

The Political Economy of Sustainable Energy Transitions: Institutions, Contingency and Contestations

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New Thinking For Energy

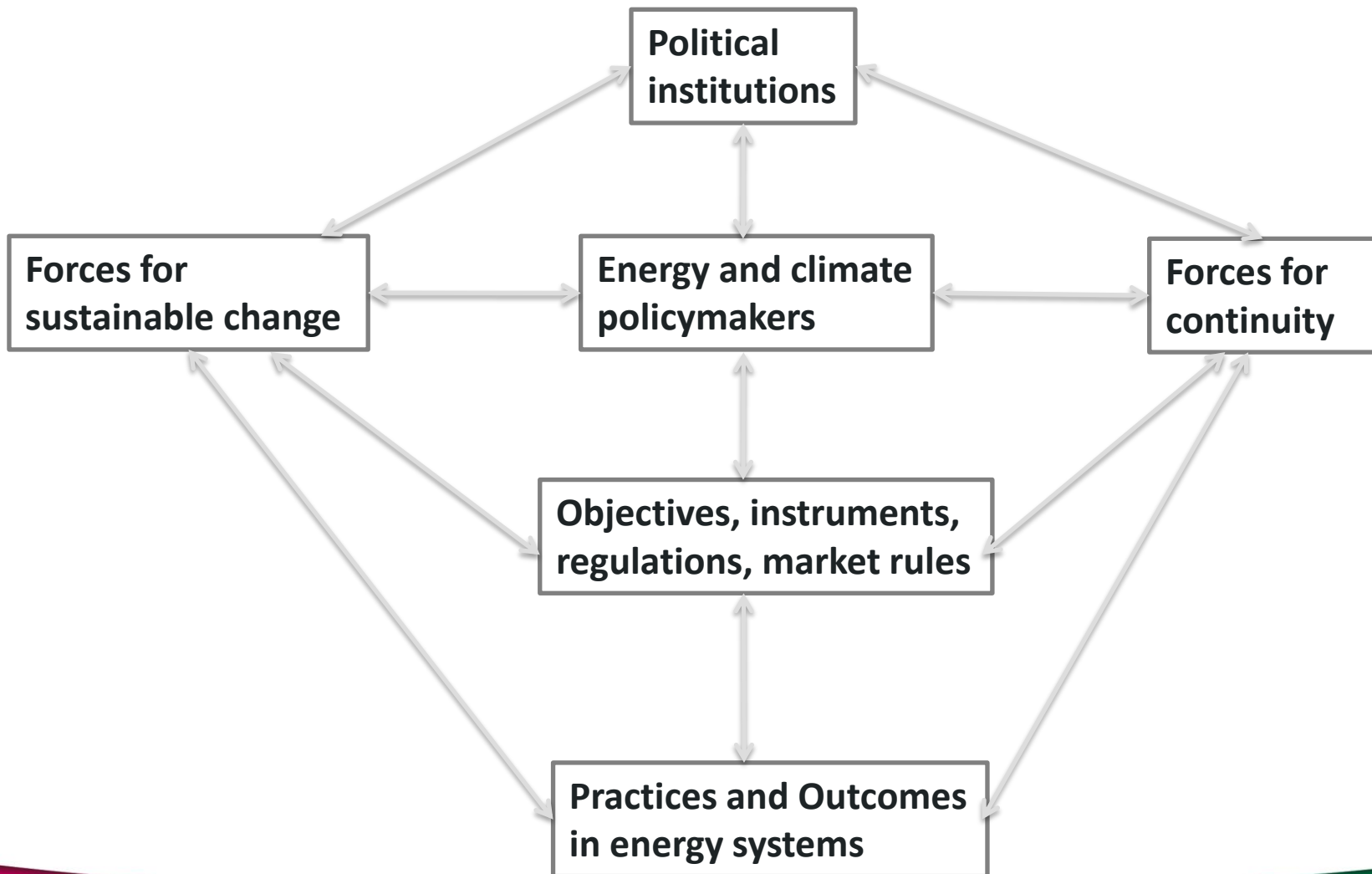


Summary of the Paper

- An inter-disciplinary approach to conceptualising governance for sustainable energy innovations and explaining differential pace and degree of transitions
- The concept of governance we apply recognises that not all governing is done by government: multiple actors
- **STT** tell us a lot about how socio-technical systems operate and change; winners /losers BUT too little on contestation, policy change and broader political (macro) contexts
- **New Institutionalism** details on political context; how policy change: recognition that there is a problem, prove existing institutions fail and offer solutions BUT too little on relationships between governance and outcomes
- Empirical focus on Germany and UK (but not enough)

Problematizing Governance for Innovations

- *Roles of energy governance:*
 - Deliver energy security and economic objectives
 - To enable innovations (clean energy, demand, affordability)
 - To distribute benefits of technical innovations and *ease the process of change (welfare) – ‘just transition’*
 - *Mediate in debate between forces for sustainable transformation and forces for continuity: winners/losers*
- *Energy governance as contingent:*
 - Political institutions vary, *as does role of energy within p.e.*
 - Inter-related to other policy areas: fiscal, welfare, jobs
 - Hierarchies between objectives
 - *Multiple levels of governance: decisions and outcomes*
- *Governance can also constrain types of change*



Political Institutions: Energy in Context

- Germany:
 - Ordoliberal, proportional representation (*strong anti-nuclear*)
 - Governance: goal oriented, coordinate/enable, leadership stance, welfare and jobs commitment
 - Federal system: municipal authority and no post-war energy nationalisation (municipal energy/services)
 - Coal interests, importer of oil/gas
- UK:
 - Liberalisation and financialisation: private interests and lock-in, policymaking knowledge gaps
 - Governance to incentivise but markets to lead change
 - Treasury limits on and involvement in energy policy/austerity
 - Post-war nationalisation: *centralised* energy and government
 - Oil/Gas: importance in revenue and employment terms; nuclear complex

Terms of the Debate - NB

- **Germany** – forces for sustainable change:
 - Importing energy can lead to vulnerability = domestic production
 - Climate change and anti-nuclear strong politically (PR)
 - State can lead, create new markets, coordinate learning/network
 - **Continuity**: international competitiveness/high prices, coal as important (jobs), traditional electricity companies: security of supply capacity (capacity markets)
- **UK** – forces for sustainable change:
 - Climate change (Stern on economic cost act now/later)
 - Affordability (energy poverty) recognised as a problem
 - **Continuity**: supply security - UK becomes importer oil/gas: 'home grown'; nuclear as 'clean'/domestic; Treasury and 'Big 6' influential; oil and gas as economically important

Mediation between Forces/Outcomes

- Germany Governance (**forces for change**):
 - Renewables 25% electricity: target 60% consumption; negative wholesale prices; DE 'revolution'; coalition for continuity/court
 - New energy interests more embedded: employment, revenue/exports, consultancy; lead in new technologies/knowledge; lobby
 - Incumbent energy companies facing hard choices: wholesale price
 - Coal and intensive users sheltered from costs/change: distributional issues now/high energy prices – adapting EEG
- UK Governance (**forces for continuity/mixed signals**):
 - Renewables 18% electricity consumption, less distributed: RES policies (except solar FiT) suit large companies; Treasury and CCL
 - Incumbent lobby strong, actively involved in regulation
 - Conditions for non-renewable generation more favourable: Capacity Markets, CCS, generous CfDs for nuclear, scale/codes
 - Vulnerable consumers pay more/Winter Deaths/high prices but less change; little public debate/informed deliberation

Conclusions/Questions

- Institutions/contingencies important:
 - Explanation of variety, in governance but also *outcomes*
 - TYPE of national energy system change results from political processes of compromise between forces for sustainable change and continuity – therefore need to understand institutional (historical context) as well as how politics mediates, enables and constrains change
 - Where do energy systems (oil, gas, coal, electricity) fit within political economy of country – what roles?
- But what do contingencies tell us – and can institutional constraints be overcome? Or are they important to understand in order to overcome (proof of failure)?
- New technologies dispersed = new problems for traditional energy and new path dependencies

Objectives, Policies, Regulations

- Germany:
 - Long-term and ambitious targets inc. renews/efficiency
 - Energiewende: nuclear phase out (targets)
 - EEG: focus on new market entrants and adapt over time
 - Sustainable banking to finance innovations (KfW/Landesb.)
 - Considering capacity market and coal phase out
- UK:
 - Objectives: climate not more important than security/econ.s and targets focused on emissions (not renewables)
 - Capacity Market: supports gas/coal generation (security)
 - Contracts for Difference: £90/MWh nuclear (25 years)
 - Support for shale gas and North Sea oil and gas
 - Climate Change Levy (Treasury) caps spend on energy

Energy Markets in Historical Context

- Energy markets, **based on fossil fuels**, designed to deliver secure and affordable energy
- Often nationalised/centralised, supply-oriented
- Political economy of energy:
 - Often deeply embedded politically: economic power (exports, taxes, jobs), formal and informal influence
 - Often subject to specific rules (Seven Sisters/US; Russia re-nationalisation; nuclear/UK)
 - Often subject to broader economic rules
- 1970s crises: some countries response to oil shocks > efficiency/renewables
- Increasingly liberalised and privatised (financialised): designed to allow for private profits

Challenge: Sustainable Energy (Innovations)

- **Sustainable energy**: secure, affordable and *environmentally sustainable energy*: non-fossil fuel and lower/flexible demand
- *Problem Drivers*:
 - Climate change/smog, environmental damage, (in-security)
- *Solution Drivers*:
 - Targets: emissions, renewables, efficiency, (home grown)
 - New technologies: smart/IT, renewable, responsive
 - New models: local, aggregators, sustainable finance
- Responses to challenge differ – often hierarchies between which objectives are more important
- High degrees of governance change do not necessarily lead to sustainable energy outcomes – ‘lock-in’