

NET ZERO TEES VALLEY

MARK LEWIS – TECHNOLOGY & INNOVATION MANAGER





Our Industrial Strategy Themes



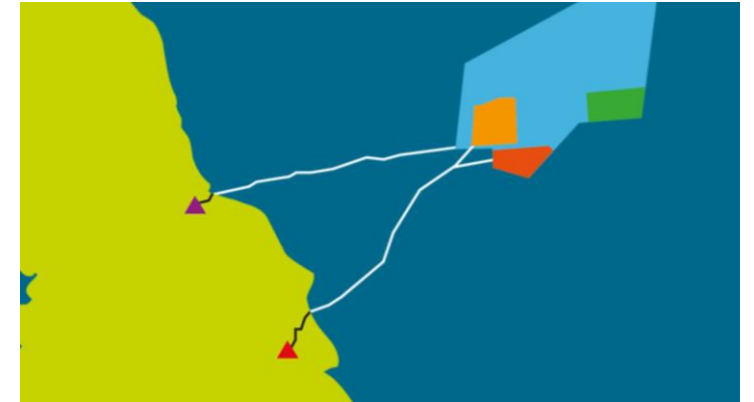
Combined Authority Ambition

Tees Valley will be a global leader in clean energy, low carbon and hydrogen. The area will achieve a net zero carbon industrial cluster by 2040, providing good jobs with long term prospects that local people can access.

This sits at the heart of our framework for growth.

Energy Transition

- AD
- Biomass Power
- Wind
- Nuclear



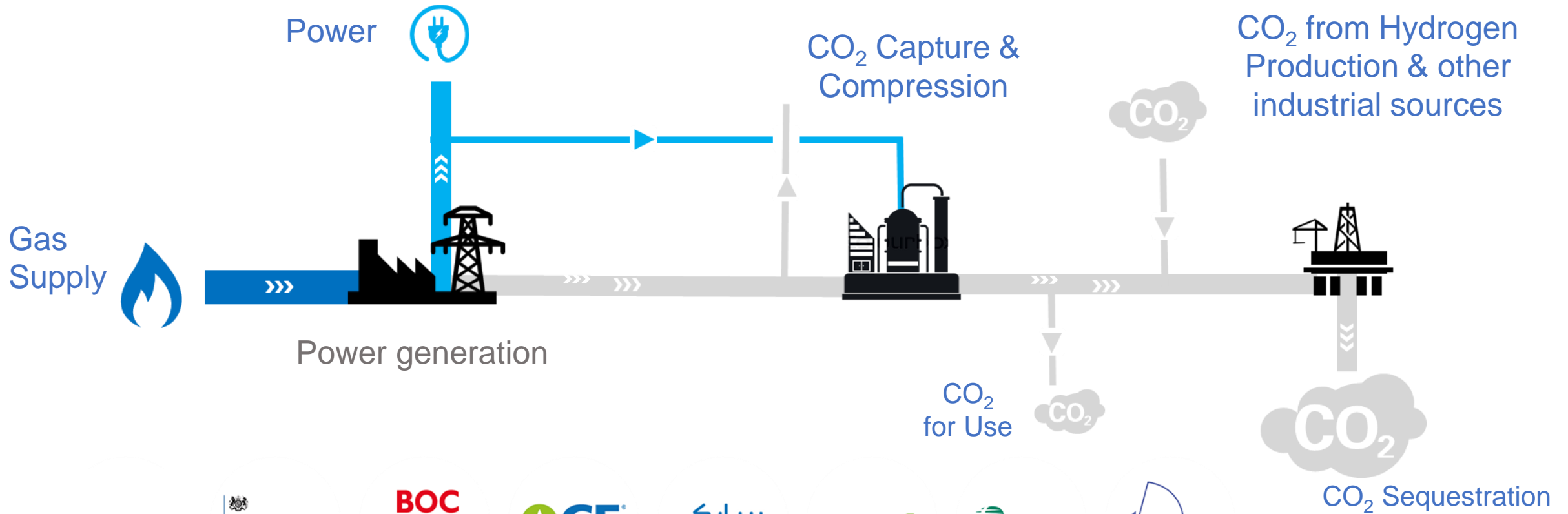
Combined Authority Industrial Strategy

- **Establishing Tees Valley as the pioneer region for CCUS and clean growth technologies**
 - **Pilot a CCUS financing mechanism and business models**
 - **Support for the OGCI Clean Gas Project to achieve financial close**
 - **Access Industrial Energy Transformation Fund and Industrial Strategy Challenge Funding streams**
 - **Develop skills and education provision for CCUS, hydrogen, and other clean technologies**

Tees Valley Process Industry



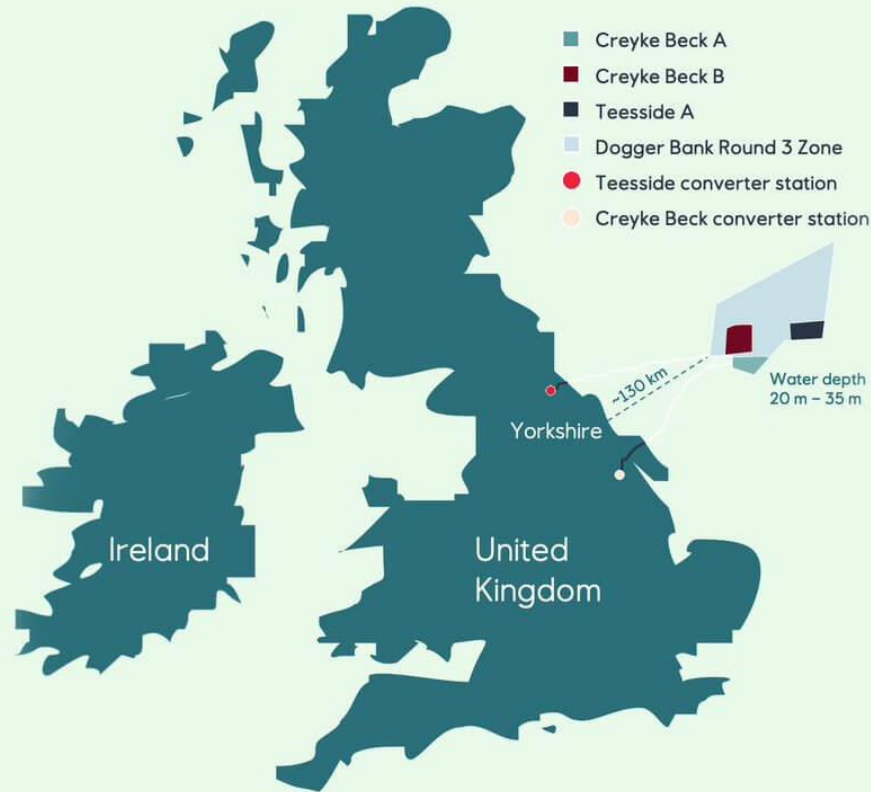
Carbon Capture & Storage - The Teesside Cluster & the Clean Gas Project



Why Tees Valley & Hydrogen?



Renewable Energy Growth



- Each project will have an installed capacity of 1.2 GW
- Together, approximately 5% of the UK's estimated electricity generation
- The first project is expected to be operational in 2023
- The Wind Turbine Generators (WTG) are expected to be 10+ MW



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Practical Action – Road Transport

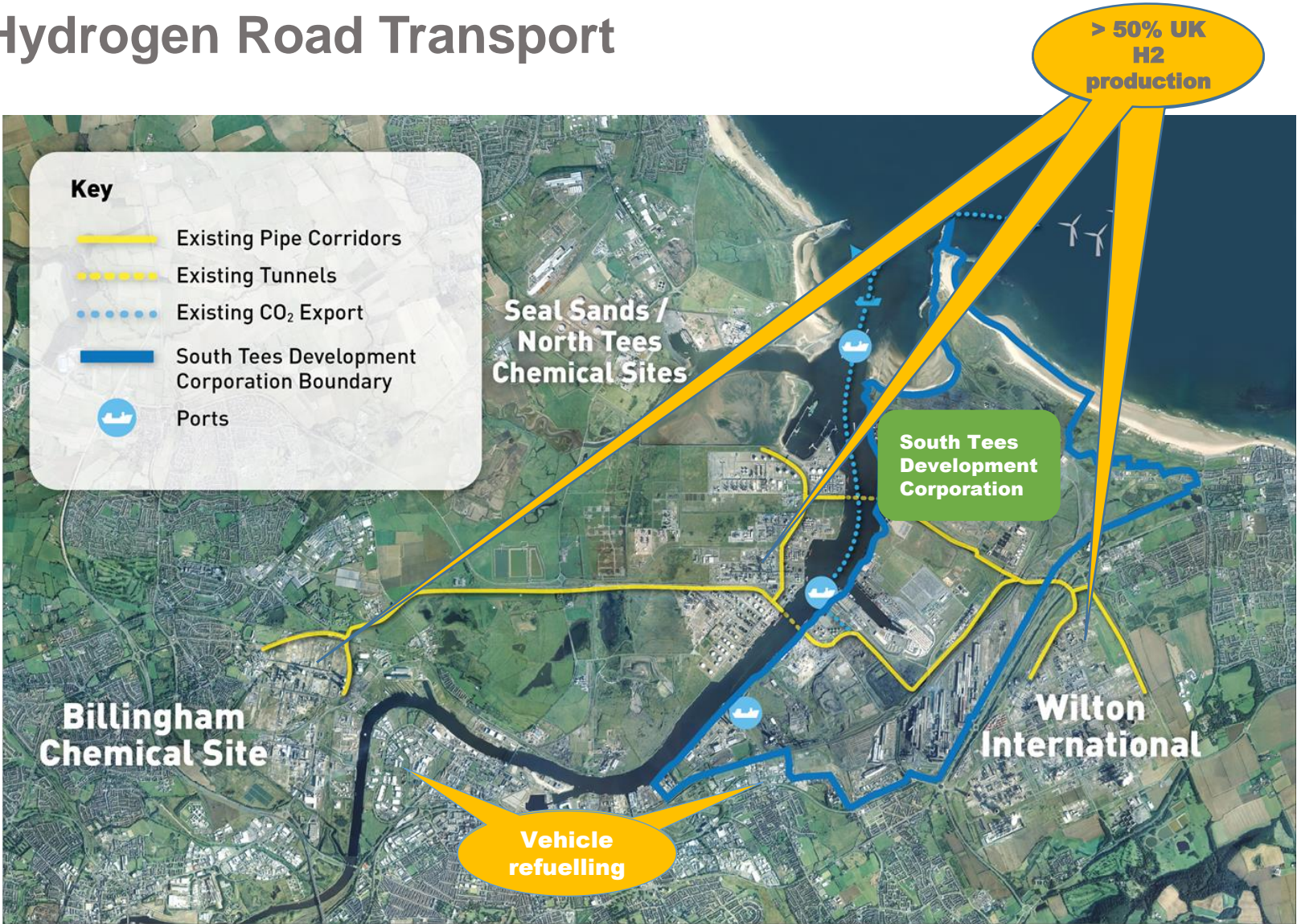
- **Refuelling Infrastructure**
- **Vehicle Fleets**
 - **Opportunities**
 - **Challenges**
 - **HGV opportunity**
- **Transport Corridors**



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Hydrogen Road Transport



Hydrogen Rail- a regional opportunity

- **Tees Valley - ideal pioneering location**
 - **200 Years since opening Stockton to Darlington Railway**
 - **Industrial Hydrogen network & experience**
 - **No electrification**



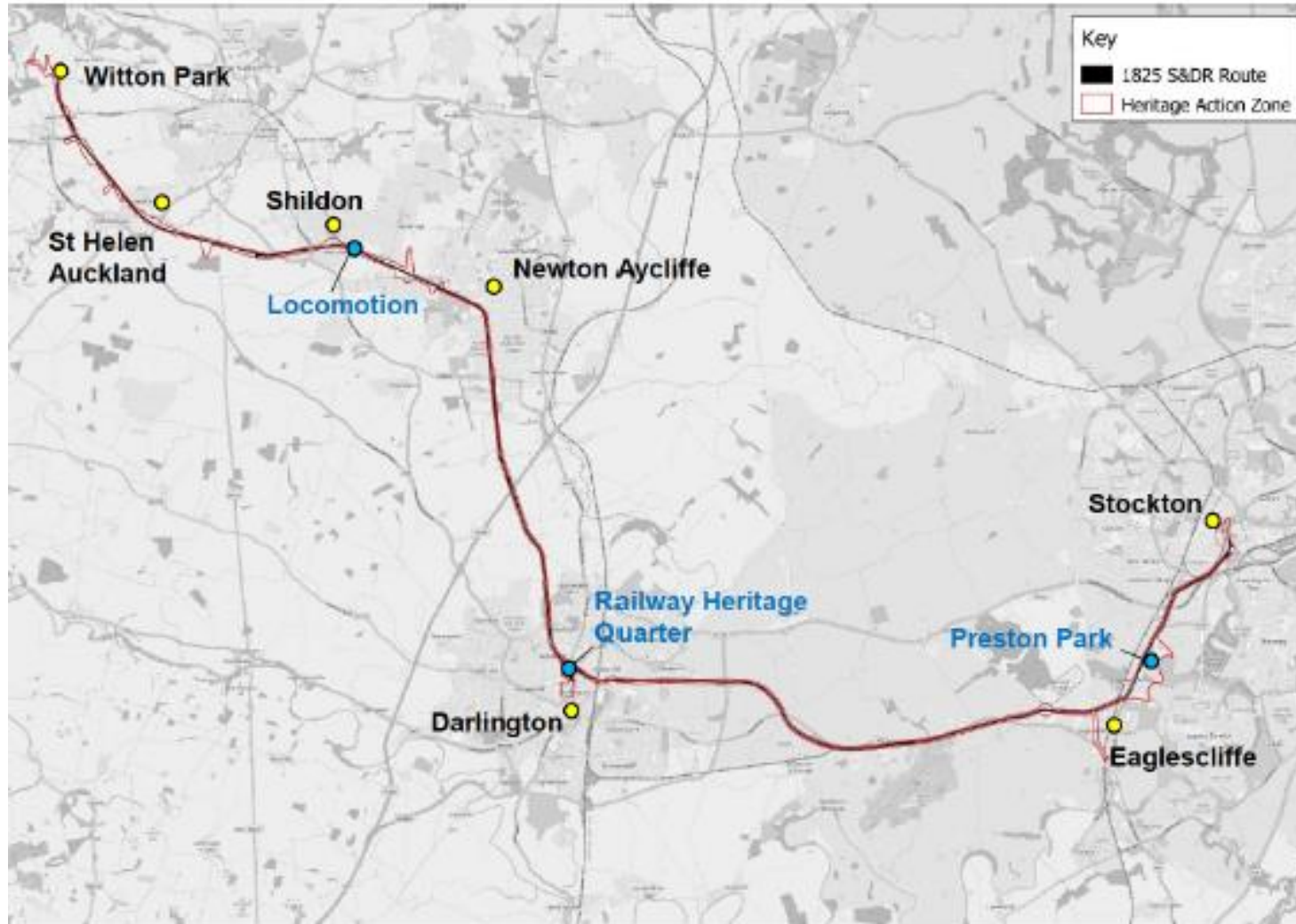
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The Future Regional Railway



The Original Railway Opportunity



A (Hydrogen) Railway Opportunity



Hydrogen Rail

- an opportunity for the home of the railway



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Hydrogen & Port Operations



Two Ports – which one uses hydrogen?

Hydrogen & Port Operations

Materials Handling Applications

- **Reach Stackers**
- **Tractor Units**
- **Fork Lifts**



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Hydrogen & Domestic Heat

- **Tees Valley - H21 & H21 North ideas**
 - **Converting domestic gas grid to Hydrogen**
- **Tees Valley has the decarbonised hydrogen needed at scale**
- **Community trials**
- **Natural Gas/Hydrogen CHP**
 - **Over 2,000 units were installed in Europe last year**
 - **Challenge of Housing Retrofit**
 - **District Heat opportunity**



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For the Tees Valley

Hydrogen is a real option

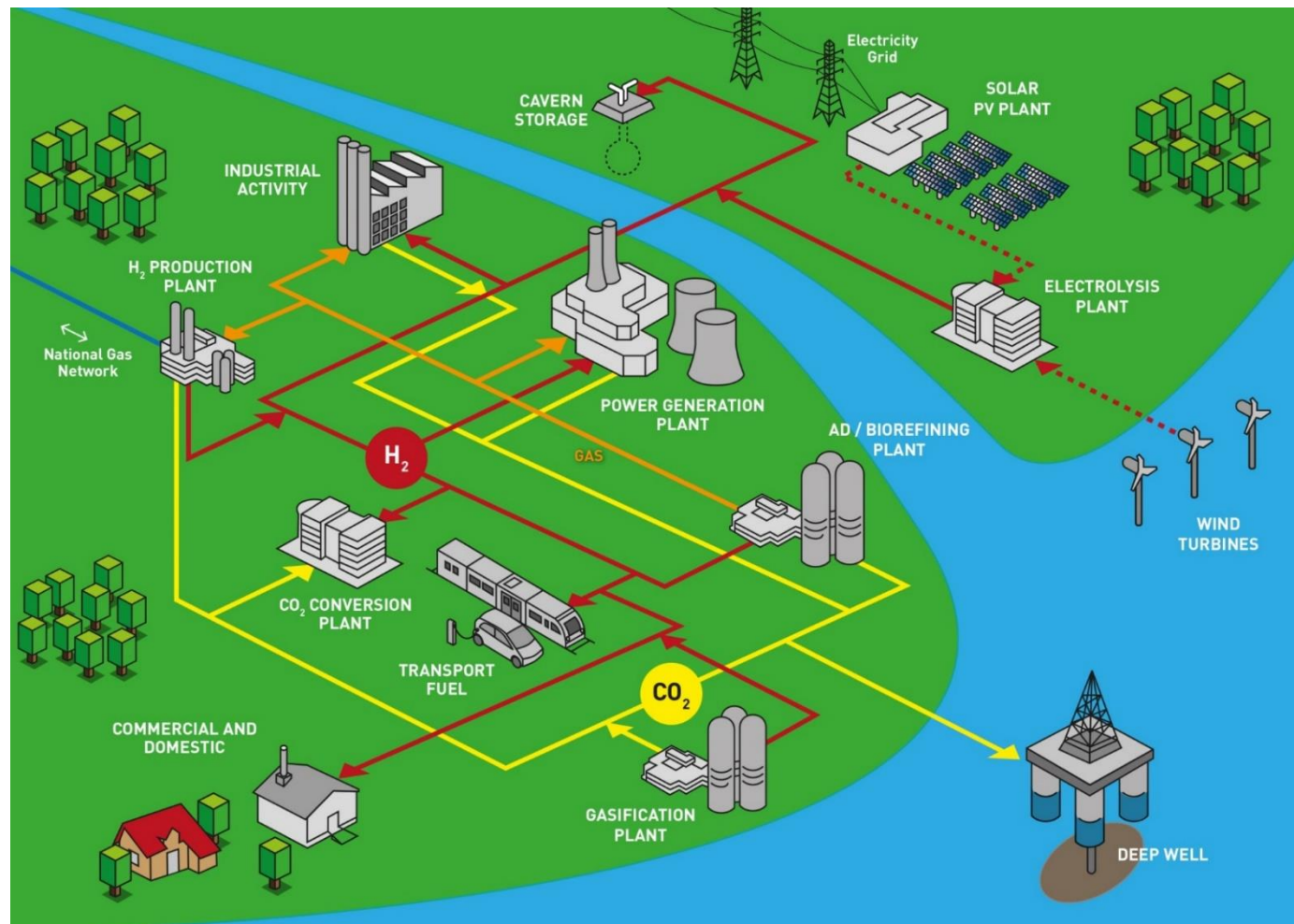
- For cars
- For boats
- For rail
- For HGVs
- For industrial heat & processes
- For domestic heat
- For Energy Storage (Power to Gas)



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The Tees as a Hydrogen Valley



Questions?



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