

The Politics of Low Carbon Innovation



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- **Existing energy systems are unsustainable: environmental (climate change, pollution), social (energy poverty/access), economic (volatility of energy prices; oil-price-GDP effect) and political (energy security) problems**
- **Existing energy systems deeply embedded within society: carbon lock-in, entrapment, path dependency**
- **Transitions literature: structural change in socio-technical systems towards more sustainable systems is required**



Transitions and ‘protective space’

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- **basic idea in transitions literatures: emerging sustainable alternatives are not competitive under current selection environments**
- **Niches: allow real world experimentation with alternative socio-technical configurations and building of supportive constituencies**
- **‘protective space’: through policy support (e.g. subsidies; rule exemptions); market niches; cultural niches**
- **BUT: little known about politics of ‘protective space’, how it is created and maintained**



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Project background

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**‘The Politics of Low Carbon Innovation’,
led by Dr A Smith (SPRU) and Dr R Raven (TUE)
www.lowcarbonpolitics.org**



- **aim: to analyse the dynamics of protective space in sustainability transitions**
- **Methodology: 6 case studies (PV, offshore wind, CCS); NL-UK**
- **Data: systematic review of existing literature, policy documents, reports, trade press, news articles, stakeholder interviews**

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Conceptualising niche politics: actors, networks and narratives

- agency and politics central to governance of transitions
- sustainable energy niches might be contested and struggle for scarce public and private resources
- importance of actors, networks and the narratives they draw on to attract resources into ‘their’ niche to enable learning
- often widespread diffusion of niches will involve wider institutional change (e.g. electricity market reform in the UK)

Why are some sustainable energy advocates more successful than others in creating a ‘protective space’ for their respective niches?

Protective space

Actors, networks,
narratives

Shielding, nurturing,
empowering

**Socio-technical
configuring**

Results: PV and Offshore Wind in the UK and the Netherlands



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- both countries have had limited PV niche developments so far compared to leading countries such as Germany or Spain
- PV advocates failed to create sustained and effective 'protective space' as PV remains contested (high costs, too little sun, different configurations desired); despite attempts to align PV with a number of wider policy goals and widening of actors networks over time
- offshore wind in the NL: early leader; but momentum lost as policy support very inconsistent with often changing governments
- offshore wind in the UK: relative 'latecomer' but now world leader in deployment (2.5GW) despite high costs; powerful support coalition emerged and created space for offshore wind

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- 1. Narratives used are similar across the cases (energy security, climate change, growth&jobs): explanatory power limited**
- 2. Influence on policy processes seems to be larger if powerful, credible (regime) actors (at least temporarily) join the advocacy network (e.g. Shell, BP, utilities such as EON, Siemens)**
- 3. Well-coordinated actor networks and strategies and the absence of internal politics and contestation help the creation and maintenance of protective space**
- 4. Cases illustrate that the processes of creating protective space are fraught with difficulties and involve long-term political and economic struggles between competing options**

Thank you!

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with Dr Adrian Smith, Dr Rob Raven and Dr Bram Verhees

Smith, A. and R. Raven (2012). "What is protective space? Reconsidering niches in transitions to sustainability." Research Policy 41(6): 1025-1036.

Verhees, B., R. Raven, et al. (2013). "The development of solar PV in The Netherlands: A case of survival in unfriendly contexts." Renewable and Sustainable Energy Reviews 19: 275-289.

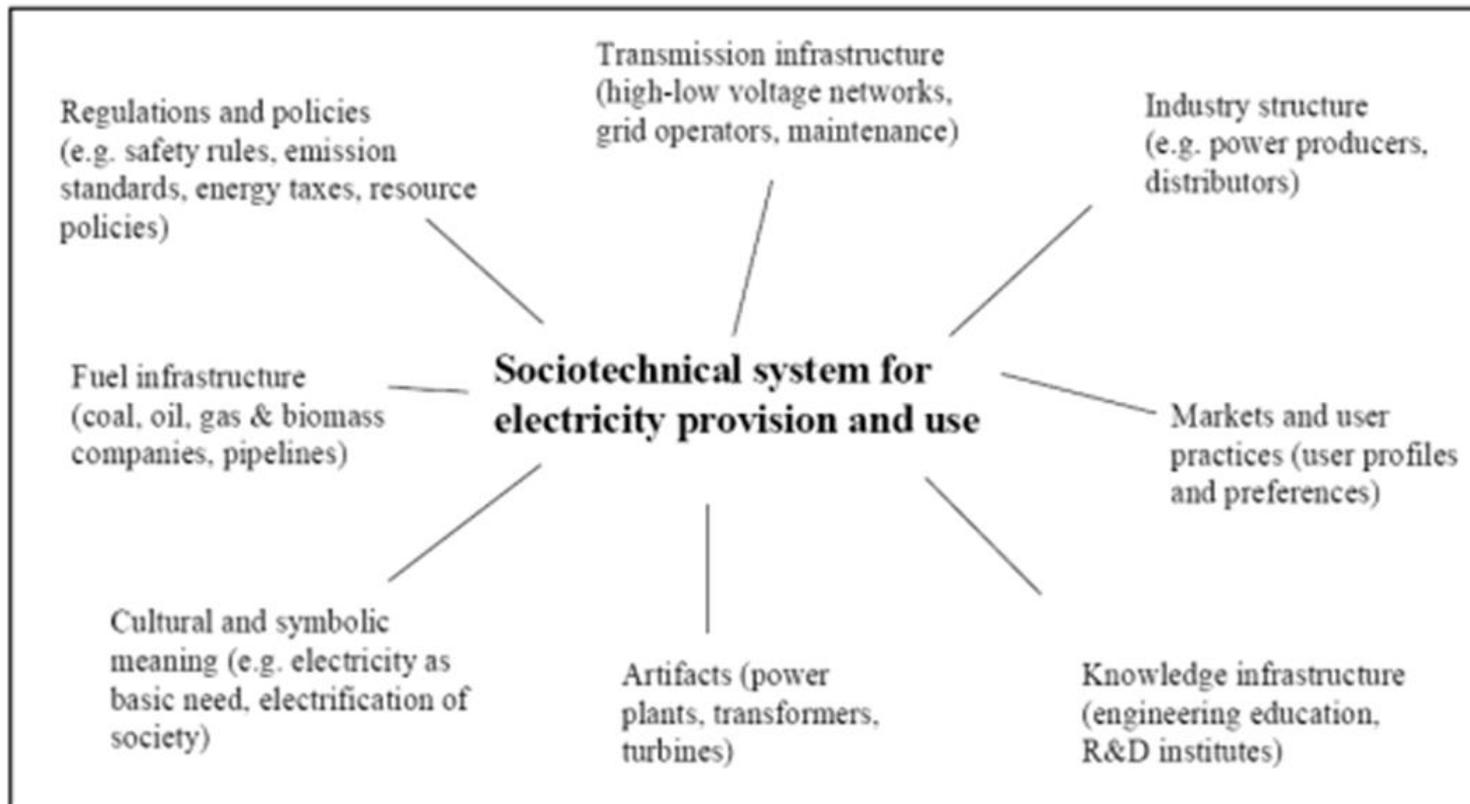
Smith, A., F. Kern, et al. (in press). "Spaces for sustainable innovation: solar photovoltaic electricity in the UK." Technological Forecasting and Social Change.

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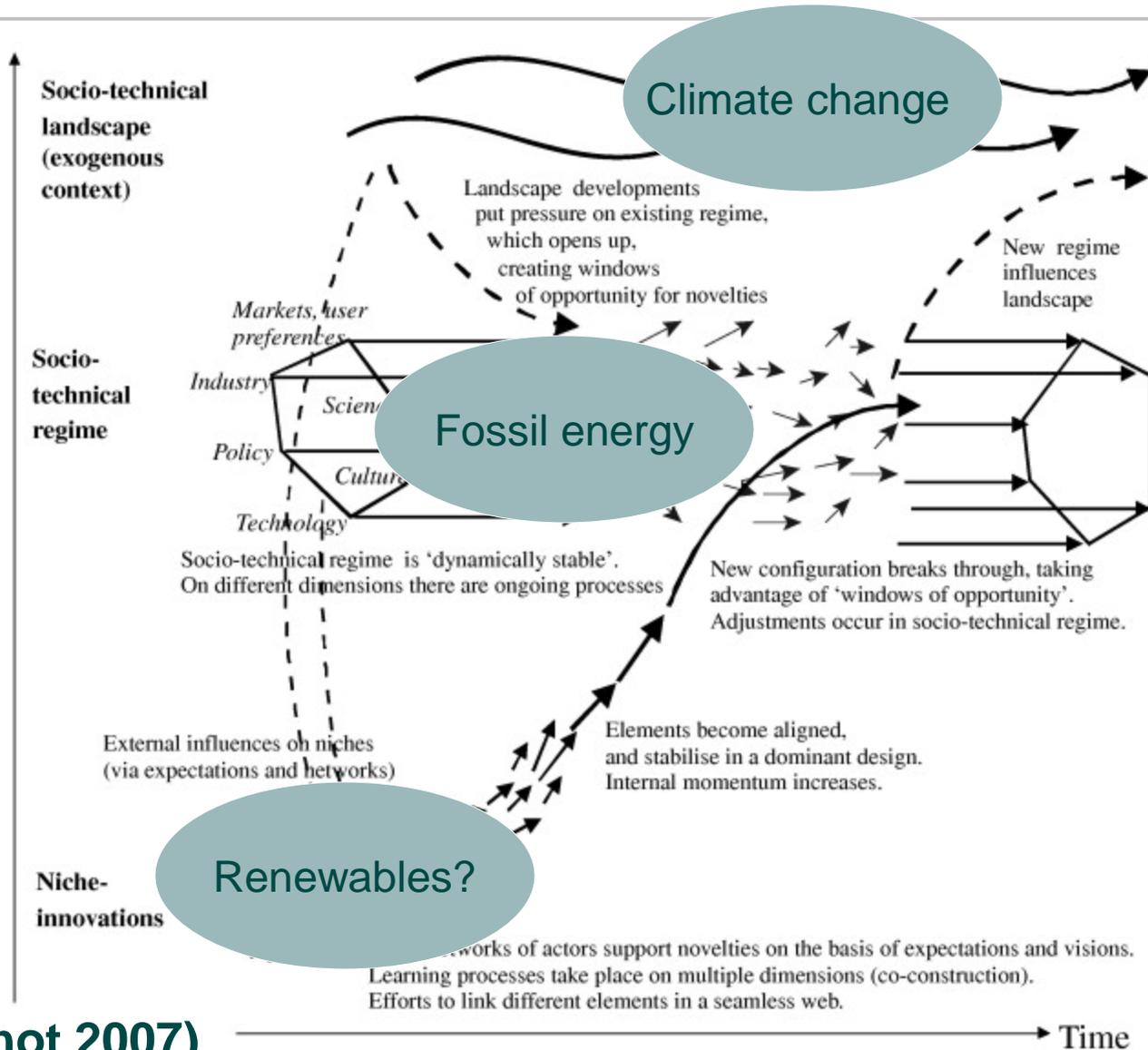
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Socio-technical systems: Example electricity



Change in socio-technical systems: The MLP



Conceptualising niche politics: shielding, nurturing, empowering

