

Minewater Geothermal Energy: just, place-based frameworks for energy resource development

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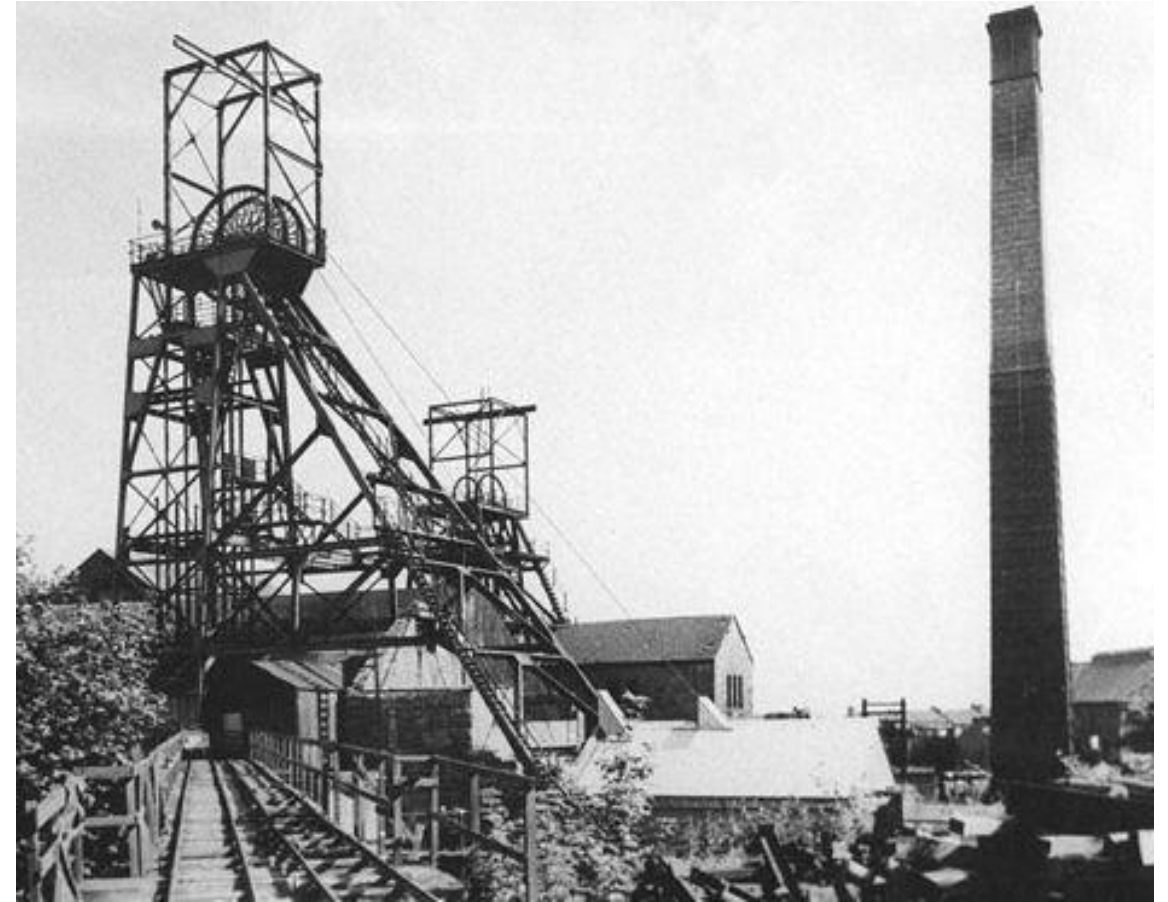
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Non-technical Challenges for Minewater Energy & Why They Matter

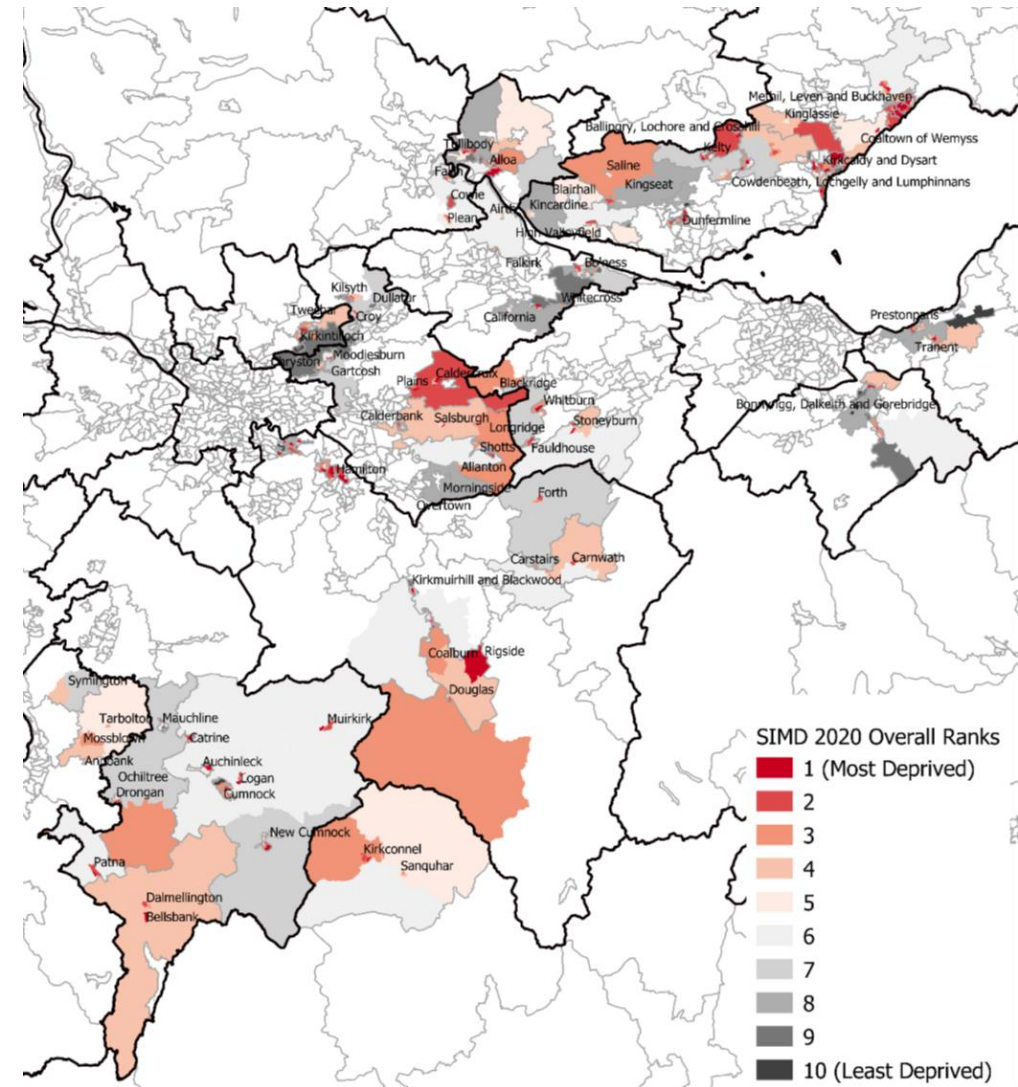
- Energy systems are socio-technical in nature
- Technocratic governance is failing the energy transition
- All energy resources have a place, community and context



Summerlee Iron Co. Prestongrange Colliery,
Prestonpans, East Lothian

Scotland's former Coalfields

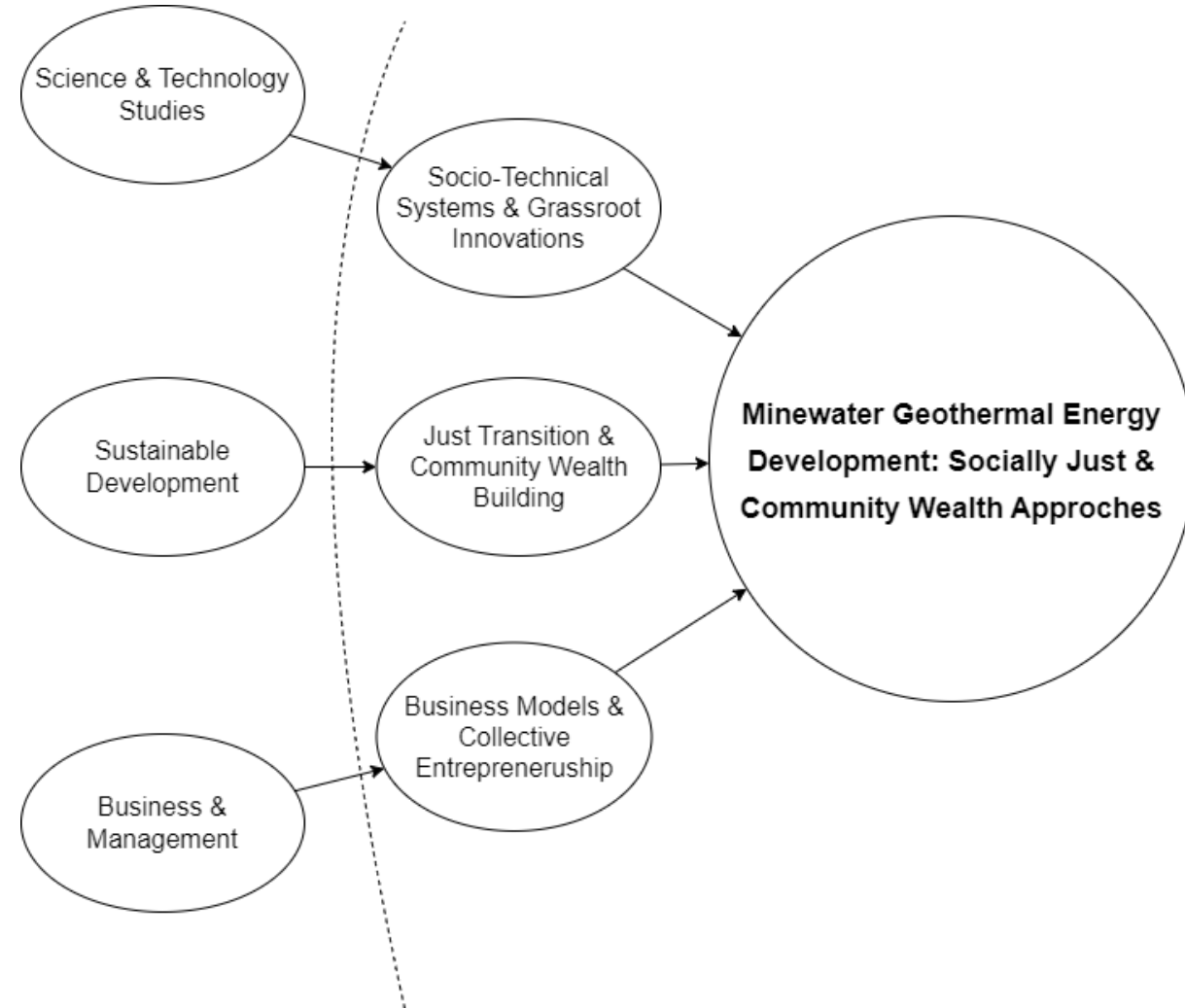
- At the forefront of energy, industrial and societal transitions across 20th century
- Deindustrialisation occurred over extended period, culminating with enforced closures in the 1980s
- Ongoing high levels of deprivation, economic stagnation and fuel poverty



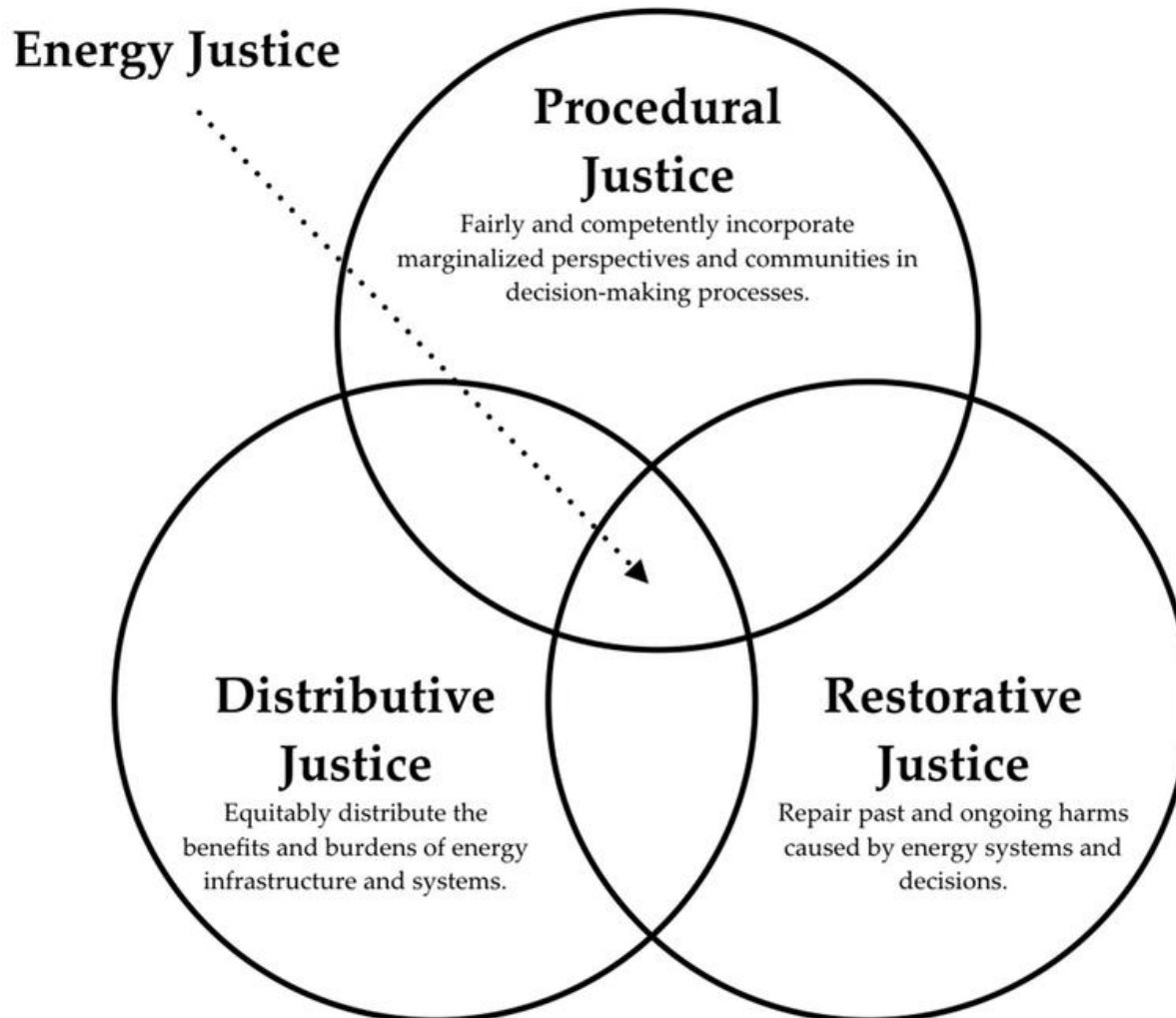
Research Agenda

Three perspectives to engage with the social, economic, cultural & political

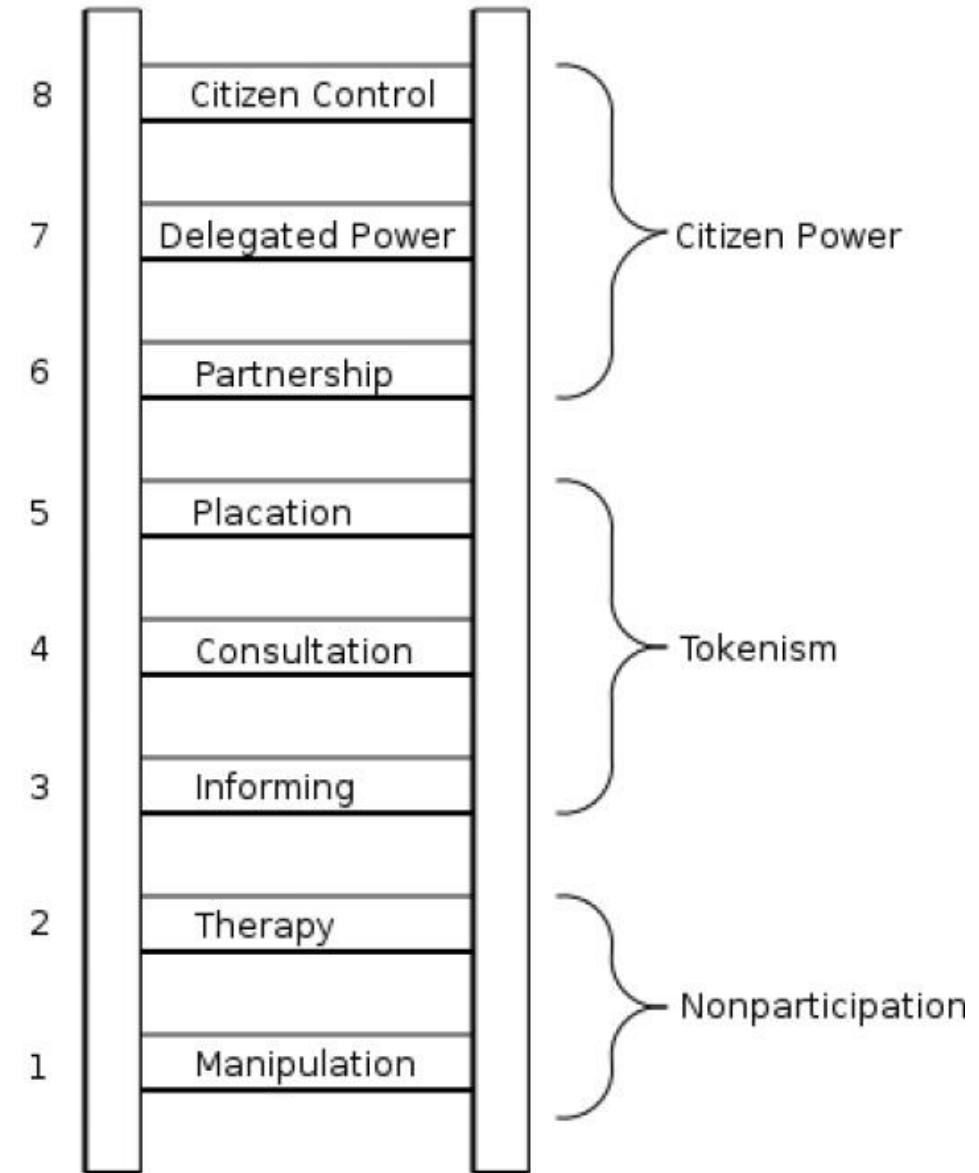
- Systems thinking – scaling grassroots innovations
- Principles for effective strategies – long-term community wealth
- Implementation models - Inclusive Business Models for a Just Transition



Placing people & place at the heart of energy resource development

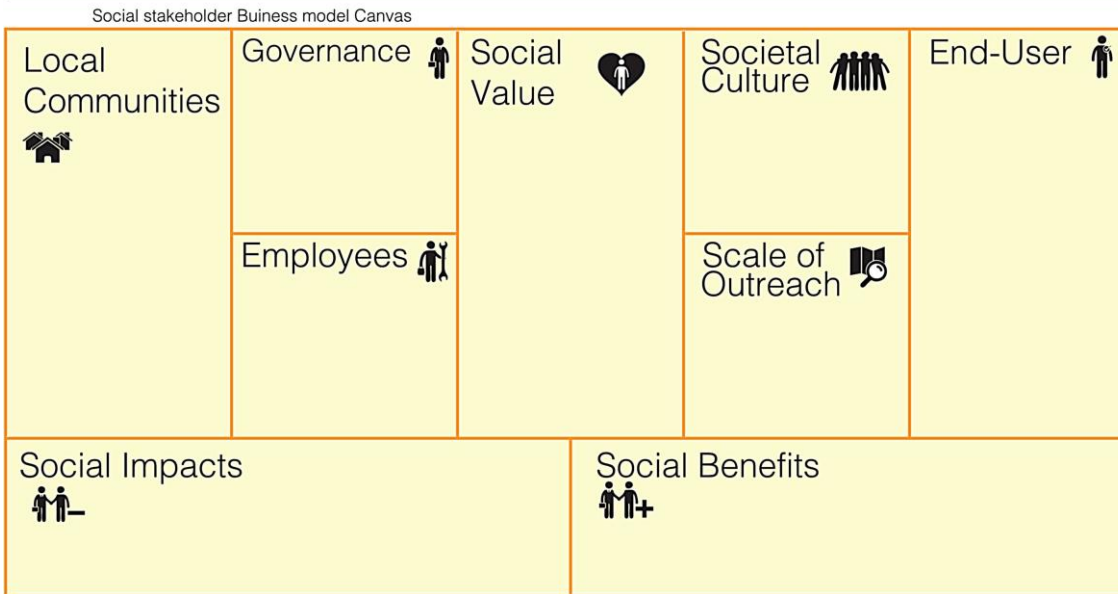


Three core energy justice principles (Wallsgrove et al. 2021)

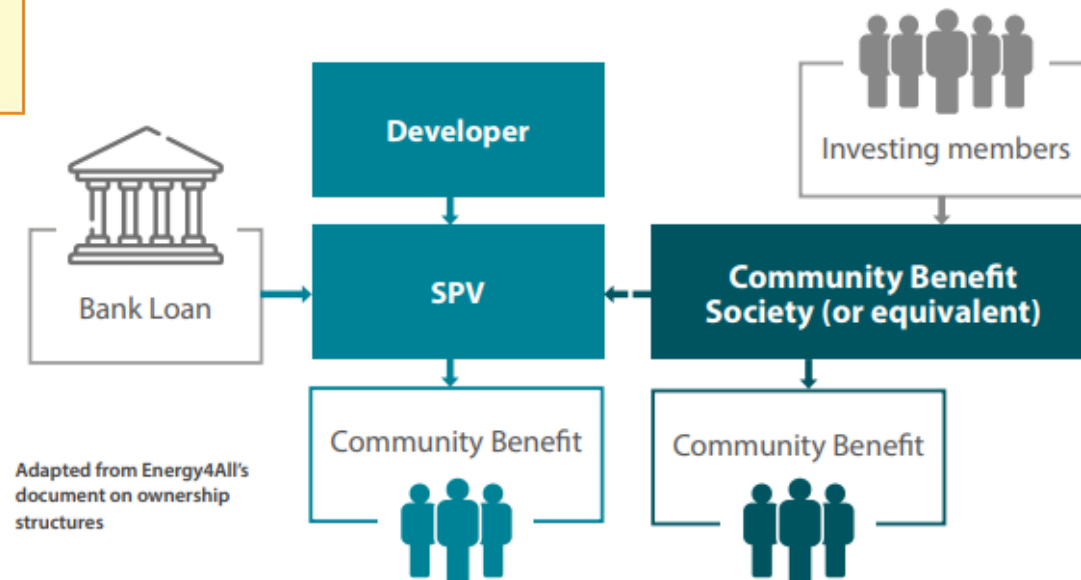
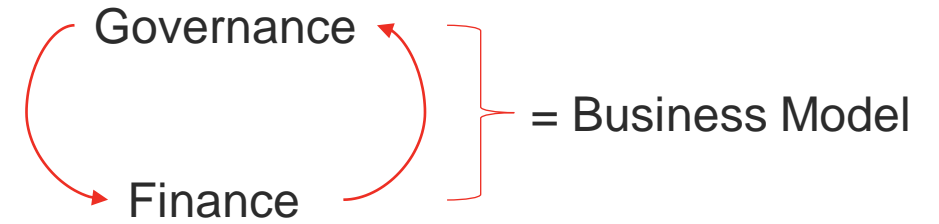


Arnstein's Ladder of Citizen Participation

Business Models Innovation



(Joyce and Paquin 2016)



Adapted from Energy4All's document on ownership structures

Regen (2022)

Typology of Community Orientated Energy Business Models

Energy Project X	Project Design Phase	Governance & Legal Framework	Finance & Revenue Model	Outreach to customer, local supply chain etc
Procedural Justice	In what ways were the local community part of the design?	How are votes allocated and are host community involved?	Was there a local community share offer?	Are local users, authorities and SME given priority as anchors?
Distributive Justice	Engagement and participation is costly, how was impact navigated?		How is revenue used and for whom? Shareholders?	
Recognition & Restoration	How is community defined with respect to place, culture, history?			
Community Wealth Building Pillars	Socially productive use of land and property	Does it contribute to plural ownership of the economy?	Making financial power work for local places?	Progressive procurement of goods and services and fair employment

Methodology

Investigations at 3 case study areas in the Scottish coalfields where MWG developments are likely to occur, varying community types

Phase 1: Initial Framing Data Collection

- Field work and interviews with community and stakeholder participants to understand key challenges for participating in just transition business models

Phase 2: Co-creation of Just Development Approaches & Business Models Frameworks

- Participatory Workshops with stakeholders & communities
- Follow-up Interviews

Develop Contributions and Recommendations: Test and situate findings with policy and development landscape

Outcomes

- Advance understanding on how to co-develop energy resources with a justice and placed-based approach that provides sustainability and security to local communities
- Collaborative & inclusive business model frameworks that bring public, private and communities together in shared finance & governance
- Produce digestible outputs and share them with communities, policy makers and industry to support replicability



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Questions?