency Grouping	Keywords/Concepts	# of Initiatives
High	Energy	10
	Demand	8
Medium	Sustainability	7
	Behaviour	7
	Markets	7
	Efficiency	7
	Climate Change	7
	Supply	6
	Technology	6
	Carbon	5
	The Public	5
	Systems	5
Low	Lifestyles	4
	Consumption	3
	Governance	3
	Transition	2
	Survivability	1
	Adaptation	1
	Conservation	0



Characterization:

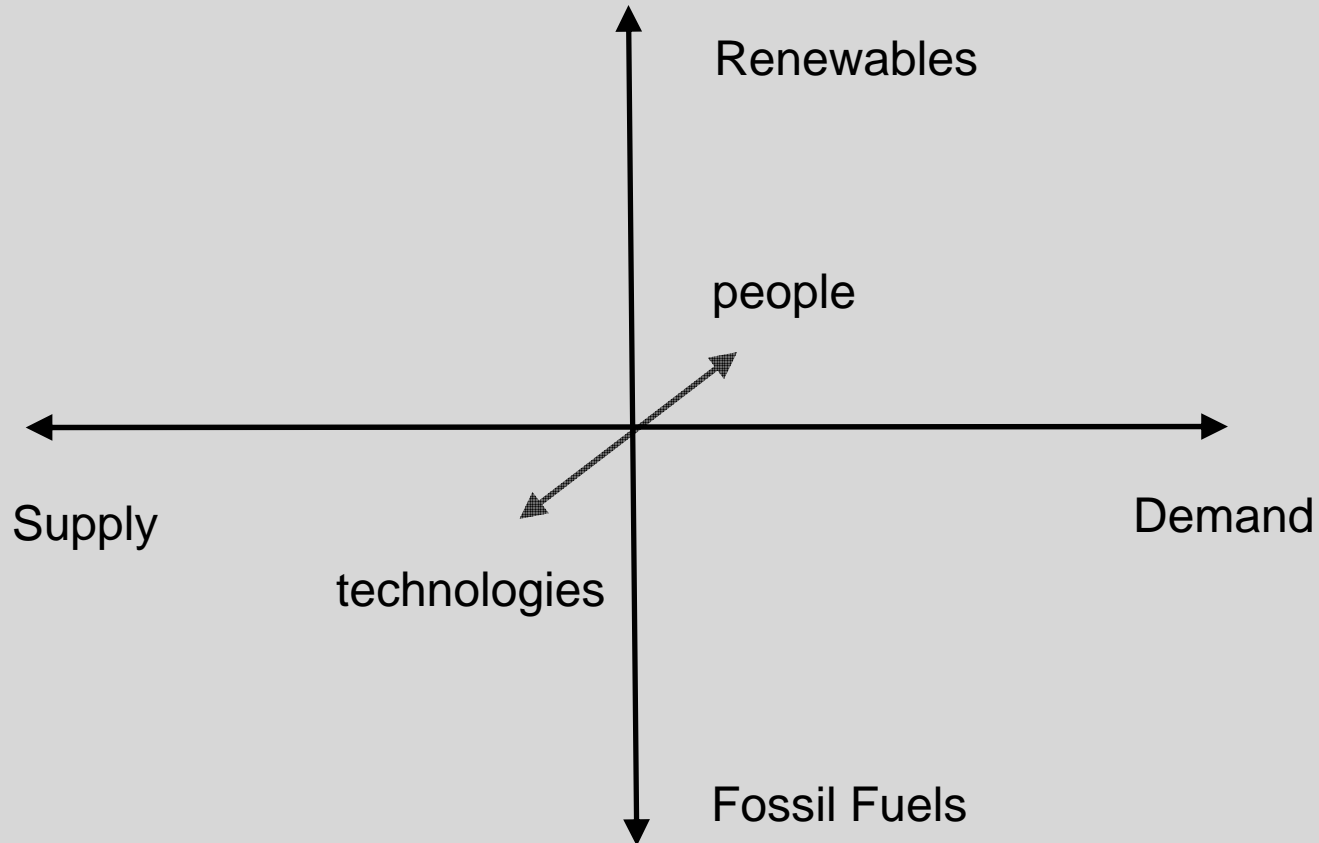
More “carbon” = less emitted?

Concordance	Concordance Plot	File View	Clusters	Collocates	Word List	Keyword List
HIT FILE: 3	FILE: 03tyndall.txt					No. of Hits = 5 File Length (in chars) = 1465
HIT FILE: 6	FILE: 06carbonvision.txt					No. of Hits = 32 File Length (in chars) = 6509
HIT FILE: 9	FILE: 09resolve.txt					No. of Hits = 9 File Length (in chars) = 2693
HIT FILE: 10	FILE: 10BECC.txt					No. of Hits = 1 File Length (in chars) = 1301
HIT FILE: 13	FILE: 13CCEP.txt					No. of Hits = 1 File Length (in chars) = 1471

Categorization: A Typology

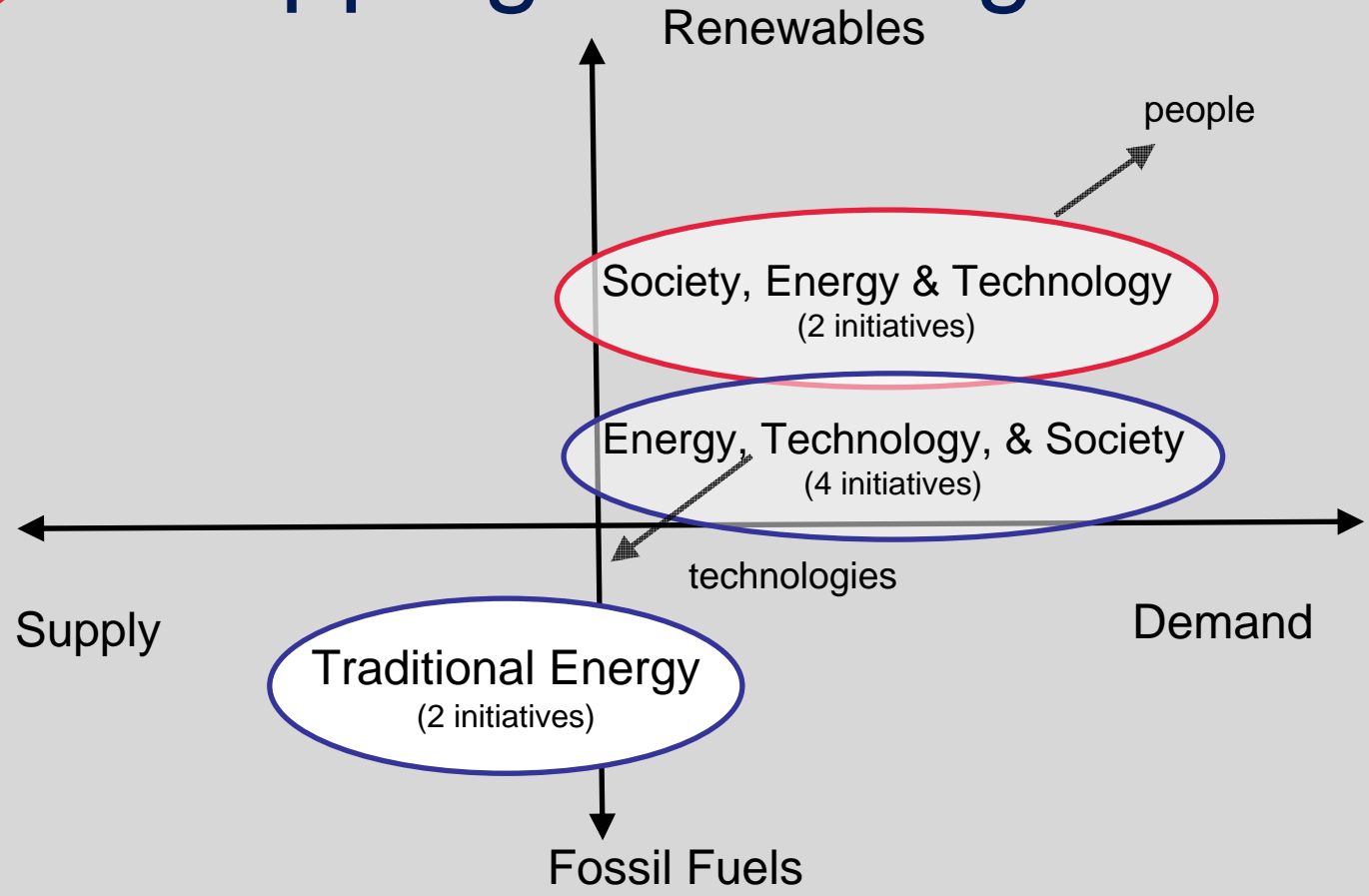
- 1) Macro Environment and Society
 - 5 initiatives
- 2) Traditional Energy
 - 2 initiatives
- 3) Energy, Technology and Society (ETS)
 - 4 initiatives
- 4) Society, Energy, and Technology (SET)
 - 2 initiatives

(one view of) **The Field of
Energy & Social Research**



Macro Environment
& Society
(5 initiatives)

Mapping the Categories



Some Future Energy & Social Research Priorities

Owens & Driffill propose:

- socio-technical systems
 - better ways of dealing with complex situations, and
 - reconceiving the role of the public
- Berkhout et al. propose:
 - processes of long-run change in socio-technical systems;
 - vulnerability, resilience, and adaptiveness; and
 - services, systems of provision and consumption practices

Cutting Edge Research?

Macro Environment
& Society
(5 initiatives)

**Reinventing
the wheel**

Collaborations between
incumbents & **outsiders**

Renewables

people

Society, Energy & Technology
(2 initiatives)

New Directions

Energy, Technology, & Society
(4 initiatives)

technologies

Supply

Demand

Traditional Energy
(2 initiatives)

Rolling Along

Fossil Fuels

Conclusions & Further Research

- Synthetic analysis of programmes can help map energy & social research landscapes
 - Suggest opportunities for collaboration
 - Gaps in existing programmes
- Emphasis on expressed institutional goals may yield different picture than literature review
- Further research on research
 - More programmes, additional countries
 - Incumbents & outsiders; individual & social behaviour
 - ACEEE, ECEEE, and academic corpora

Thank you!

Please send comments & suggestions to:
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