

Varieties of capitalism and the politics of sustainable energy transitions

SPRU

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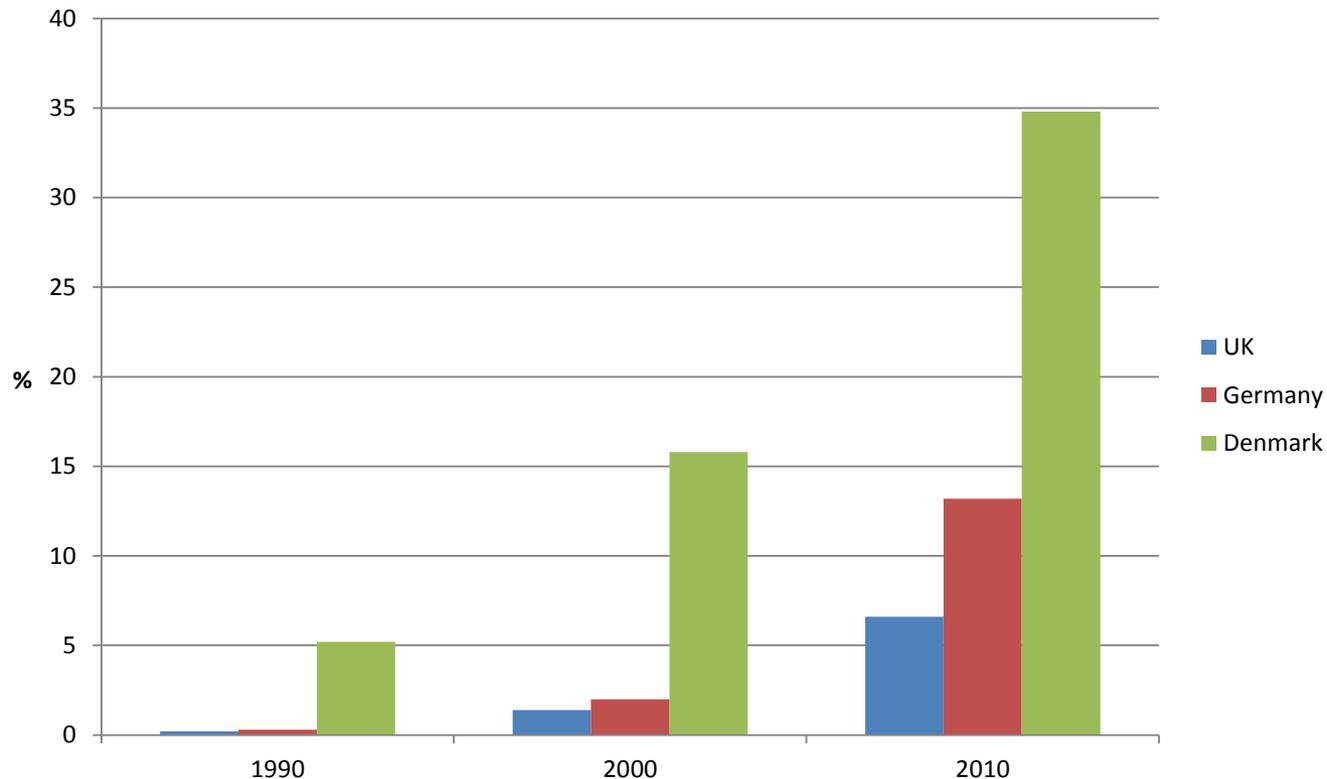
New Thinking For Energy



Outline

- Comparative variation in sustainable energy transitions
- Limits of socio-technical transitions approach for understanding why
- Comparative institutionalist political economy ('varieties of capitalism') as an alternative?
- OK, but why?
 - Key elements of institutional systems, policy paradigms and interests in the energy sector
 - Generate hypotheses linking institutional systems and policy paradigms to ease of transition
- So what - can institutional systems change?
- Tentative and controversial(?)

Generation of electricity from renewable sources, excluding hydropower 1990-2010

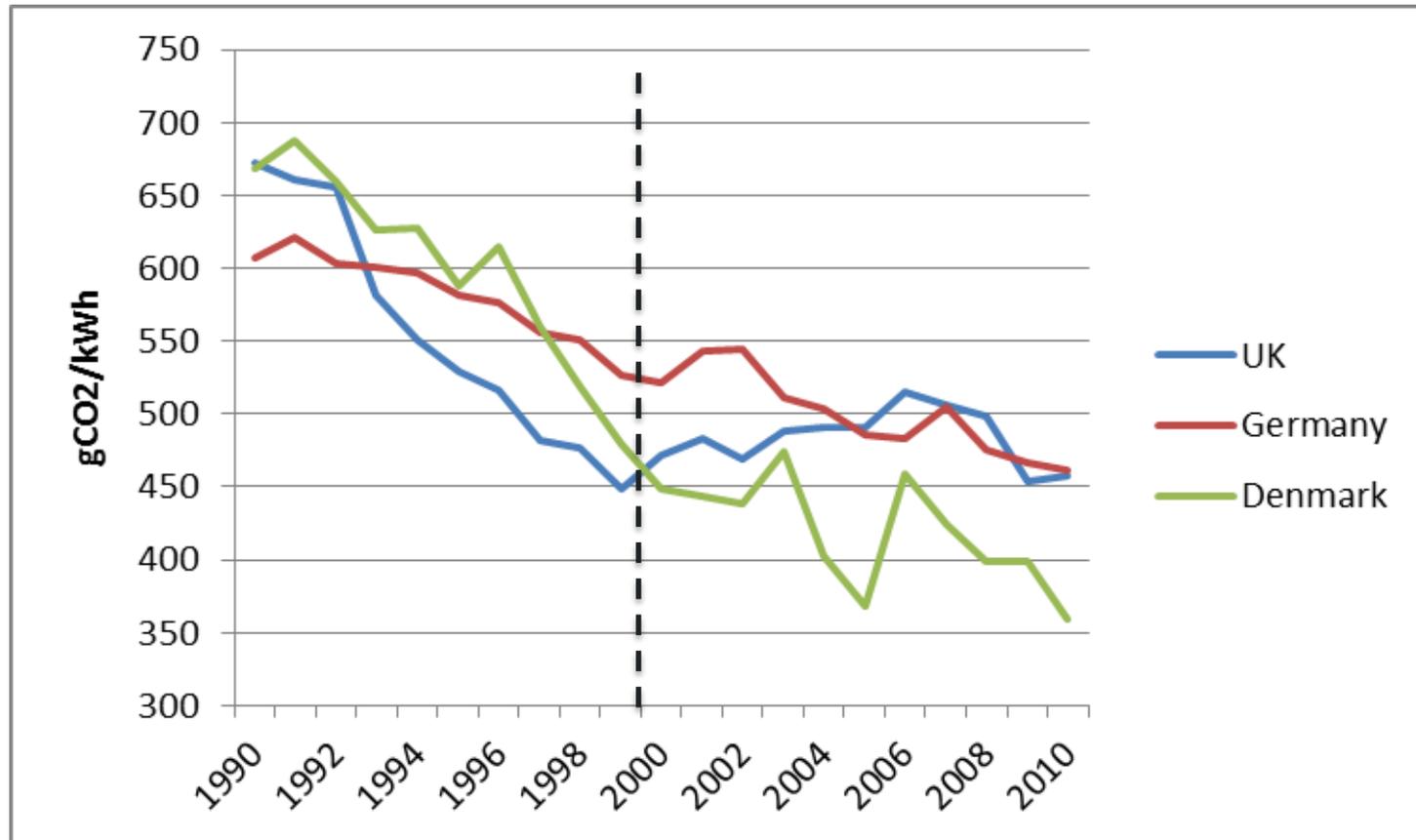


Note: Denmark 1990 data is for 1994

Sources: UK – DECC (2012) UK Renewable Energy in Brief, 34

<http://www.decc.gov.uk/assets/decc/11/stats/publications/energy-in-brief/5942-uk-energy-in-brief-2012.pdf>; Germany – BMU, BEE, AGEBA; Denmark – Danish Energy Agency, http://www.ens.dk/en-US/Info/FactsAndFigures/Energy_statistics_and_indicators/Annual%20Statistics/Sider/Forside.aspx

Carbon intensity of electricity generation, 1990-2010



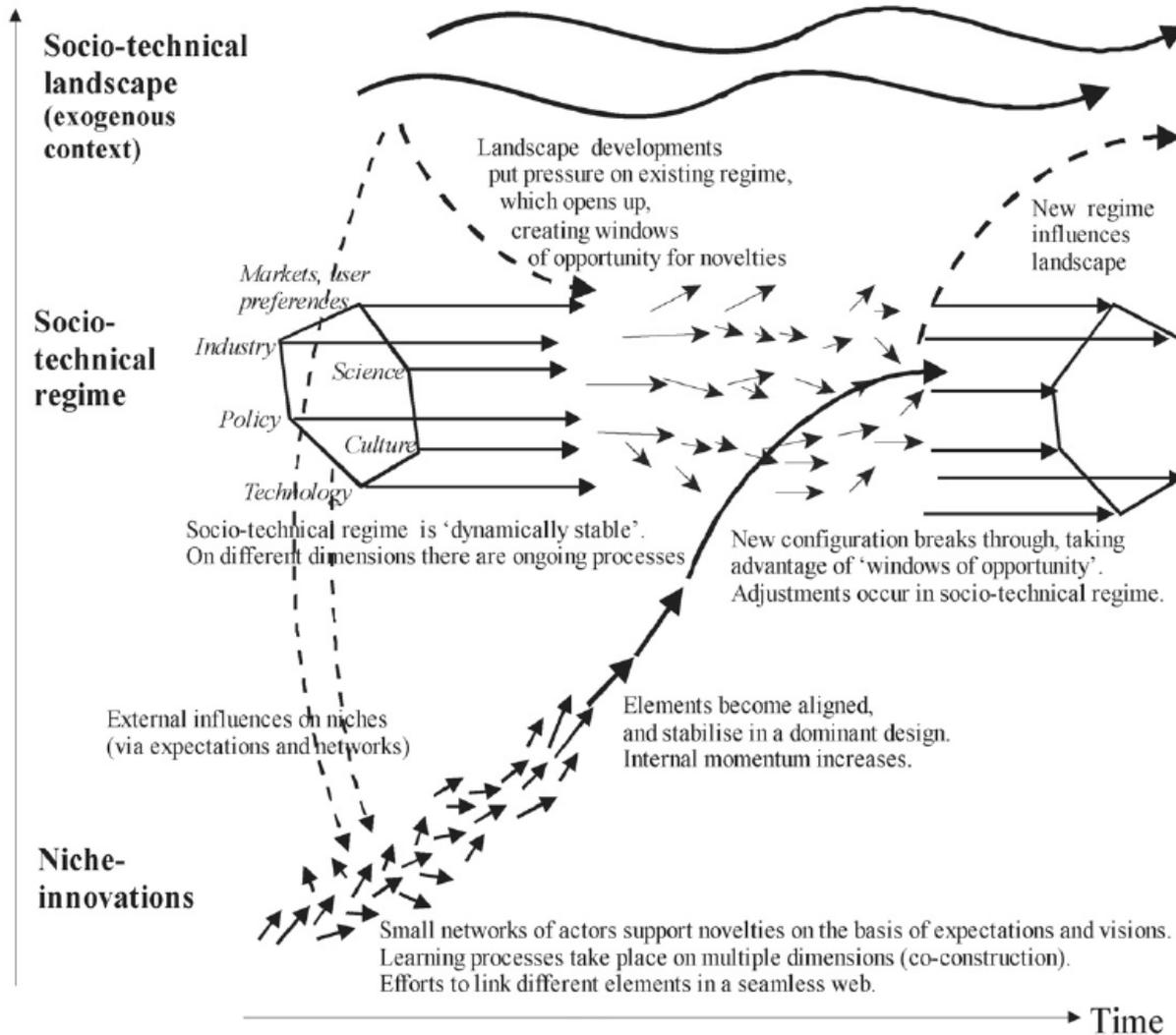
Source: International Energy Agency,
<http://www.iea.org/publications/freepublications/publication/name,32870,en.html>

Indicators of energy efficiency

	UK	Germany	Denmark
Energy intensity of industry (koe/€2005p value added)	0.118	0.90	0.110
Energy intensity of manufacturing (koe/€2005p value added)	0.150	0.143	0.125
Energy consumption per dwelling scaled to EU average climate (toe/dwelling), 2010	1.69	1.33	1.51

Source: Odyssee - Energy Efficiency Indicators in Europe, <http://www.odyssee-indicators.org/>

Socio-technical transitions approach



Source: Geels and Schot (2007)

Critique of STT approach

- Lacks good account of politics of transition (Meadowcroft 2005, 2009, 2011, Kern 2011, Markand et al 2012, Scrase and Smith 2009, cf. Smith et al 2005), especially important for managed transitions
- ‘Appreciative theory’ (Geels, cf. Nelson) good for case studies, but breadth means little comparative explanatory power:
 - little hierarchy and structure in account of landscape/regime/niche interactions - problematic for conventional policy makers who seek priorities
 - different explanation in each case (“each transition is historically contingent” (Smith et al 2010: 443))? How to test/assess explanations?
- ‘Transitions management’ process recommendations - haven’t done particularly well in the Netherlands (Kemp et al 2007, Kern and Howlett 2009, Smith and Kern 2009).

'New institutionalism' as a complement (alternative?)

- 'New institutionalism' as leading mainstream approach in political science
- Meets criteria:
 - New institutionalist theories have at their core accounts of politics that incorporate not only institutions, but also interests, power, ideas and path-dependence, as well as theories of change
 - In application in to comparative analysis (e.g. literatures on 'varieties' or 'models' of capitalism) make a claim to comparative explanatory power
- Primary focus on political and institutional change; technological development as secondary, especially for explaining comparative change in a globalised world

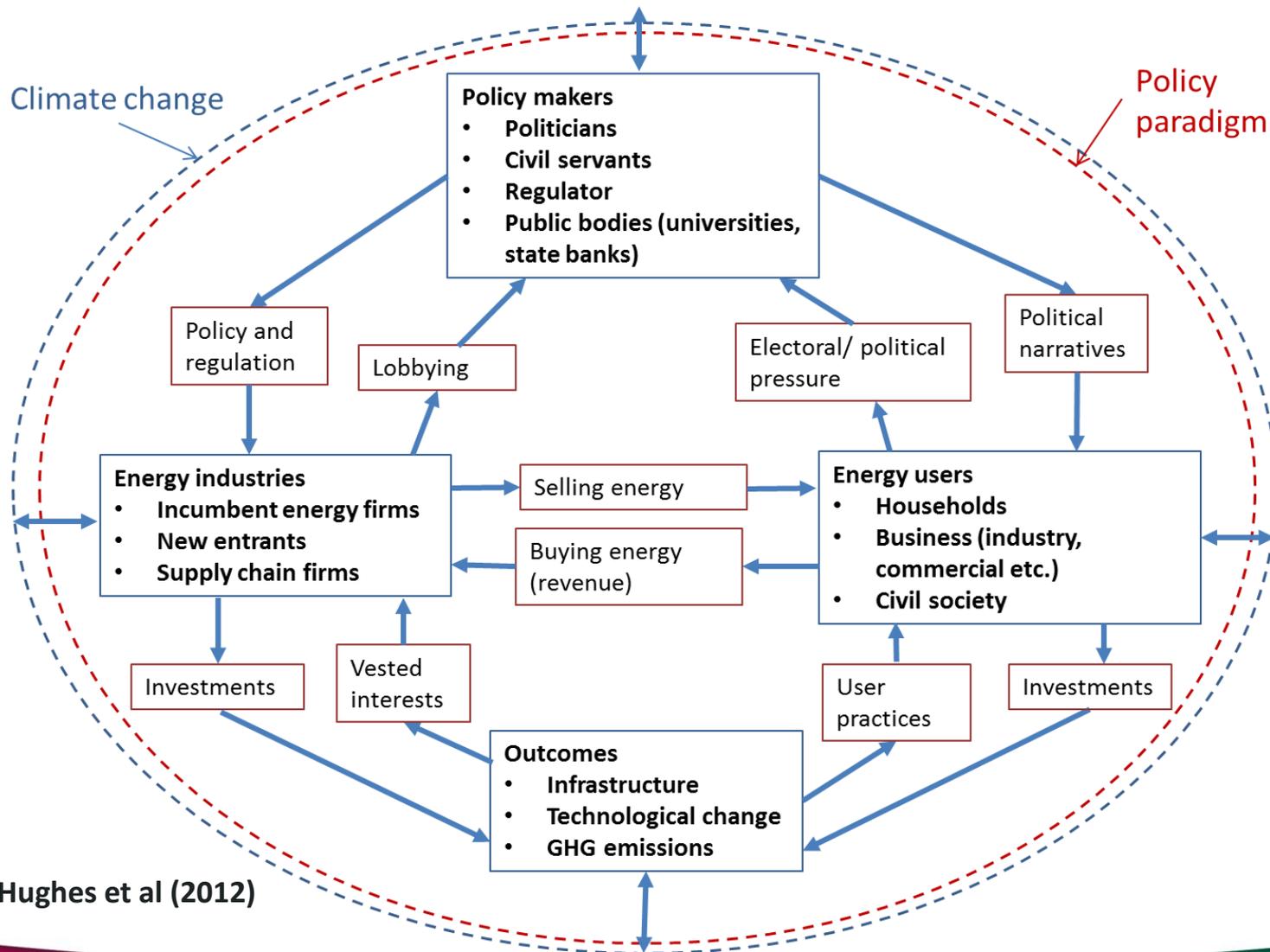
'Varieties' or 'models' of capitalism

- National contrasts in institutional *systems*
 - transactions costs version (Hall and Soskice 2001)
 - role of the state (Schmidt 2002)
 - role of ideas, esp. 'policy paradigms' (Schmidt 2002, Campbell 1998)
- Basic contrast between liberal market economies (US, UK) and coordinated market economies/managed capitalism (Germany, NW Europe Japan?)
- Focus on basic economic institutions (including corporate governance) and latterly political/electoral institutions

Comparative institutionalism and energy transition

- Recent studies
 - Mikler and Harrison (2012): CMEs will do electric vehicles better because their states and firms can coordinate around social goals better
 - Kern (2011): new institutions for low carbon innovation (ET in Holland vs. CT in UK) took forms influenced by existing institutional systems
 - Lachapelle and Paterson (2013): CME's have reduced emissions by a significantly larger amount than LME's since 1990. Contrast explains half of variance in emissions change.
- Pitfall in institutionalist approaches of 'theoretical conjectures without foundational mechanisms' (Radaelli et al 2012)
- Mitchell (2008): 'band of iron' in UK, arising from market-led paradigm and power of incumbents, prevents innovation in energy sector

'Foundational mechanisms' for the energy sector

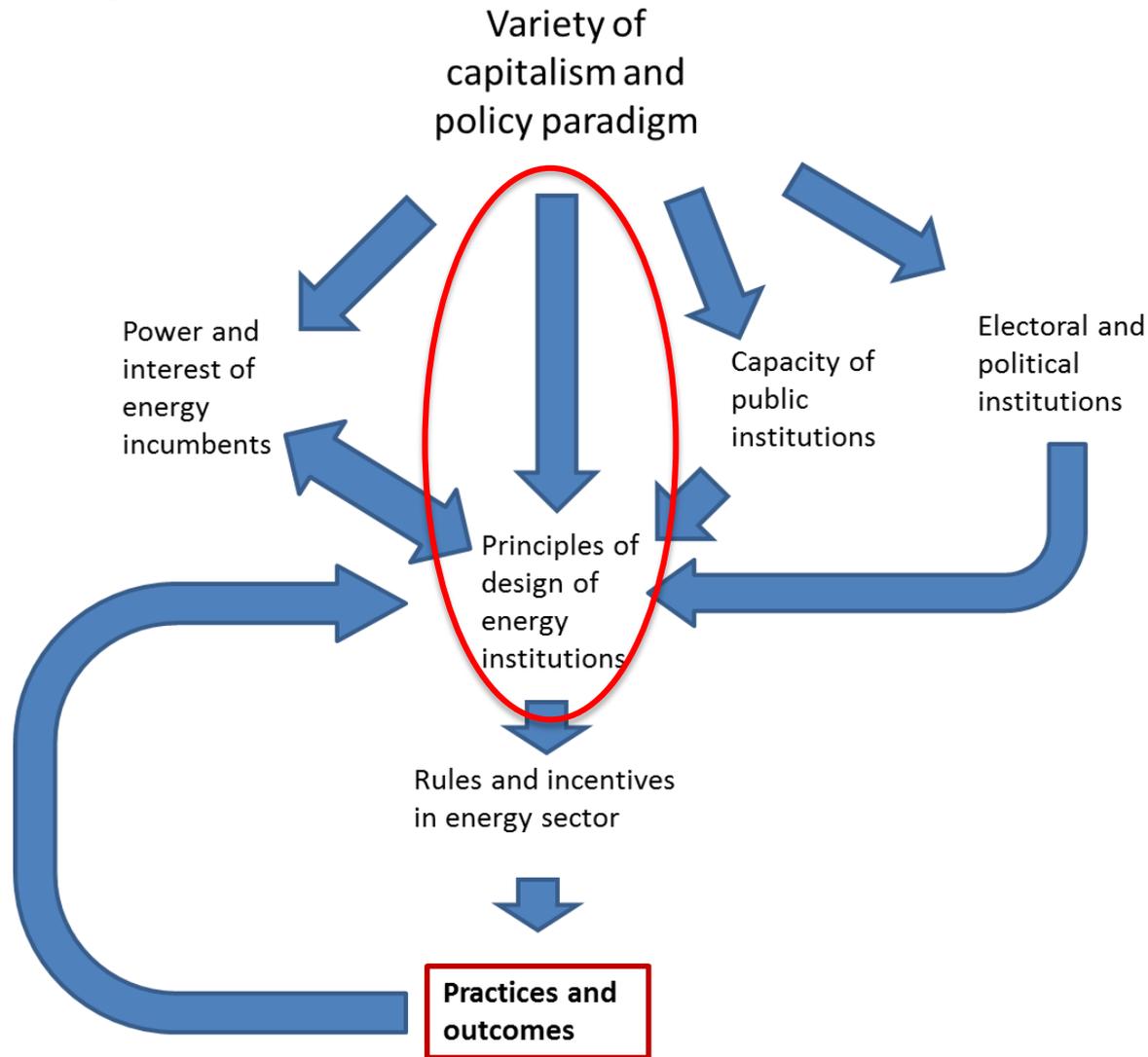


See also Hughes et al (2012)

VoC and energy system change

- LMEs likely to do better at cost-related energy transitions...
 - E.g. opex cost reductions in networks
 - UK ‘dash for gas’ in 1990s
 - US ‘dash for gas’ in 2000s/2010s
- ...but CMEs likely to do better at sustainable energy transitions

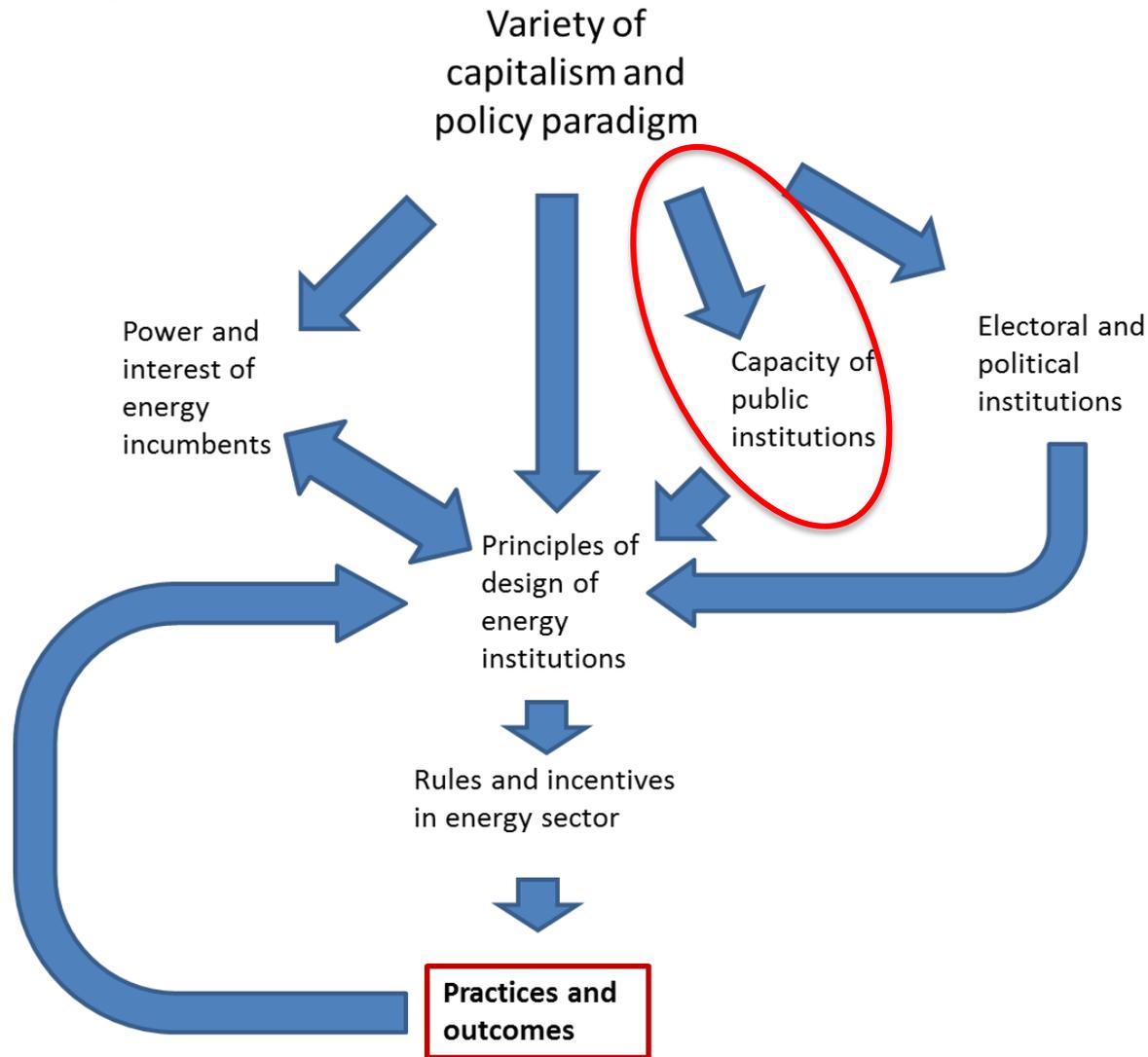
VoC and sustainable energy transition – four potential routes of influence



Direct influence of VoC/policy paradigm on policy design

- Ideological commitment to market-led policies, which can increase policy costs (e.g. RO vs FiT)
- Short term costs dominate decision making over environmental ideas
- Marginalist world-view works against strong coordination for non-marginal change

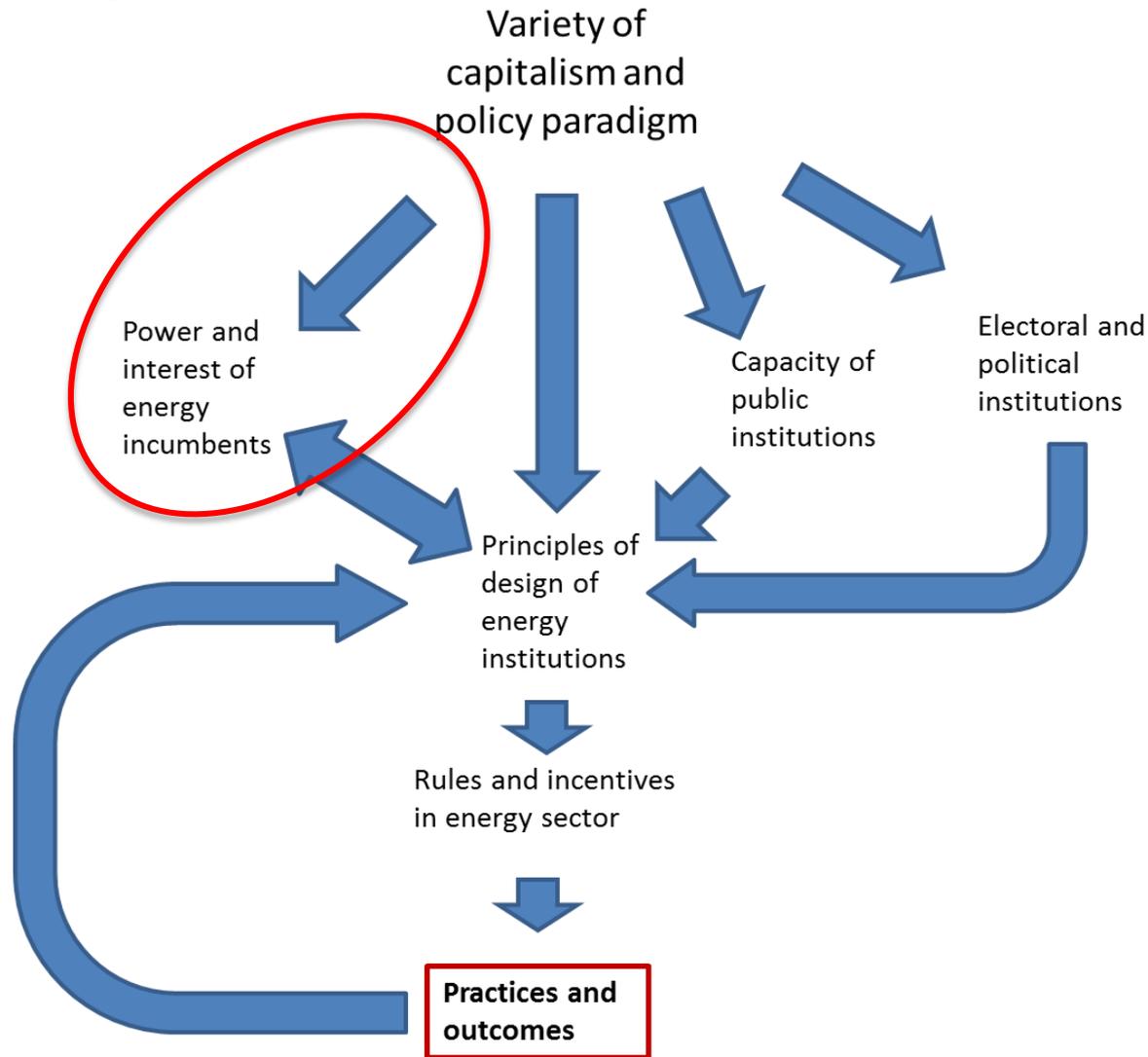
VoC and sustainable energy transition – four potential routes of influence



Influence of neo-liberalism via hollowing out of governing institutions

- Hollows out technical knowledge in government and increases reliance on secondees from incumbents, slowing change
- Less willingness to support a national innovation system/entrepreneurial state

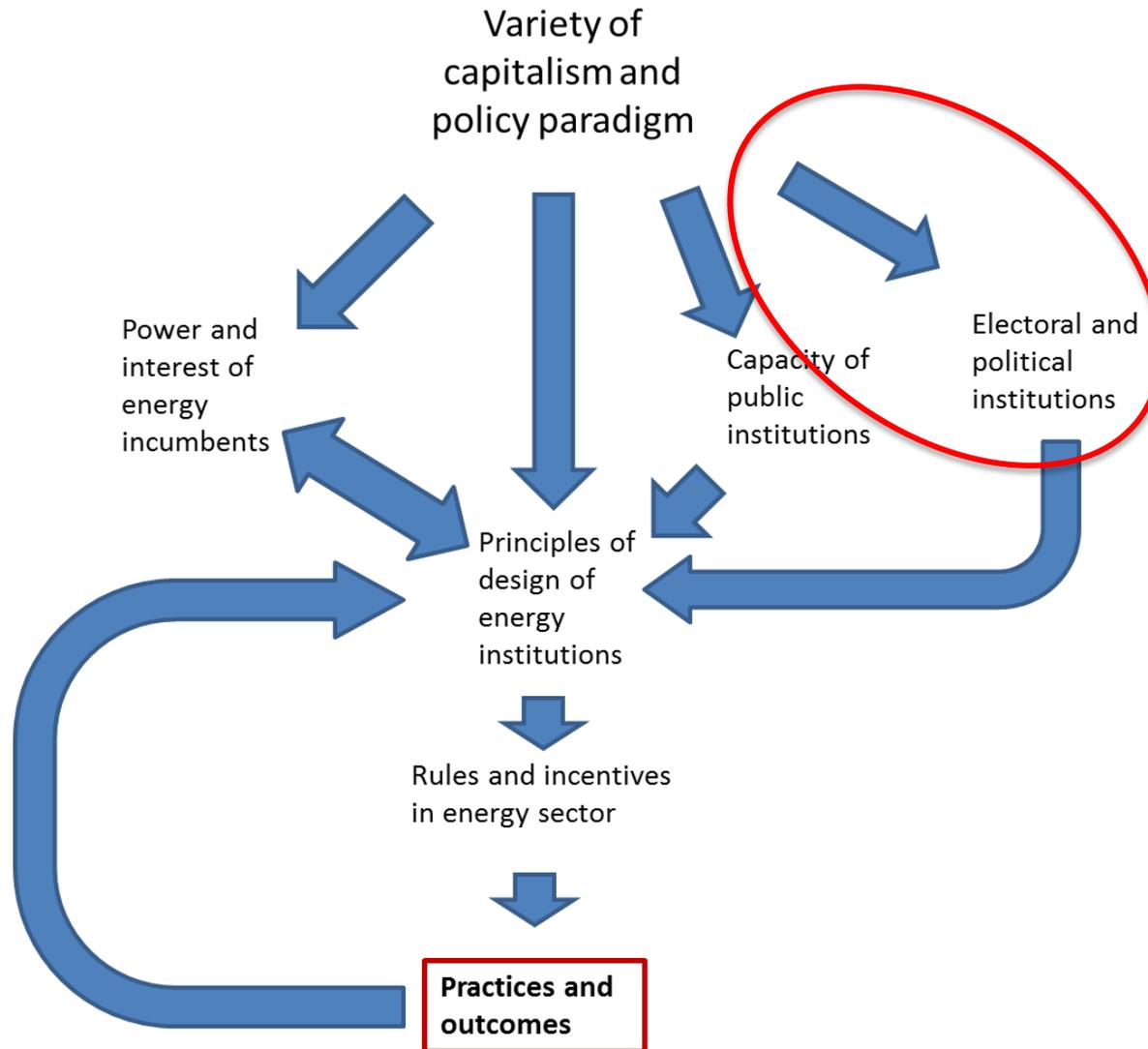
VoC and sustainable energy transition – four potential routes of influence



Influence via effects of privatisation and liberalisation on market structures

- LMEs tend to have dispersed shareholders with ST expectations on profits
- Thorough privatisation and liberalisation with barriers to entry has led to market concentration, and large powerful incumbents who coordinate to further strengthen barriers to entry, all of which suppresses innovation
- If system operator and network functions privatised, absorbing disruptive technologies (e.g. variable renewables) can be more difficult
- Also makes foreign ownership more likely and threats of exit/investment strikes more credible

VoC and sustainable energy transition – four potential routes of influence



Influence via electoral/political institutions

- CMEs tended to have PR systems , while LMEs have FPTP (Cusack et al 2007). The former work for greater Green Party presence and leverage
- CMEs also have less inequality and more welfare, so ability of public to absorb higher energy costs greater than in LMEs
- LMEs more likely to attempt depoliticisation of energy/climate policy rather than seek explicit political consensus, which is more sustainable under transition pressures

Summary: UK (LME) vs. Germany and Denmark (CMEs)

- Working hypothesis = UK finding it harder to make transition because:
 1. Neo-liberal paradigm limits and distorts policy design directly
 2. Privatisation has hollowed out capacity in policy institutions
 3. 'Deep' liberalisation has allowed market concentration and powerful incumbents, with interests in opposing change where costs/risk involved, and strong grip on policy, esp. preventing entry
 4. Majoritarian voting system weakens green voice in government
- IGov project is examining detailed evolution of energy governance institutions, and causes of change, in 4 year comparative study (2012-2016)
- Comparative institutionalist approach to energy sector doesn't explain everything – 'exogenous' factors like military nuclear and availability of coal also shape or slow transitions

So what?

- Institutions don't travel well (Soskice 1997, Rodrik 2007) vs. you can transplant with experimentation (Culpepper 2001)
- Rodrik again – focus on function, not form (i.e. avoid 'isomorphic mimicry')
- Neo-liberal energy policy paradigm in crisis in UK
 - not just energy but also finance, transport, media, tax avoidance etc.
- Not clear what will happen next, but potential opportunity (opening in the 'landscape')

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CMEs have significantly deeper emissions cuts than LMEs

	Emissions change pre-Kyoto (1990-1997)		Emissions change post-Kyoto (1997-2008)	
	(5)	(6)	(7)	(8)
LME	-32.356** (9.934)	-23.293* (9.610)	-31.402** (10.714)	-22.167** (7.211)
CME	-40.630*** (8.603)	-26.104* (9.662)	-42.137*** (9.278)	-21.077** (7.213)
GDP growth (average)		4.124* (1.656)		9.308*** (1.725)
_cons	46.172*** (7.024)	24.014* (10.897)	40.018*** (7.576)	-2.629 (9.327)
<i>N</i>	24	24	24	24
adj. <i>R</i> ²	0.474	0.578	0.449	0.765

Table 4: OLS regression results: heaviest emitters and type of capitalism

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Lachapelle and Paterson 2013?