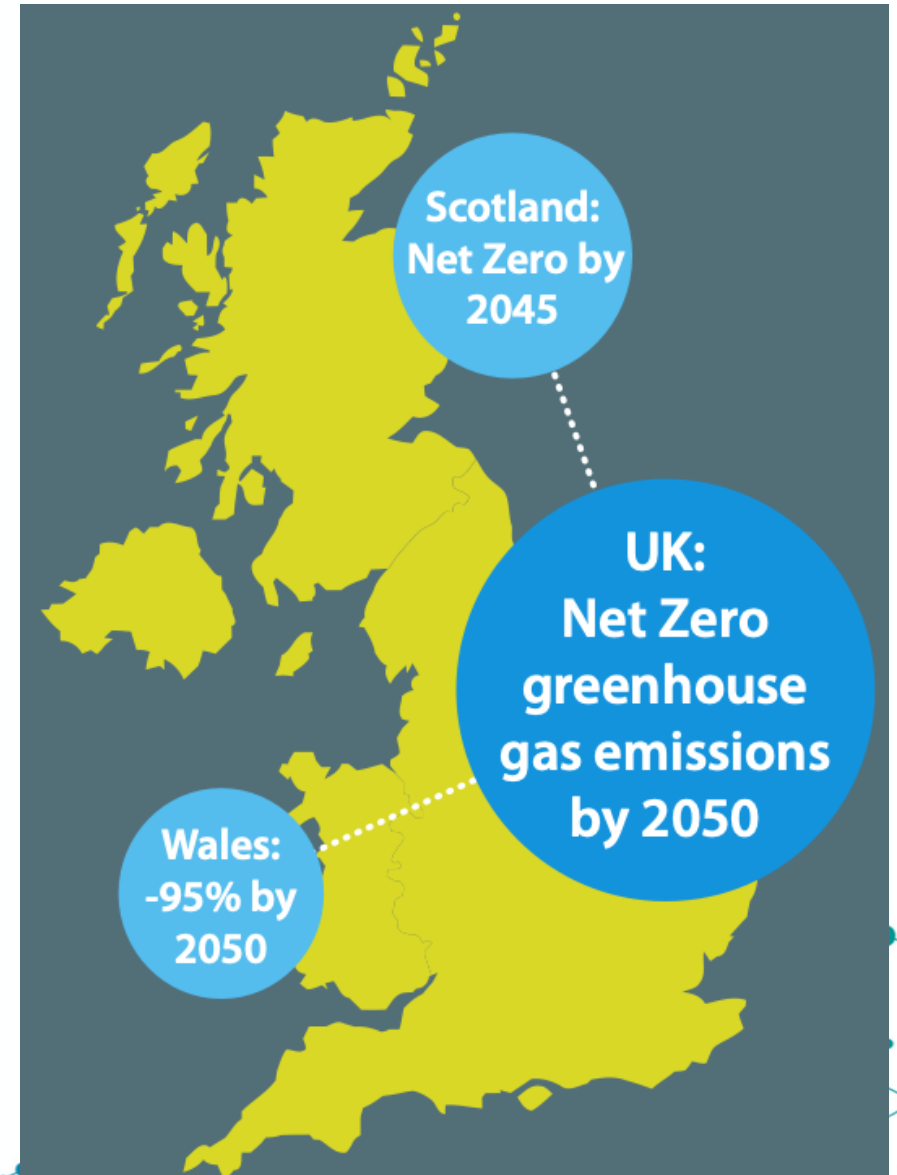


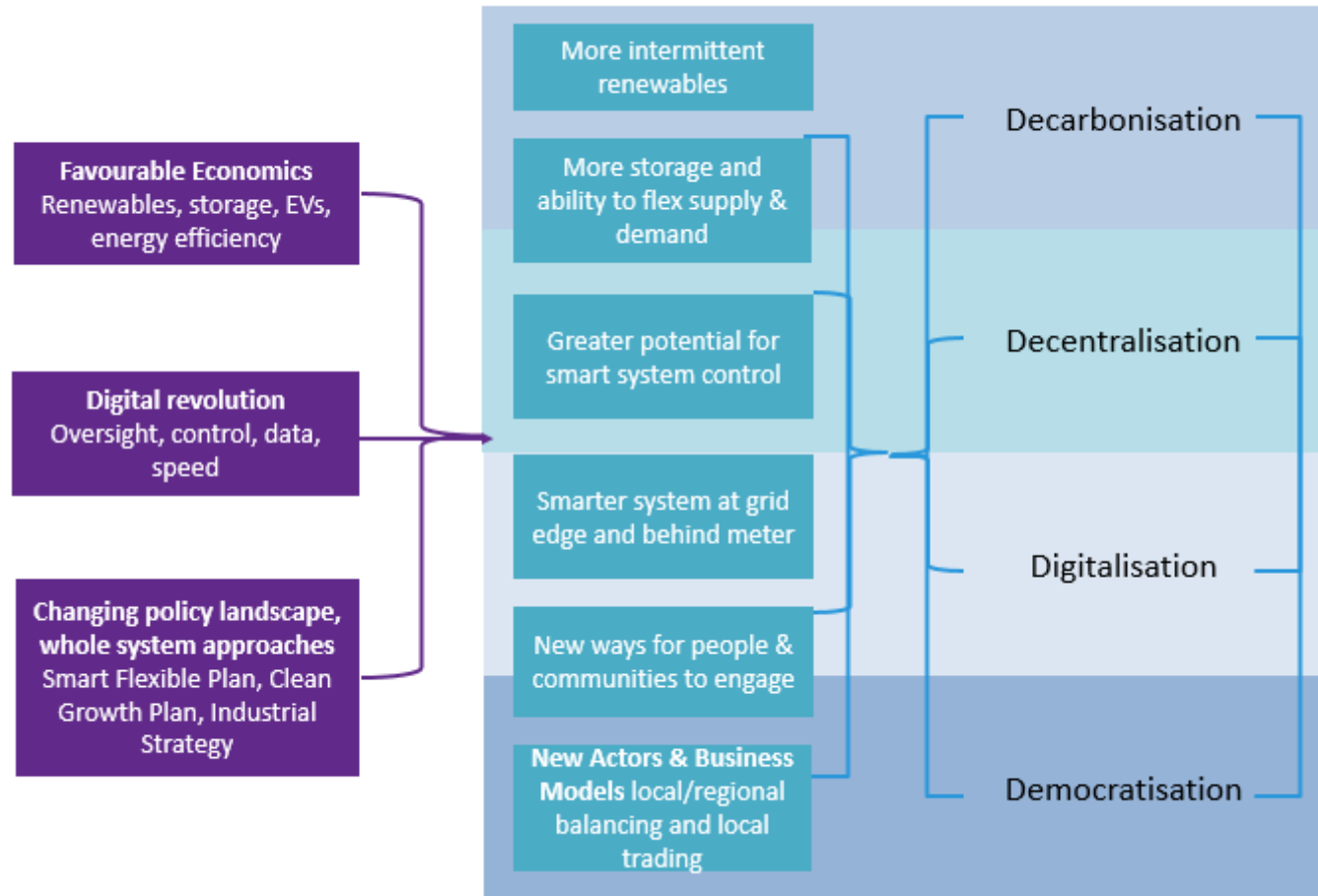
Local energy system development across Great Britain: progress and challenges

Jess Britton, University of Edinburgh
14th September 2022

@UKERCHQ



Drivers for more localised energy systems: 4D momentum



Drivers for energy systems

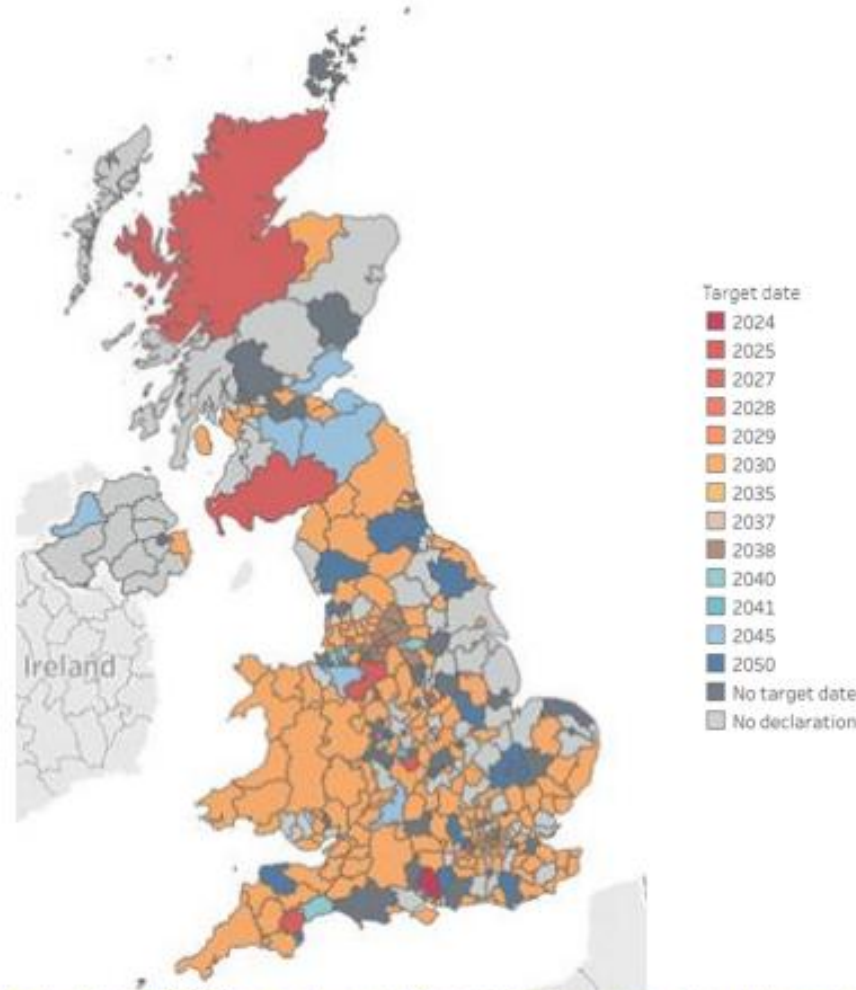
Figure 1.1 Local Authority climate emergency declarations

energy

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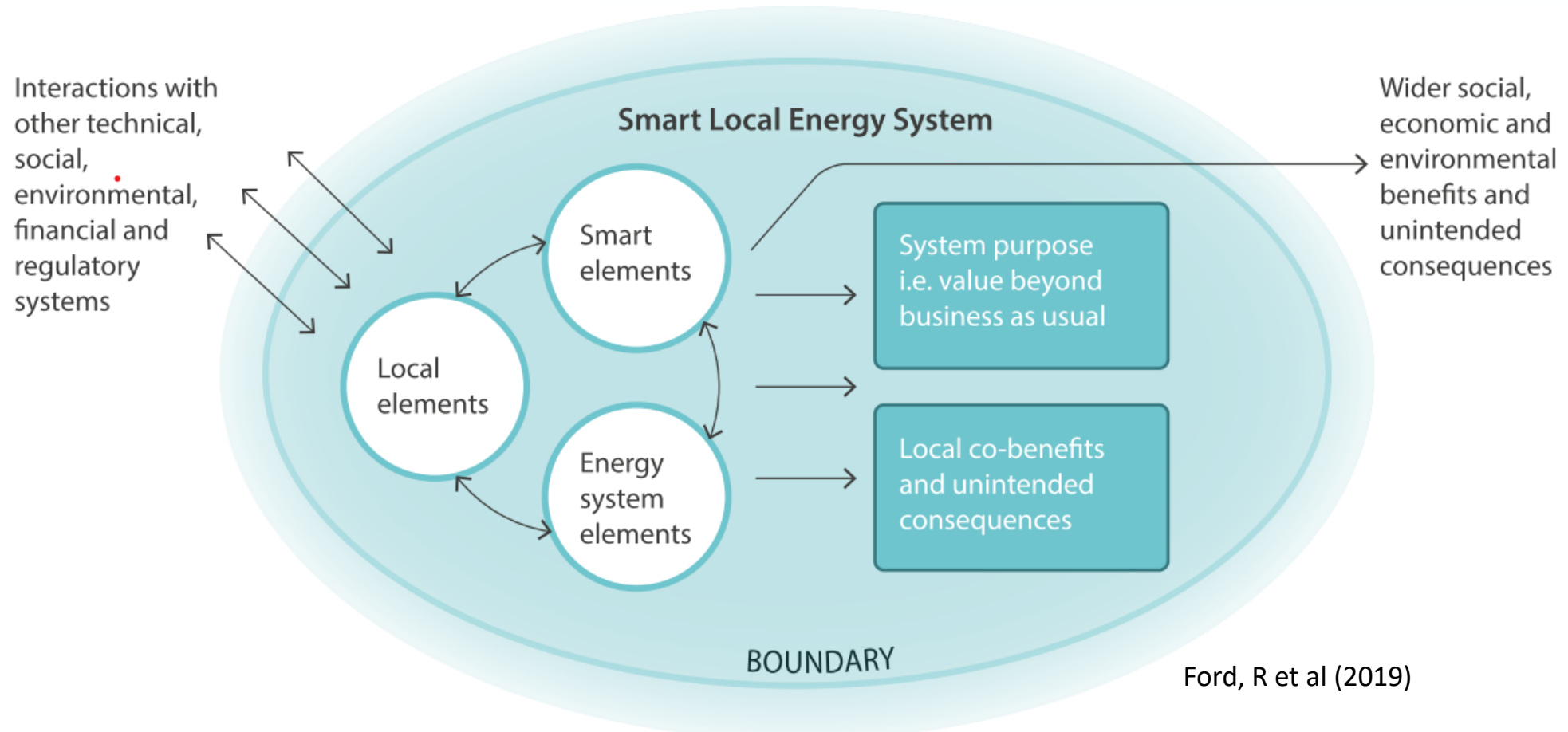
Digital rev
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spee

Changing policy
whole system
Smart Flexible
Growth Plan,
Strate



Source: Map by Aether (2020) Progress towards UK local climate emergency targets based on Climate Emergencies declared as at October 2020.
Notes: dates shown are earliest targets, some relate to council emissions rather than area-wide emissions.

Increasingly framed as a 'Local Energy Systems' (LES) approach in GB



Are you local? An evolving agenda

- Local energy rarely referred to prior to 2017
- 2017: Industrial Strategy, Clean Growth Strategy, Smart Systems and Flexibility Plan, BEIS Local Energy Hubs (5)
- Shift from ‘active citizens’ in community energy to ‘active consumer/prosumers’ (Devine-Wright, 2019).
- Significant innovation funding for place-based action (Prospering from the Energy Revolution – PFER 2018 - 2023)
- Place-based needs/opportunities *and* replicable, scalable business models?



Prospering from the Energy Revolution

Unlocking the potential of intelligent local energy systems for the UK



Are you local ??

Policy mixes for LES – strategy, instruments and institutions

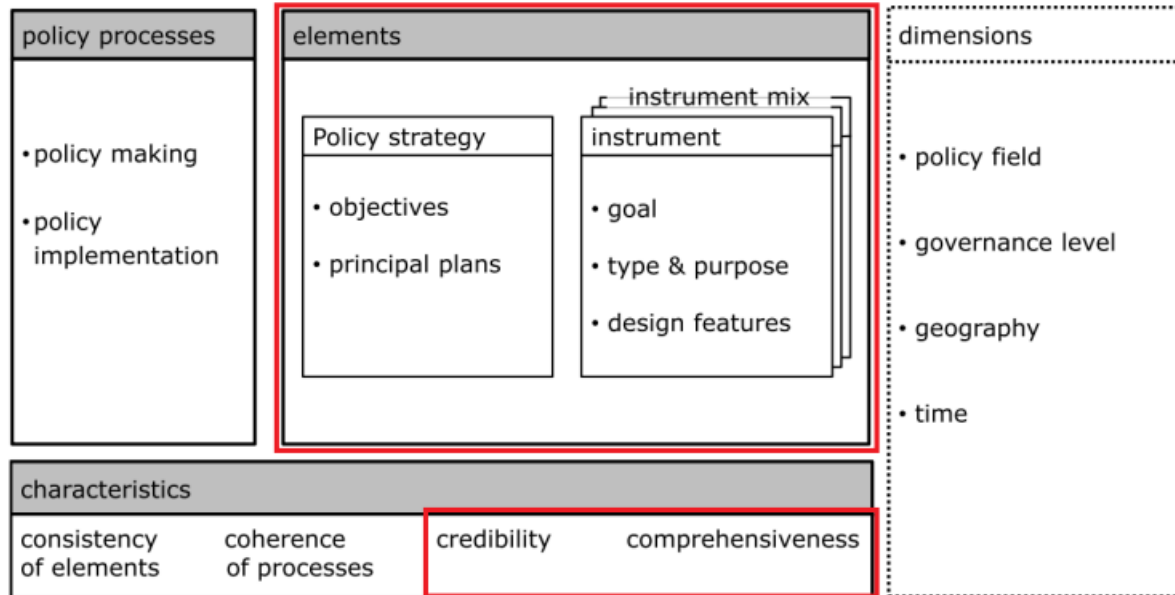


Figure 1: Building blocks of the policy mix concept, indicating the aspects assessed in this study (adapted from Rogge & Reichardt, 2016)

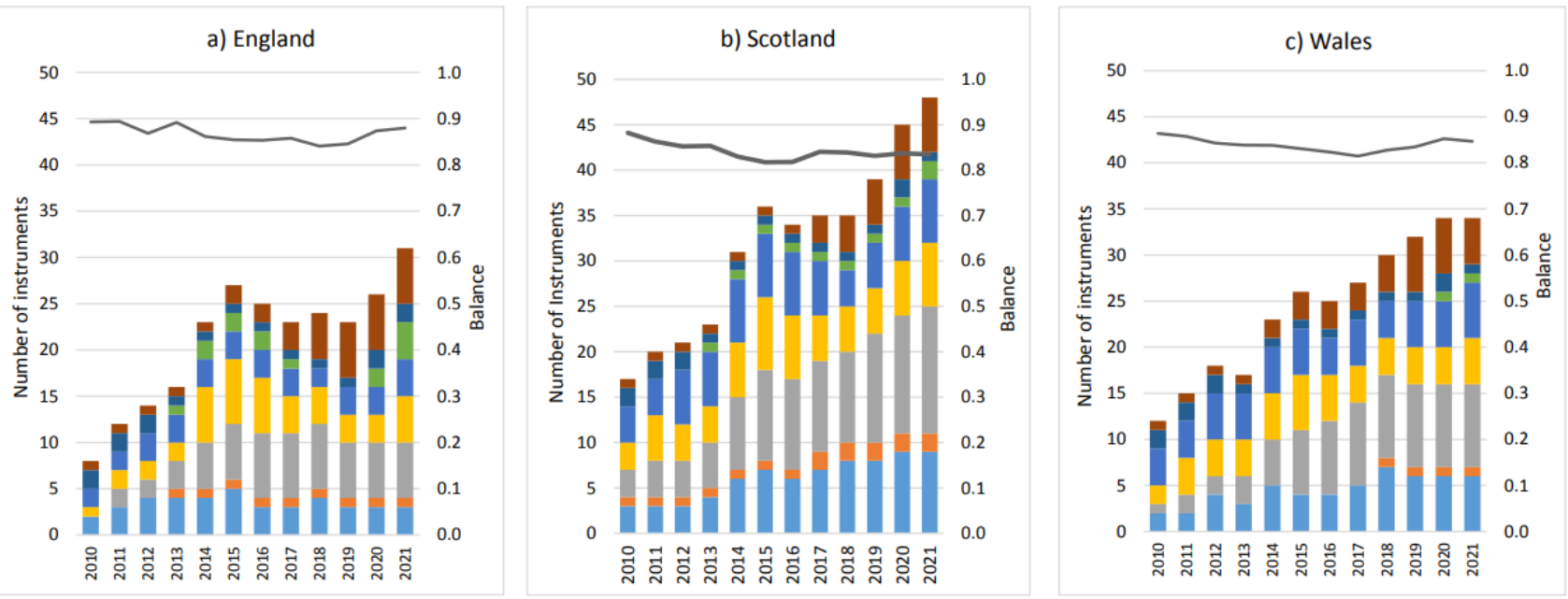
- Timeframe – 2010 - 2021
- Policy documents - 59
- Policy instruments – 105
 - Instrument type, duration, budget, specificity, managing organisation
 - Considered balance of instruments, credibility and comprehensiveness
- Basis for institutional mapping with interviews to explore governance logics

With Faye Wade and Jan Webb,
University of Edinburgh

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Policy mix building block	Parameter for analysis	Definition applied for this analysis
Elements	Policy strategy	Objectives, long-term targets, action plans
	Policy instruments	Tools of governance: specific policies, programmes and measures
Characteristics	Credibility	Reliability, established through stability and temporal consistency of policy mix
	Comprehensiveness	Ability of policy mix to address range of market, system and institutional aspects.

Table 1: Policy mix building blocks, and the parameters considered in this analysis.



■ EDUCATION & OUTREACH ■ FISCAL ■ FRAMEWORK POLICY ■ GRANTS & SUBSIDY ■ LOANS & THIRD PARTY
■ PUBLIC INVESTMENTS ■ REGULATORY INSTRUMENTS ■ R,D & D — BALANCE

Figure 2. LES instrument mix and balance, 2010 – 2021, for a) England, b) Scotland and c) Wales

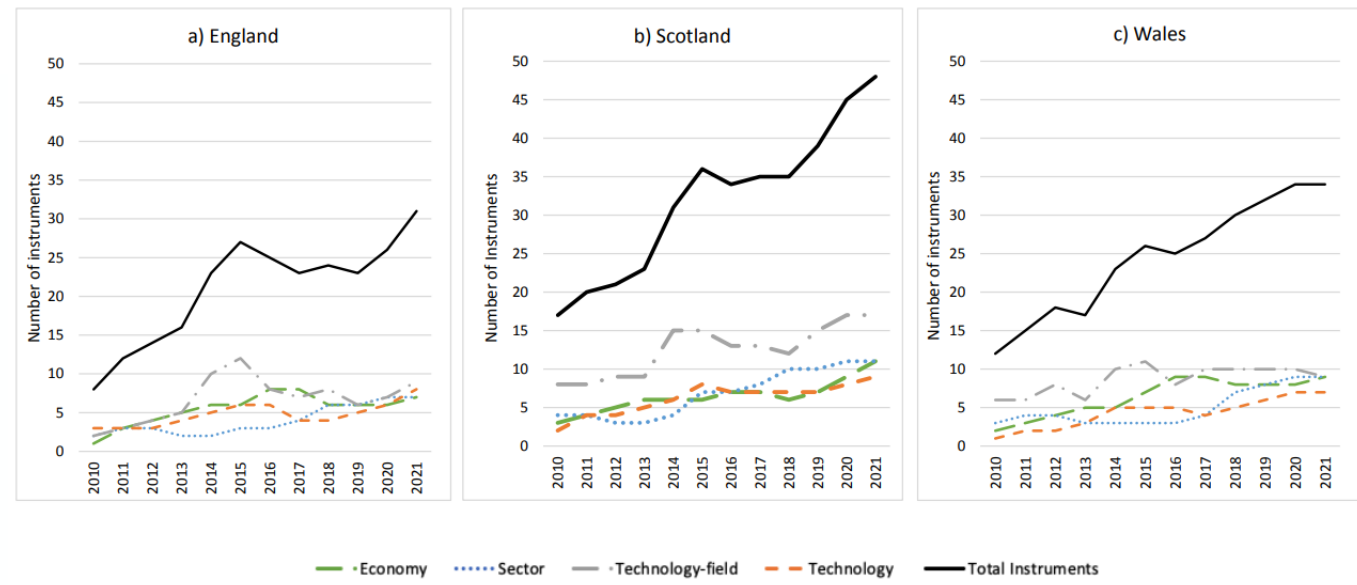
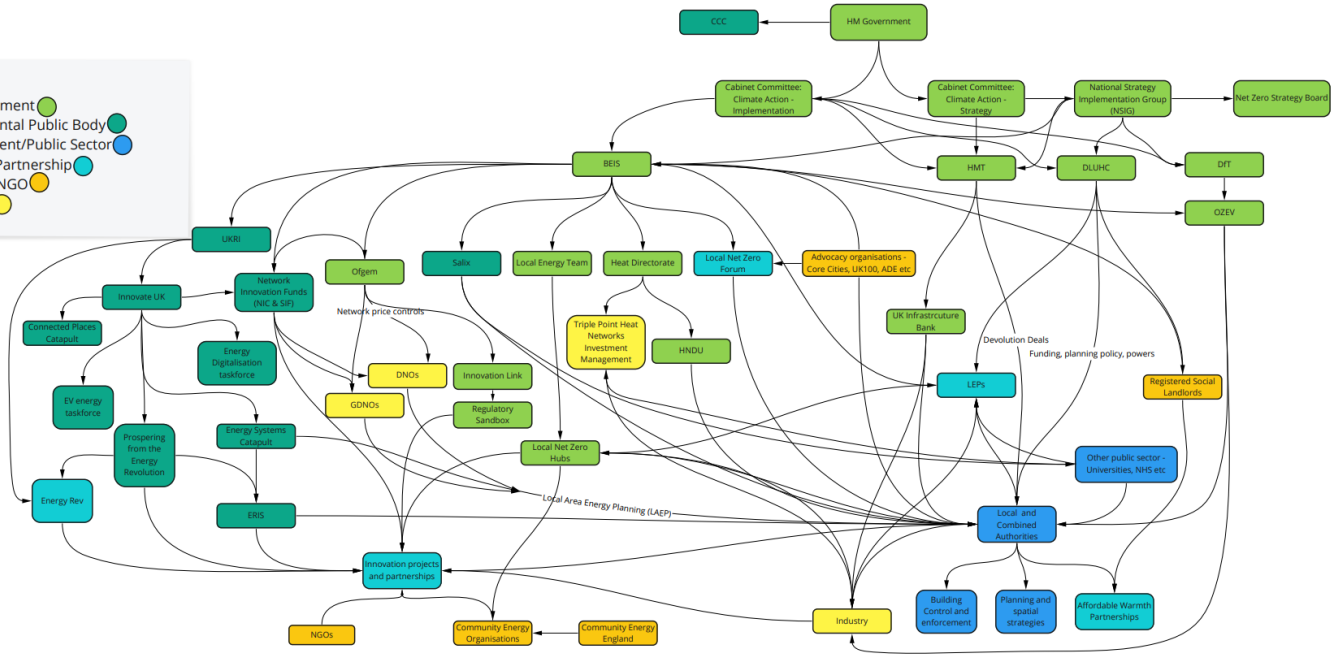


Figure 3. Technology specificity of LES instrument mix, 2010 – 2021, for a) England, b) Scotland and c) Wales

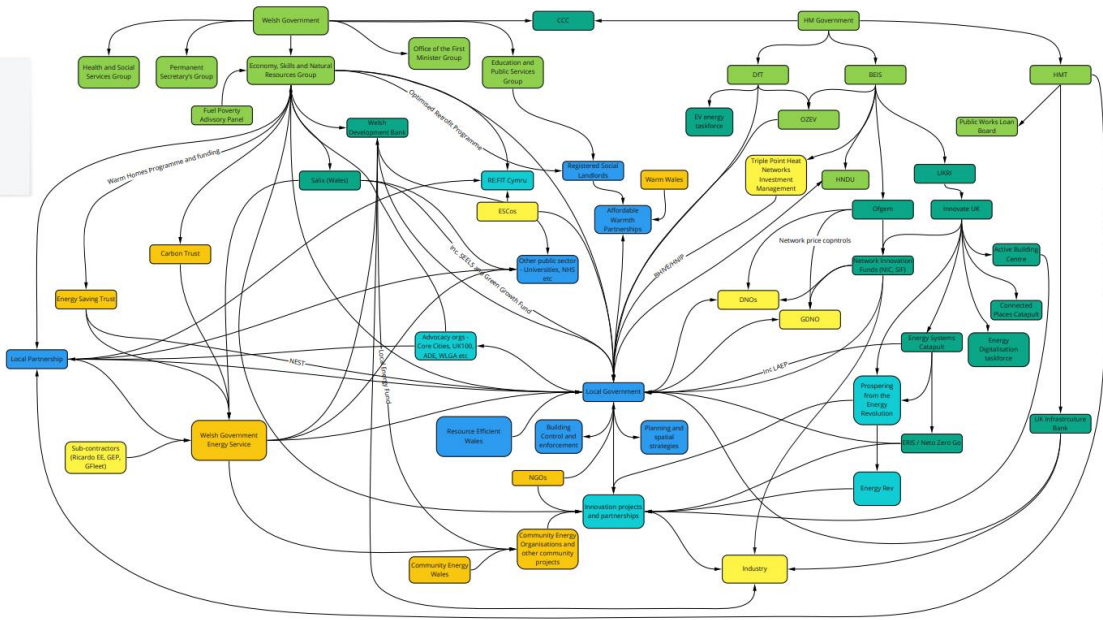
England

Key
Central Government (Green circle)
Non-Departmental Public Body (Blue circle)
Local Government/Public Sector (Light Blue circle)
Public/Private Partnership (Light Green circle)
Not for profit /NGO (Yellow circle)
Private sector (Orange circle)



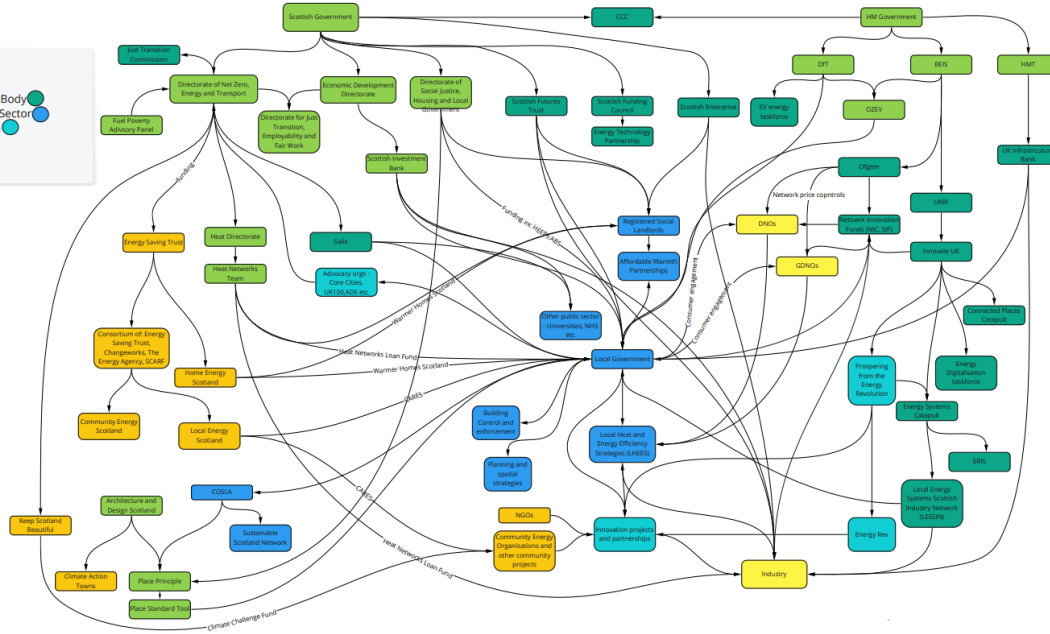
Wales

Key
Central Government (Green circle)
Non-Departmental Public Body (Blue circle)
Local Government/Public Sector (Light Blue circle)
Public/Private Partnership (Light Green circle)
Not for profit /NGO (Yellow circle)
Private sector (Orange circle)



Scotland

Key
Central Government (Green circle)
Non-Departmental Public Body (Blue circle)
Local Government/Public Sector (Light Blue circle)
Public/Private Partnership (Light Green circle)
Not for profit /NGO (Yellow circle)
Private sector (Orange circle)



Similarities and differences

Similarities

- Challenges in defining and enacting LES
- Concern regarding local energy planning and local government role
- Coordination across scales

	Credibility	Comprehensiveness	Institutional change	Themes
England	Low	Medium/High	Low	Short-term, experiment based. Efficiency and demand-side marginal
Scotland	High	Medium	High	Strong local planning focus (LHEES). Diverse actor networks. Frustration at reserved energy powers
Wales	Medium-High	Medium	Medium	Strong central government role in supporting LES (Local Energy Service, local/regional energy planning). Emphasis on community energy and social objectives.

Green recovery and just transitions

- With Oscar Berglund (Bristol), Sophia Hatzisavvidou (Bath), David Shakleton (Cardiff), Celia Robbins (Exeter)
- Rhetoric and practices of green recovery from the Covid19 pandemic – national and local strategies, workshop and interviews with local government, industry, NGOs, activists, community advocates.
- Initial shared ambition for pandemic recovery to focus on decarbonisation, equity and care
- Limited translation into action – pandemic actually slowed climate action
- Challenges in bringing together actors and interests to mediate what a decarbonised and socially just future looks like in different places
- Emphasis on diverse voices, visioning and strategic planning
- Hopefully further research next year!



Dual themes of experimental governance and strategic planning

- Experimentation:
 - Framed as rapid and flexible
 - Ecological modernisation and green growth focus
 - Smart local energy projects favour technological innovation over direct consumer or public participation (UKERC, 2018)
 - But scope to emphasis multiplicity and alternative futures?
- Strategic planning:
 - Potential emphasis on existing power structures
 - But recognises the collective nature of change in complex systems
 - Scope to incorporate experimentation?
 - But technocratic and limited institutionalisation (as currently formulated in England)

Conclusions

- Processes of energy system change are increasingly configured and governed locally.
- Overarching focus on experiments and scalability in England
- Evidence of Scotland and Wales constituting their own approach to LES: local energy planning as a space which connects local and system benefits.
- Experimental governance and planning/visioning are linked: embedding requires rules of the game, trust, ability to self-organise, construction of new rationalities (Hölscher *et al.*, 2019; Castan-Broto & Westman 2020).
- Lack of vertical structures can limit self-organising properties of urban energy systems:
 - local government duties on decarbonisation and energy system change
 - formalisation of local energy planning responsibility
 - integration of network operators and communities

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