



Implementation of local industrial decarbonisation plans in the UK: a model for the way forward?

LCS-RNet 15th Annual Meeting

19 December 2024

Work in progress

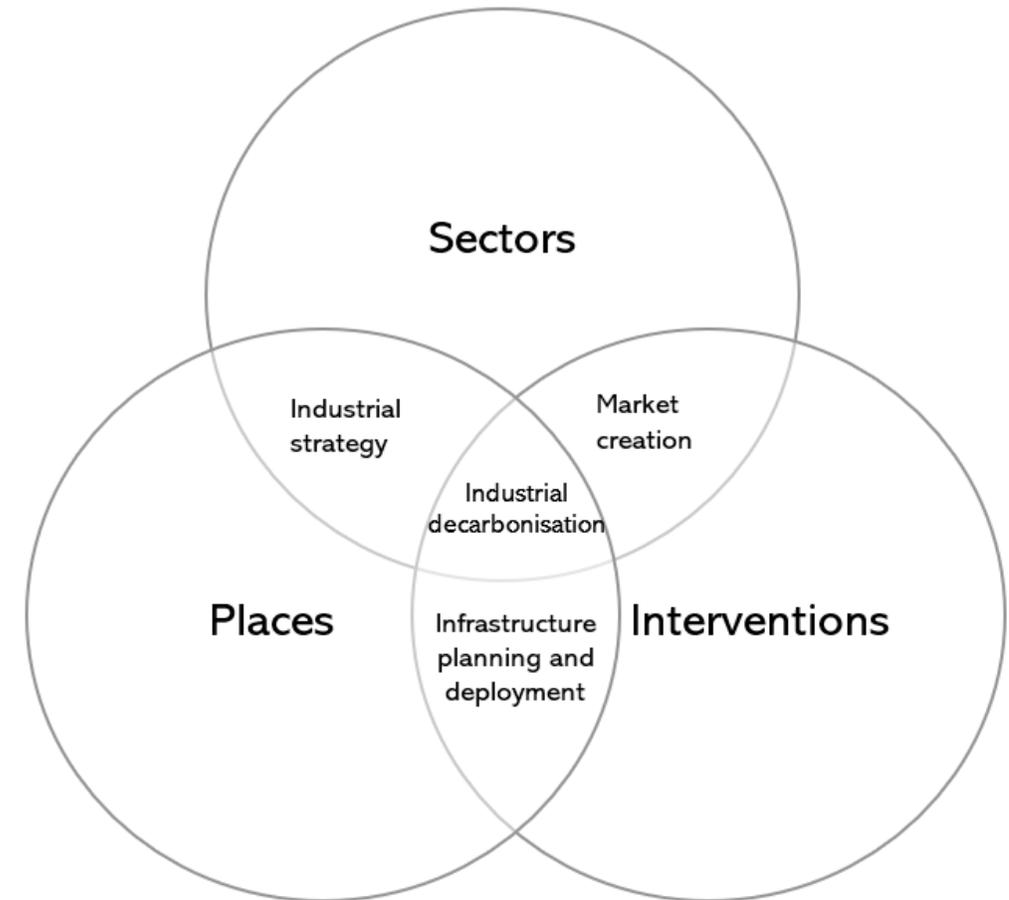
Imogen Rattle PhD

University of Leeds, UK



Setting the scene

- The UK approach
- Research background
- Aims and objectives
- The projects
- Key findings
- Conclusion



Approaches to industrial decarbonisation

UK approach to industrial decarbonisation

- Greenhouse gas emissions from industry accounted for ~14% of UK's territorial emissions in 2023
- Approximately half are emitted by six coastal industrial clusters
- The Industrial Decarbonisation Strategy 2021 set the ambition of establishing net zero industrial clusters with a strong focus on hydrogen and carbon capture and storage (CCS)
- Cluster-based activities were incentivised through two parallel programs:
 - The Industrial Decarbonisation Challenge (2021-24) funding of cluster-wide net zero roadmaps and feed studies for shared infrastructure to support collaboration
 - Competitive 'cluster sequencing' where clusters deemed most advanced are given access to capital and revenue funding for CCS
- Limited focus on decarbonising 'dispersed industrial sites' outside clusters

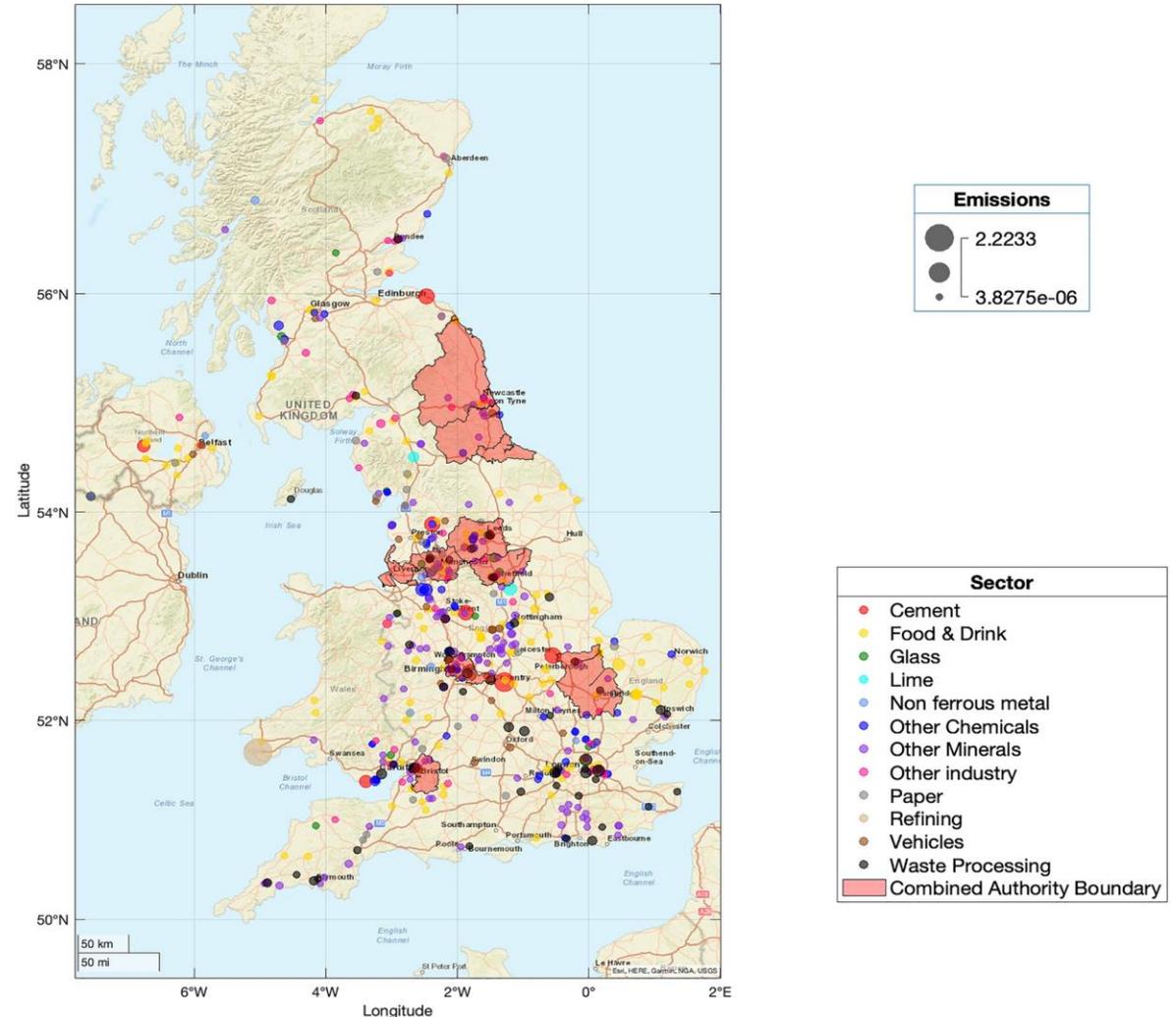
THE UK'S LARGEST CLUSTERS BY INDUSTRIAL EMISSIONS ONLY



Industrial decarbonisation strategy (2021 p.119)

Background to research

- Previous work for UKERC (Rattle, Gailani & Taylor, 2023) highlighted the issues facing dispersed industrial sites on their route to decarbonisation:
 - Lack of dedicated funding streams
 - Lack of intermediary organisations to bridge the gap between policy and local implementation
 - Lack of expertise
 - Limited access to decarbonisation infrastructures and technologies
- In January 2024, £6m was allocated through the Local Industrial Decarbonisation Plan (LIDP) competition to support 13 projects to form mini-clusters to develop strategic plans to decarbonise industry



Location of UK dispersed sites by sector and emissions in MtCO₂e mapped against Combined Authority areas (Rattle, Gailani & Taylor 2023)

Research aims and methods



Shoreham Port

- To explore place-based strategies to decarbonising dispersed sites, and the enablers and barriers stakeholders have identified
- To understand how LIDPs might address the previously identified issues facing dispersed sites on the route to decarbonisation
- Qualitative research focusing on the 13 LIDPs
 - Stakeholder interviews
 - Site visits (where possible)
 - Online and in person events
 - Document analysis

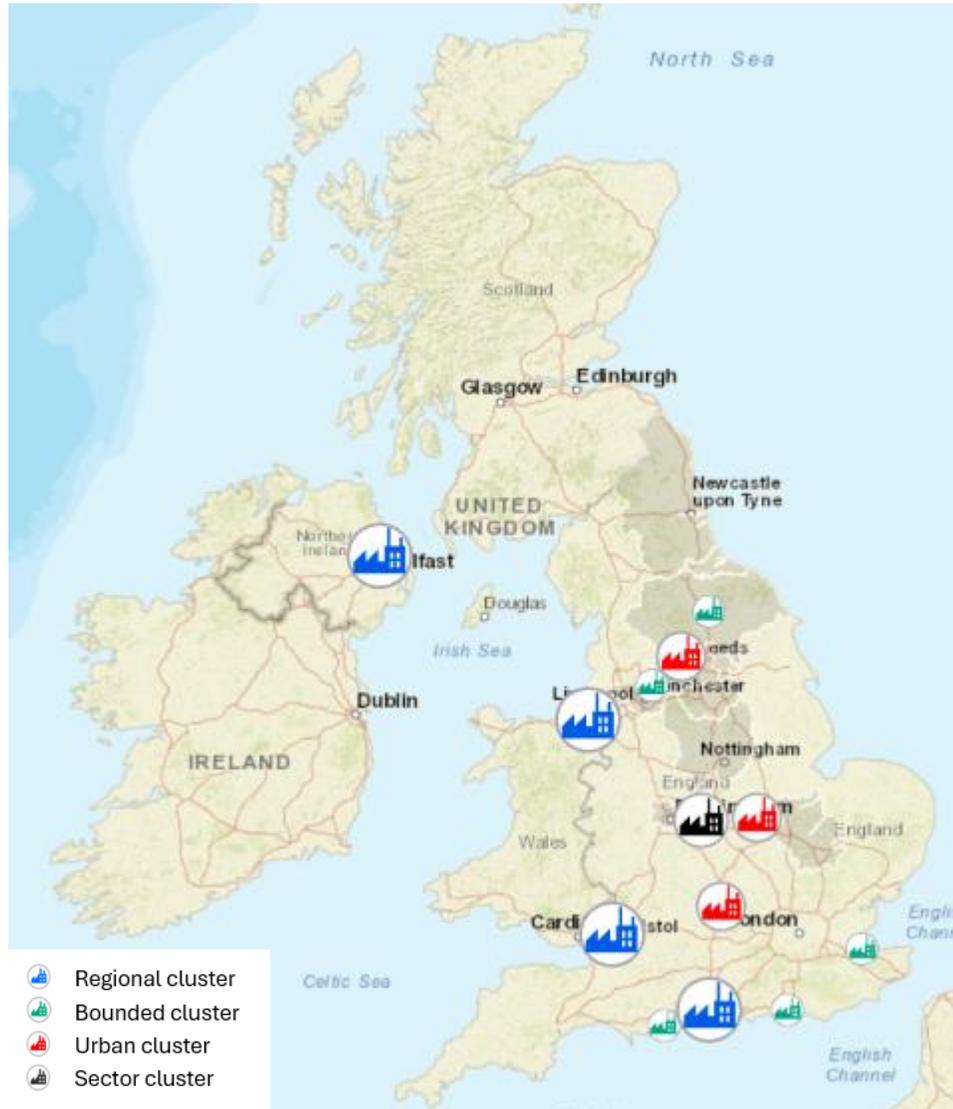
The LIDP projects

Diverse range of projects

- **In scale:** from small-scale initiatives involving just 5 businesses to all of Northern Ireland.
- **In types of industry:** including aerospace, automotive, pharmaceuticals, food and drink, energy from waste, cement, quarrying, concrete, high-value manufacturing, petrochemicals, logistics, metal fabrication, paper, steel manufacturing, chemicals, and electronics.
- **In size of businesses:** from SMEs to large multinational corporations.
- **In types of lead organisation:** managed by local authorities, arms-length bodies, consultancies, sector organizations, port authorities, and Community Interest Companies

Broad typology

- **Regional cluster:** clusters with no predetermined boundaries (n=4)
- **Bounded cluster:** clusters located within industrial parks or ports (n=5)
- **Urban cluster:** clusters based in metropolitan areas (n=3)
- **Sector cluster:** incorporates supply chain members (n=1)



Building the bid

It's very much building on these networks we've already got, maximising reach.

LIDP 3 (regional cluster)

I'd worked with all of the partners previously on different projects [...]. So, when the call came up, I think [name], who's the head of innovation was able to contact one person each and just say, "Shall we do it?" and they all went, "Yes we shall."

LIDP 10 (bounded cluster)

I'm not sure it could work any differently, to be honest, unless there's a maturity with the team and they all know each other.

LIDP 8 (bounded cluster)

Challenges of engagement



Getting people on board itself is the biggest challenge.

LIDP 5 regional clusters

There's legislation for large corporates to decarbonise, there's hardly anything for SMEs.

I think that's a little bit what this project has tried to identify. If there's not enough stick from national government, can we create enough carrot at the local level to get things moving?

LIDP 14 (urban cluster)

Data availability



Trying to get energy data out of a business is really difficult, not because they don't want to. It's just because they can't – it's very difficult for them to access the information in an easy format, and understandable.

LIDP 10 (bounded cluster)

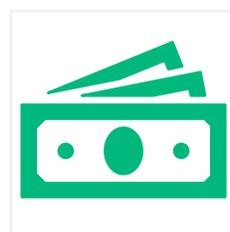
The reluctance to share data is huge and it's something that will require education for industry to begin to understand

LIDP 4 (regional cluster)

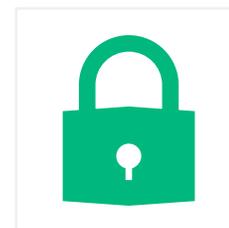
What can we learn from Local Industrial Decarbonisation Plans?



LIDPs have raised the profile of dispersed site decarbonisation



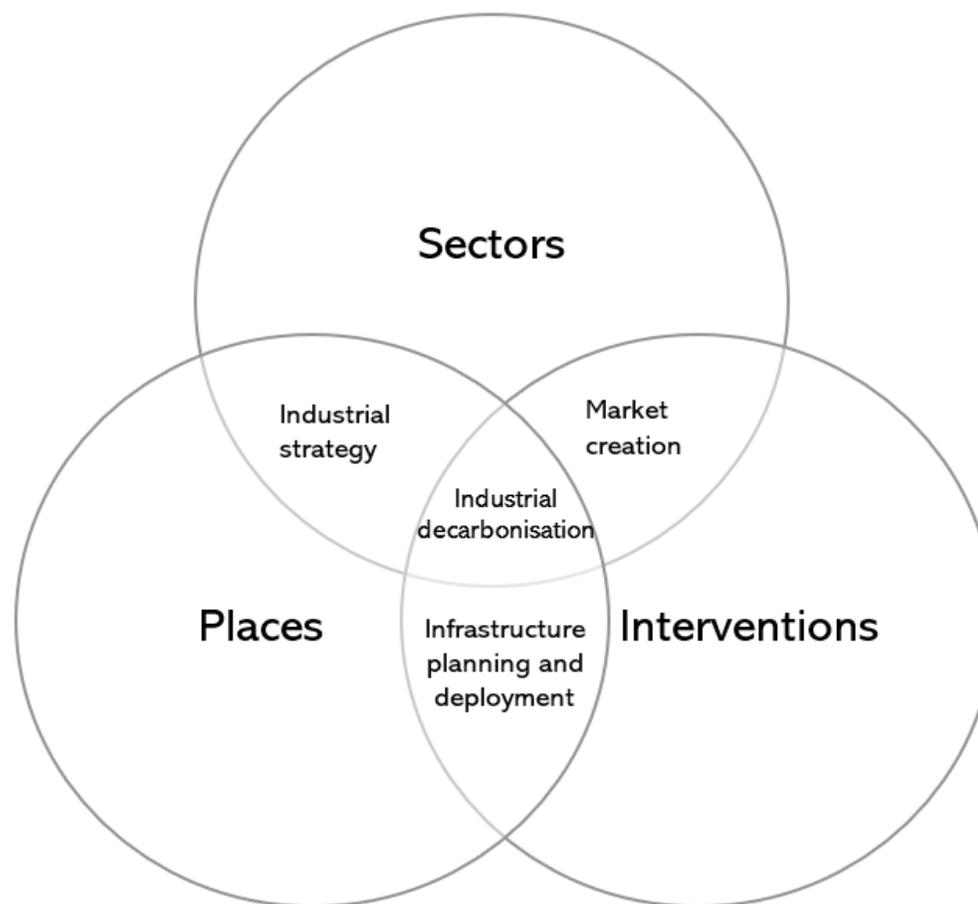
We understand what factors help places secure funding, but not necessarily what drives their success in decarbonising industry



Standardising data formats and sharing practices will be essential to build an evidence base while minimising the burden on industry



State-led market creation will be key to incentivising industrial decarbonisation





@imogenrattle.bsky.social



<https://www.linkedin.com/in/imogenrattle/>



I.K.Rattle@leeds.ac.uk

References

- HM GOVERNMENT 2021. Industrial Decarbonisation Strategy.
- Rattle, I., Gailani, A., & Taylor, P. G. (2023). Decarbonisation strategies in industry: going beyond clusters. *Sustainability Science*, 1-19. doi:10.1007/s11625-023-01313-4

Funded by:



In Partnership:

