Imperial College London

Regulatory change in UK renewable energy policies: the role of discourse and ideology

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Renewable energy policy in the UK – a discourse approach

Topic

- Role of policy choice and regulatory innovation within UK electricity policy for climate change policies
- Ideational, economic and political forces driving regulatory strategy incentivising low-carbon policy changes
- Non-Fossil Fuel Obligation (NFFO), Renewables Obligation (RO), Electricity Market Reforms (EMR)

Research

→ What is driving the choice in frameworks and choice of regulatory tools / mechanisms to support renewable energy deployment in the UK policy process?

Sub-questions

→ What are the drivers for reforms in electricity market reform and renewable support policies? How to explain current reforms?
→ What are the government rhetorics on support for renewable energy and how does this inform the choice of support mechanism?
→ How do actors (government, business, public, stakeholders) inform the policy process and choice of mechanisms?

Methodology

- Discourse analysis of documents and semi-structured interviews with policy makers and academics.
- Examine types of mechanisms and rationale for action: Feed-in tariffs (FiTs), Contracts for Difference (CfDs), emissions performance standard (EMS), and carbon price floor.

UK Renewables policy since 1989

Non-Fossil Fuel Obligation (NFFO)

Renewables Obligation (RO/ROCs)

Feed-in Tariff (FiTs) for small-scale generation

Electricity Market Reform framework 2011

NFFO – contracts that guaranteed prices for electricity produced. Contracts for 15 years into future

ROCs – Tradable green certificates programme. Require suppliers to increase proportion of electricity from renewable sources and ROCs issued to accredit generation

Last ROCs phased out 2017 to 2020

Banded Rocs reform (2009)

Small-scale micro generation FiTs – up to 5Mw
Fit licensees to pay a generation tariff to small generators.
Generation tariff and export tariff

4 mechanisms:
- Feed-in Tariff with Contract for difference (FiT CfD)
- Capacity Mechanism (CM)
- Carbon Price Floor (CPF)
- Emissions Performance Standard (EPS)

1989 **2000/2001** **2010** **2012**

1990 to 2001 Electricity Pool

2004 Energy Act

2008 Energy Act and 2008 Climate Change Act

2011 Energy Act

Electricity Act 1989

EU Single Electricity Market

New Electricity Trading Agreements (NETA) 2001

British Electricity Trading Transmission Agreements (BETTA) 2005

RIIO transmission regulation (Revenue= Incentives + Innovation+ Output) 2011 and EMR

UK renewable energy target 2000
10% renewables by 2010

EU Renewable Energy Directive 2009
UK - 15% renewable energy consumption by 2020

CCC 2011 renewable target
UK Climate Change Committee minimum 30% renewables by 2030 and Carbon Budgets

Renewable Energy Targets *Primary renewable mechanism used* *Key legislation and market trading reforms*

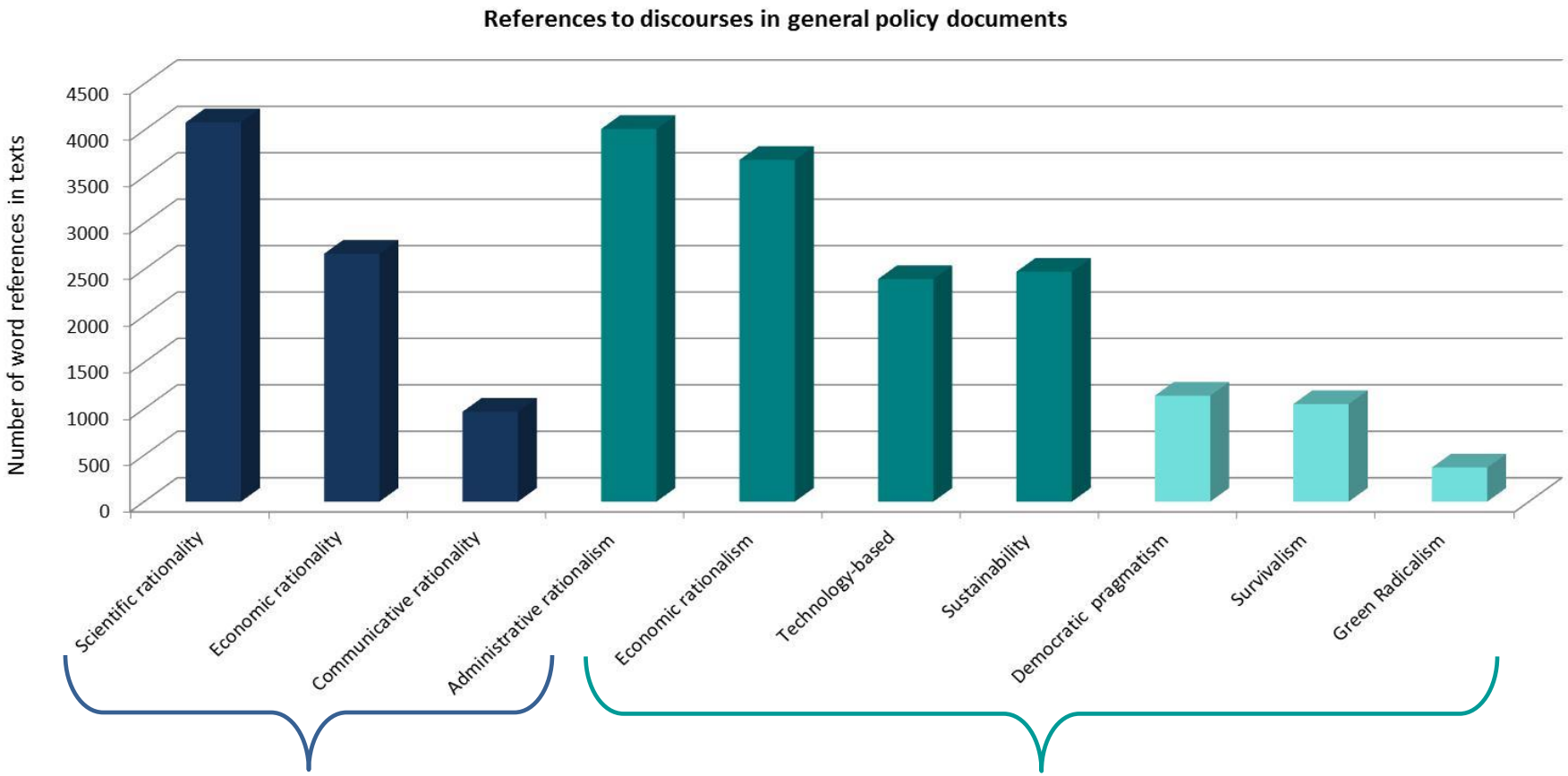
Primary discourses analyzed

Initial regulatory drivers and discourses – (doctrinal discourses)			
	View of the Environment and nature of environmental problems	Preferred solutions	Key terms
Scientific rationality	- Environment the object of scientific enquiry. Lack of understanding / knowledge. Leading to poor management [a]	- Based on sound science - Knowledge-led [a]	Science, facts, experiment, global warming, loss of biodiversity, ozone depletion, empirical, knowledge-based, evidence
Economic rationality	- Environment as a resource and an object of consumption. Un-priced, overused resources. Lack of property rights. Not incorporated in economic decision-making [a]	- Market-based instruments - Property rights - Quasi-market pricing [a]	Wealth, production, firm, economy, profit-seeking, entrepreneur, business, enterprise, costs, benefits, payoffs, balance, capital assets
Communicative rationality	- Environment at interface of the physical and social. Inadequate stakeholder involvement. Rejection of lay knowledge. Insufficient education [a]	- Consultation with stakeholders - Consensus building [a]	Consultation, stakeholder engagement, deliberation, public participation, citizen involvement, transparency, access to justice

Secondary discourses analyzed

Secondary regulatory drivers – (regulatory discourses)			
	View of environmental problems	Preferred solutions	Key terms
Administrative rationalism [b] (Environmental problem solving)	- Nature subordinate to human problem solving. Experts and administrators solve external problems. Ineffective resource-management factor	- End-of-pipe regulation - Command and control - Regulatory technology standards	- Standards, government, organisational rhetoric, administration, experts, resource-management, pollution control
Democratic pragmatism [b] (Environmental problem solving)	- Nature subordinate to human problem solving. Citizen and political action solve external problems. Lack of participation	- Government / social action. Public consultation. Right-to-know legislation	- Consultation, policy dialogue, participation, public involvement, equality, citizens, deliberation
Economic rationalism [b] (Environmental problem solving)	- Nature subordinate to human problem solving. Market forces and economics solve external problems. Inefficient government regulation over market	- Market liberalisation - Economic instruments - Private property rights - Taxes, tradable quotas	- Markets, competition, investors, prices, economics, privatisation, prices, costs, balance, payoffs, economy, profit
Survivalism [b]	- Environment finite stock of resources . Humans / nature won't survive over-use at current levels. Limits to growth	- Coordinated central action - 'Draconian' action to reduce consumption	- Limits, resources, consumption, population, finite stock of resources, carrying capacity
Sustainability [b] (ecological modernisation discourse)	- Nature subordinate to human needs. Economic growth / environmental aims brought together. Previous industrial development a problem	- International action complemented by grass-roots movement - Some technological solutions	- Sustainable development, growth, natural capital, partnership, environmental protection and economic prosperity
Green Radicalism [b]	- Inherent and non-economic value of nature. Natural relationships between humans / nature violated. Need equality between humans and nature	- Green politics, environmental justice, - Collective social action - Revolutionary change	- Non-economic value of nature, green development, ecology, biology, justice, environmentalism, social action and revolution
Technology-based (connection to ecological modernisation)	- Environment valuable but subordinate to human uses. Technological advances solution. Past 'dirty' technologies and carbon intensive fuels	- Technology solutions: renewable sources. Best-available technologies	- Technology, path dependence, investor certainty, R&D, learning-by-doing, technical engineering, energy efficiency

Overall findings
– discourses in renewable energy policy



Doctrinal rationalities

Secondary regulatory rationalities

Nature valued less than human needs

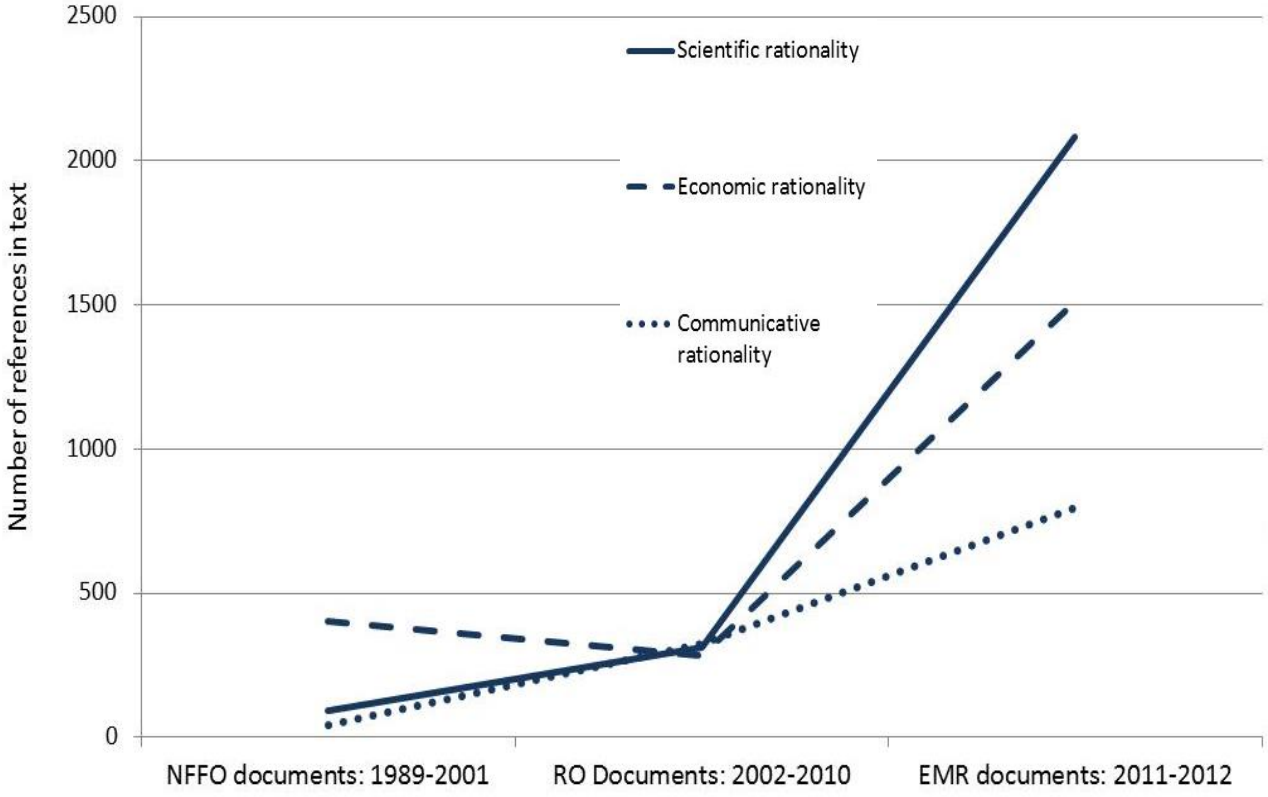
Nature valued inherently

Doctrinal findings – primary discourses in renewable energy policy

- Doctrinal rationalities are present to varying extents across all three mechanisms
- Sharp increase in scientific and economic rationalities from the RO period to the EMR

- Scientific rationality appears to be a particularly powerful initial rationale for action
- Economic and market-drivers for regulation strong both textual analysis and interviews
- Lack of communicative rationalities seen in the renewable policy area

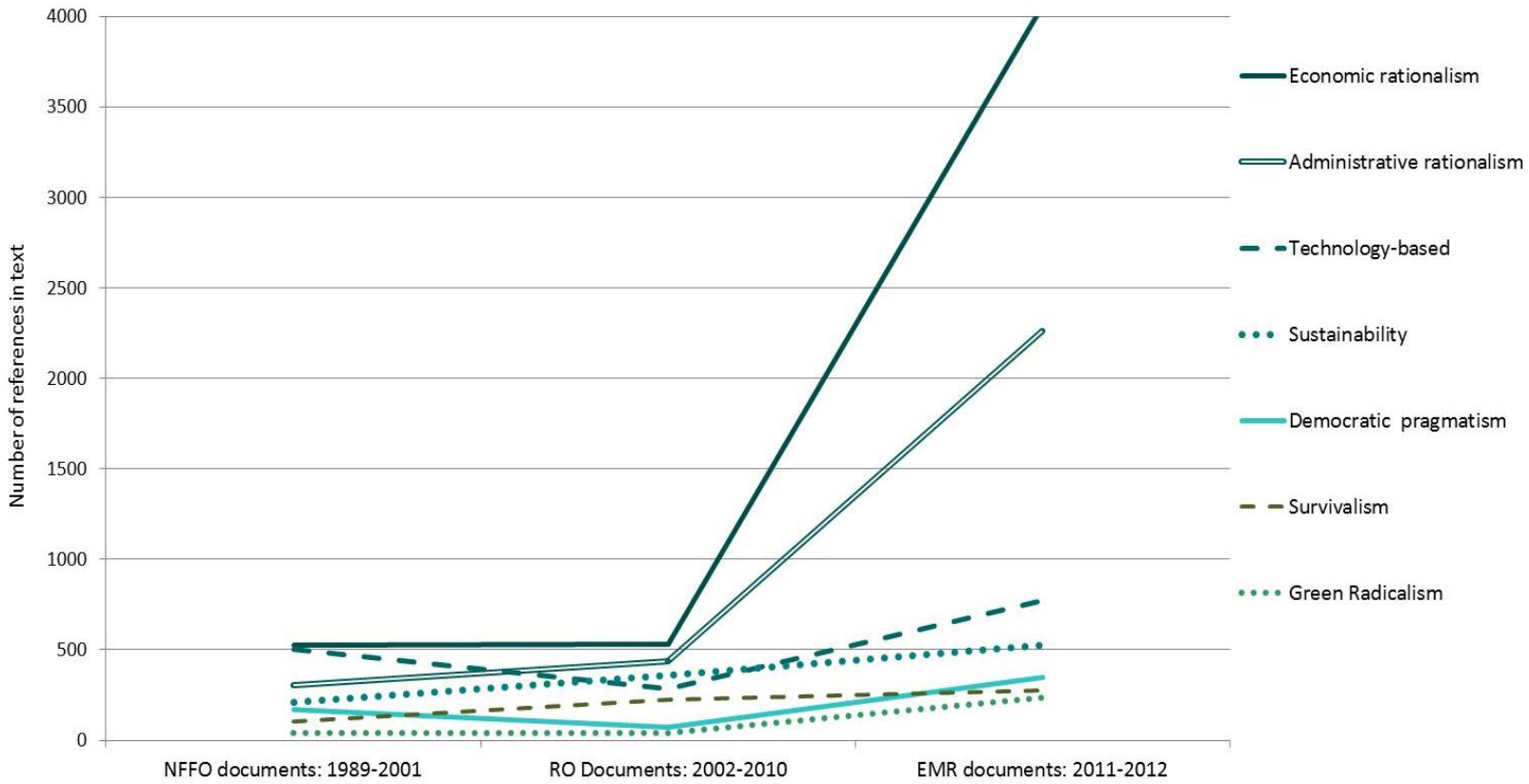
→ Doctrinal discourses driven by economic and political factors, and scientific rationality is a key rhetoric in initial motivations for regulation, but reduced role for public voice in UK environmental policymaking



Regulatory findings – secondary discourses in renewable energy policy

- Administrative rationalism and democratic pragmatism - 'environmental problem solving' (Dryzek)
- Innovation-technology discourse represented within the documents – linked with costs
- Insignificant number of references to survivalist, green radicalism or sustainability discourses

→ Economic and technical rationales determine the choice of regulatory mechanism. Clear in the inherent use of market-based mechanisms as well as the lack of social engagement discourse



Policy beliefs in renewable energy policy

	Deep core	Policy Core	Secondary aspects
Defining characteristics [c]	Fundamental normative and ontological axioms	Fundamental policy positions concerning the basic strategies for achieving core values within the subsystem	Instrumental decisions and information searches necessary to implement policy core
Scope and susceptibility to change [c]	Across all policy subsystems. Very difficult to change	Specific to a subsystem, difficult to change but can occur if experience reveals serious anomalies	Specific to a subsystem, moderately easy to change. Topic of most administrative policymaking
Illustrative components [c]	Nature of man, priority of various ultimate values: freedom, security, power, etc. Basic criteria of distributive justice – whose welfare counts?	Fundamental normative precepts: identification of groups of whose welfare is of concern, seriousness of problem, distribution of authority, ability of society to solve the problem	Seriousness of specific problems, importance of causal linkages, most decisions on administrative rules and budgetary allocation, performance information specific programmes
Ideational beliefs with relation to ***scientific rationales***	- Climate Change requires decarbonisation of the economy. Scientific evidence for climate change is 'overwhelming' and requires action	- Science underlies the problem but economics and market-based solutions provide answer. Evidenced-based policy making always used to connect technology costs / economic instruments	- Room for adaptation of scientific discourse – new evidence from international organisations – e.g: 2°C warming target revised to 1.5°C / carbon sink and ocean sources re-evaluation
Ideational beliefs with relation to ***economic rationales***	- Man has dominion over nature. Liberalised private system is inherent and unchangeable, no alternative is considered	- Markets solve problem. Need some financial policy support instruments – NFFO, RO, EMR – but these are market-based, low-cost economic options	- Costs determine technology options. Cheapest option outside high carbon technologies
Ideational beliefs with relation to ***renewable energy and technology***	- Renewable power will form part of the future, legally binding targets and decarbonisation of the economy	- Renewable energy a good option, but must be cheap. Constant comparison to 'conventional' technologies – coal, gas, oil – and 'alternative' rhetoric based on relatively new renewables	- Regulation for renewables must not 'pick winners'. Market-based technology mechanisms and gradual acceptance of technology-specific policy disguised as technology neutral
Ideational beliefs with relation to ***social equity***	- Social equity and fairness is inherent to society, distributive justice framed in economic terms	- At risk groups – social affordability of energy, not social acceptance. Social understanding and real conceptions of behavioural change largely ignored	- Mechanism specific rhetoric: fuel poverty, consumer costs, distributed energy and community ownership of renewables

UK renewables discursive strategies and institutions

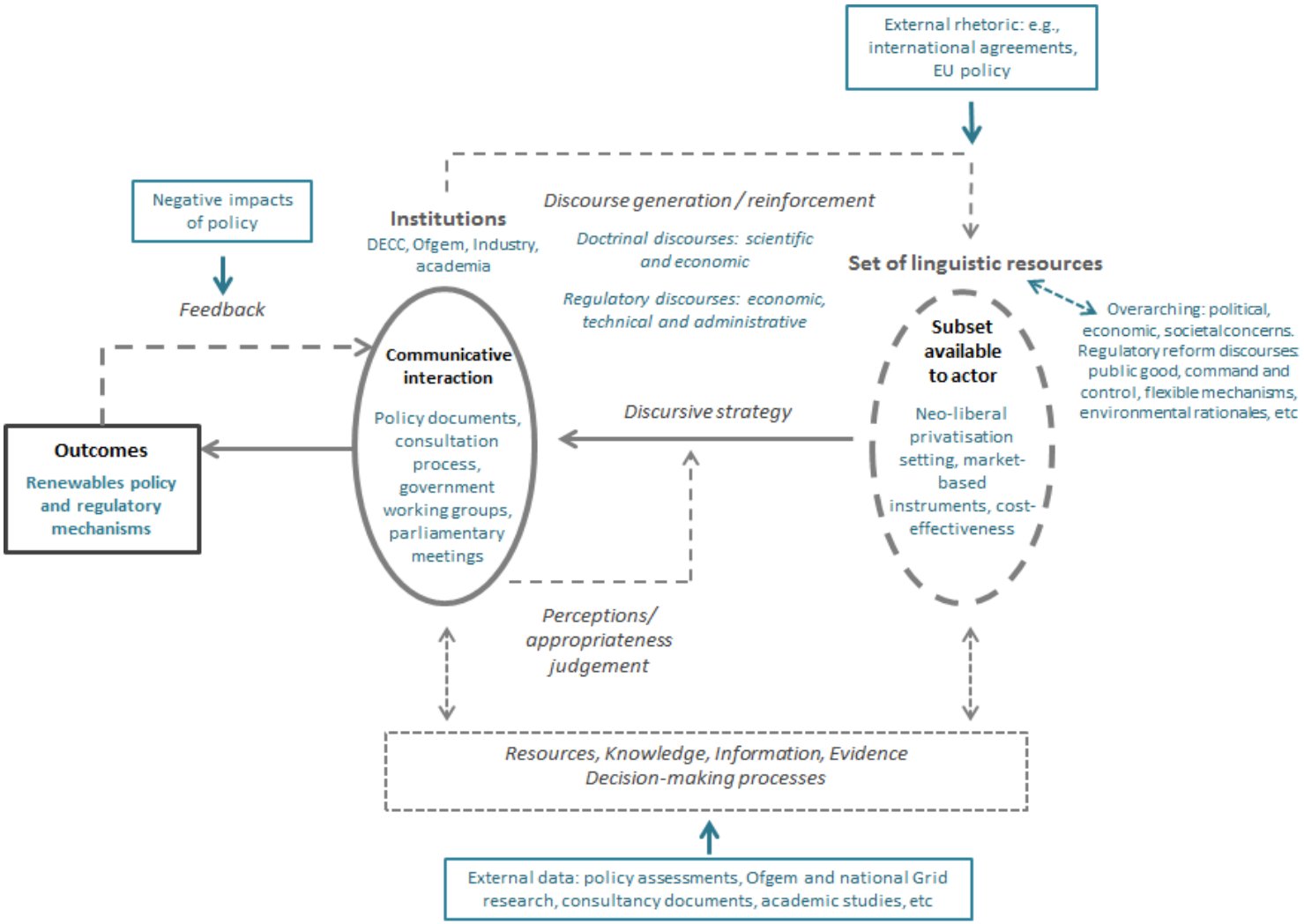
Where can external voices can have inputs into the policy process?

Blue arrows - options for input;

- External data into resources pool
- External forcing from international agreements or EU policy changes.
- Negative feedback during the policy review process

Two external inputs may be rejected out-of-hand by policy-makers if they do not confirm with their world-view.

→ **Closed-loop regulatory system?**



Key Conclusions

- Firstly that environmental problem solving, including administrative rationalism, democratic pragmatism and economic rationalism, has limited explanatory power due to the prominence of economic rationales but only some forms of administrative and democratic engagement.

- Secondly, the other three discourses, survivalism, green radicalism and sustainability, have very little relevance within UK renewables policy outside of the reinforcement of economic rationales.

- Thirdly, ecological modernisation (Hajer1995) which combines elements of economic, technology-based solutions and sustainability, has substantial explanatory power in this area.

Research collaboration topics

→ **Government accountability mechanisms within the regulatory process?**

- Processes of accountability for consultations and governmental decision-making
- Role of Ofgem in administering and monitoring consumer feedback
- Is this a closed-loop regulatory system?
- EMR current changes and beyond

→ **Nature of technological risk and regulation in the area**

- Cost vs. investment risk and regulatory approaches to addressing
- How in uncertainty functioned into understanding of regulatory regime setting
- Technology portfolio monitoring and pathways to deployment – views from private sector

→ **Network analysis of institutions and governance bodies involved**

- Advocacy coalition framework evaluation
- Network analysis of key players and understanding of their role in regulation
- Role of institutions in delivering policy change and regulatory reform

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