

SevernNet Bringing Business and Community Together Portbury Avonmouth and Severnside 2024

Why are we here? Climate change in 2024



- UN Secretary General Antonio Guterres has declared that "the era of global boiling has arrived"
- 2023 has been confirmed as the hottest year on record
- 2024 is set to be even hotter, with this month set to break records
- More sustainable systems are being built, but we are severely off course in limiting average temperature rise to 1.5°C
- 2030 is six years away....and we have a lot to do



UK Industrial Decarbonisation

'Industry'

16% (72 Mt CO2 e) of UK emissions c.50% (c.33 Mt CO2e) outside of the 6 main 'clusters' at 'dispersed sites' (or hubs and spokes) UK target to reduce industrial emissions by 2/3 by 2035

Main clusters



Dispersed sites e.g. West of England Hub and Spokes











Industrial decarbonisation pathways

• All industrial decarbonization pathways involve a combination of resource and energy efficiency, electrification, fuel switching, carbon capture and offsets

• What proportion of the solution a particular technology or approach represents is context specific

- All require major infrastructure changes and upgrades
- By 2030...much of this should be operational

• Risks of not acting include growing exposure to carbon pricing, increased costs, declining local industry (relocations/closures) and job losses

 For the West of England Industrial Cluster – there is also opportunity



WEIC opportunity

The establishment of the West of England Industrial Cluster represent a regionally and nationally significant opportunity

Existing and potential projects could create 'green energy supercluster' cross renewables, nuclear, hydrogen, e-fuels and carbon capture

We have advantages that mean we can decarbonise not only local industry, but other sectors including local and international transport, the local built environment and our SMEs and communities



*Map produced by western gateway, updated for the purpose of illustration only

Potential benefits

- Inward investment
- Economic growth
- Job creation and preservation
- Infrastructure / project synergies
- Business cost reduction
- Local regeneration
- Community benefit, education, inclusion, wealth building
- Integrated nature restoration and climate resilience planning
- ... if we are successful



West of England Industrial Cluster Local Industrial Decarbonisation Plan (WCIDP)

LIDP funding: up to £607,571

Partners

- West of England Combined Authority (Lead)
- University of the West of England
- Ameresco Ltd
- Black Country Industrial Cluster Ltd
- Bristol City Council
- Severnside Carbon Capture and Shipping Hub Ltd
- Hydrogen South West
- Severnnet Ltd
- North Somerset Council

This project will create a comprehensive strategy to decarbonise industry in the West of England. As well as developing a decarbonisation strategy, LIDP funding will allow WCIDP to identify and connect existing projects and initiatives, and unite public and private sector stakeholders ensuring the social, economic and environmental benefits of decarbonisation are fully realised.



Core Partners



Collaborations









GB Railfreight







Project outputs and audience

Outputs to complete by 31 December 2024

Outputs

- 1. Local Industrial Decarbonisation Plan
- 2. Dissemination Plan
- 3. Exploitation Plan

Audience includes:

- Government / DESNZ (support and policy)
- Investors
- Developers / customers
- Wider public

Project Work Streams H1

1	Baseline and scenario analysis - Establish emissions baseline - Foresight analysis - infrastructure futures and scenario analysis - Build on existing energy and heat mapping - Ongoing modelling
2	Identify, contextualise and connect existing and potential industrial decarbonisation projects / pipeline and visions - CCS - H2/efuels - Hallen Marsh - Bristol City Leap - Nuclear - Tidal – FLOW - Circular Economy - Others (large and small)
3	Stakeholder Engagement - Expand the network - Validate data - Ascertain key stakeholder priorities and perspectives related to decarbonisation - Demand for solutions/infrastructure/interventions - Risks, opportunities and barriers (including re. decarbonisation and broader economic, environmental and social impacts)

Project Work Streams H1

5	Undertake supporting studies on: Land Rail for Co2 Efuels / H2 options Power options for Hub at port Hallen Marsh energy hub

1. Land

• Assessment of land suitability and availability for industrial decarbonisation aligned projects

2. Rail for Co2

• Detailed assessment of network and infrastructure optimisation requirements for inward transport of CO2 by rail

3. Efuels / H2 production concept and options assessment

• Further assessment of potential to utilise biogenic CO2 for production of e-methanol and/or SAF at the Hub

4. Power options for Hub

• Assessment of power options and constraints (including PPAs and private wire options) for projects at the Hub

5. Hallen Marsh - green industrial site

• Concept study in relation to the development of a green industrial park at Hallen Marsh

Project Work Streams (ongoing) include...

6	Output writing and iteration Including information assimilation and assessment
7	Project Communications - Locally - Wider - Website - Socials
8	Exploitation planning / follow up funding facilitation