



APSE Scotland Climate Change and Renewables Network

January 2024



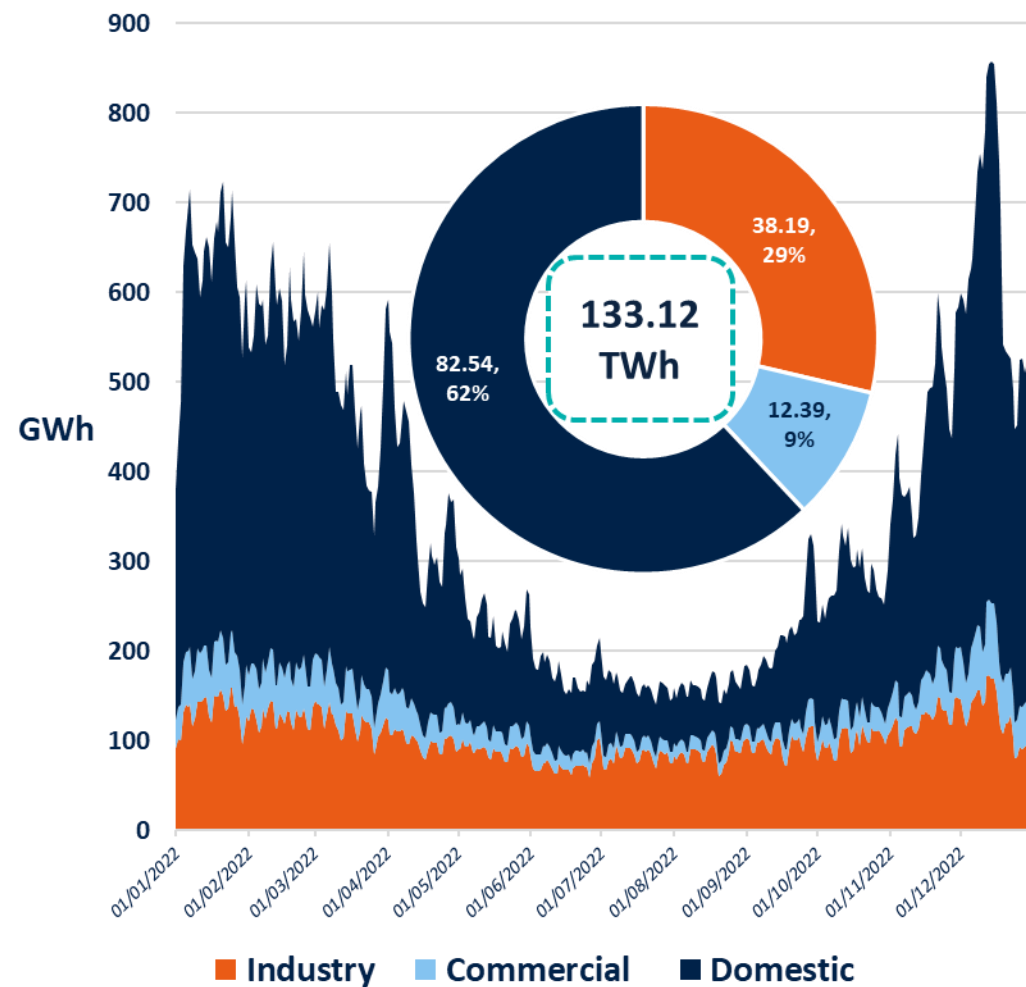
SGN

Your gas. Our network.

SGN Overview

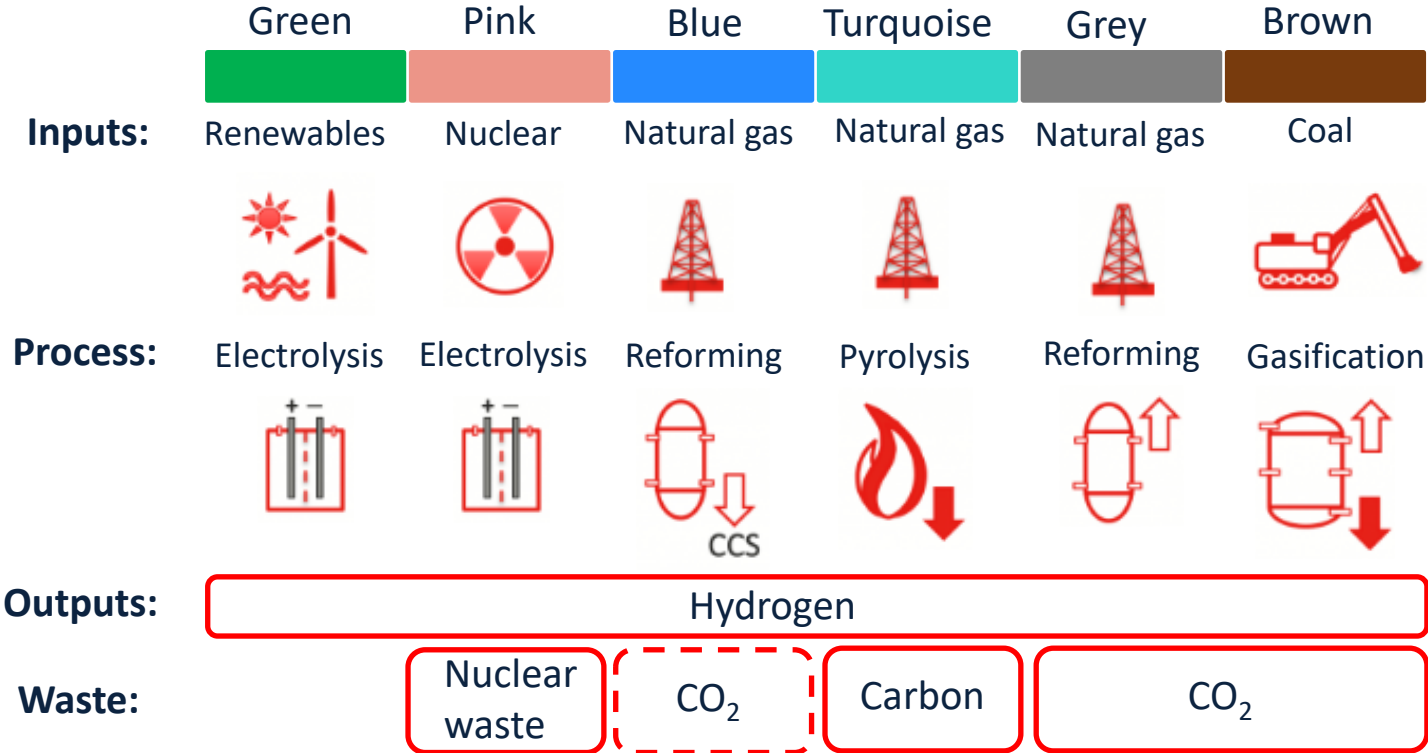
Our business

SGN Networks Daily Throughput 2022

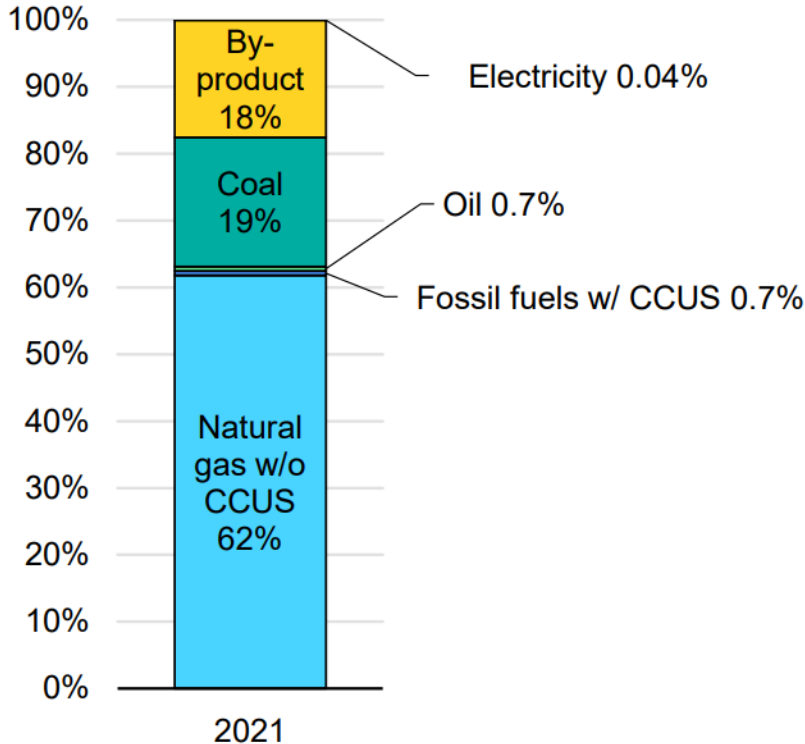


- SGN own and operate the gas distribution networks in Scotland and the South East of England, consisting of over 74,000km of gas pipelines, storage assets and above ground assets
- Supplying 6 million homes and businesses and over 14 million people
- Employing over 3,800 people
- Critical in the whole energy system and leading the way in the transition of the gas network to net zero energy and stimulating the hydrogen economy

Hydrogen Colour Spectrum



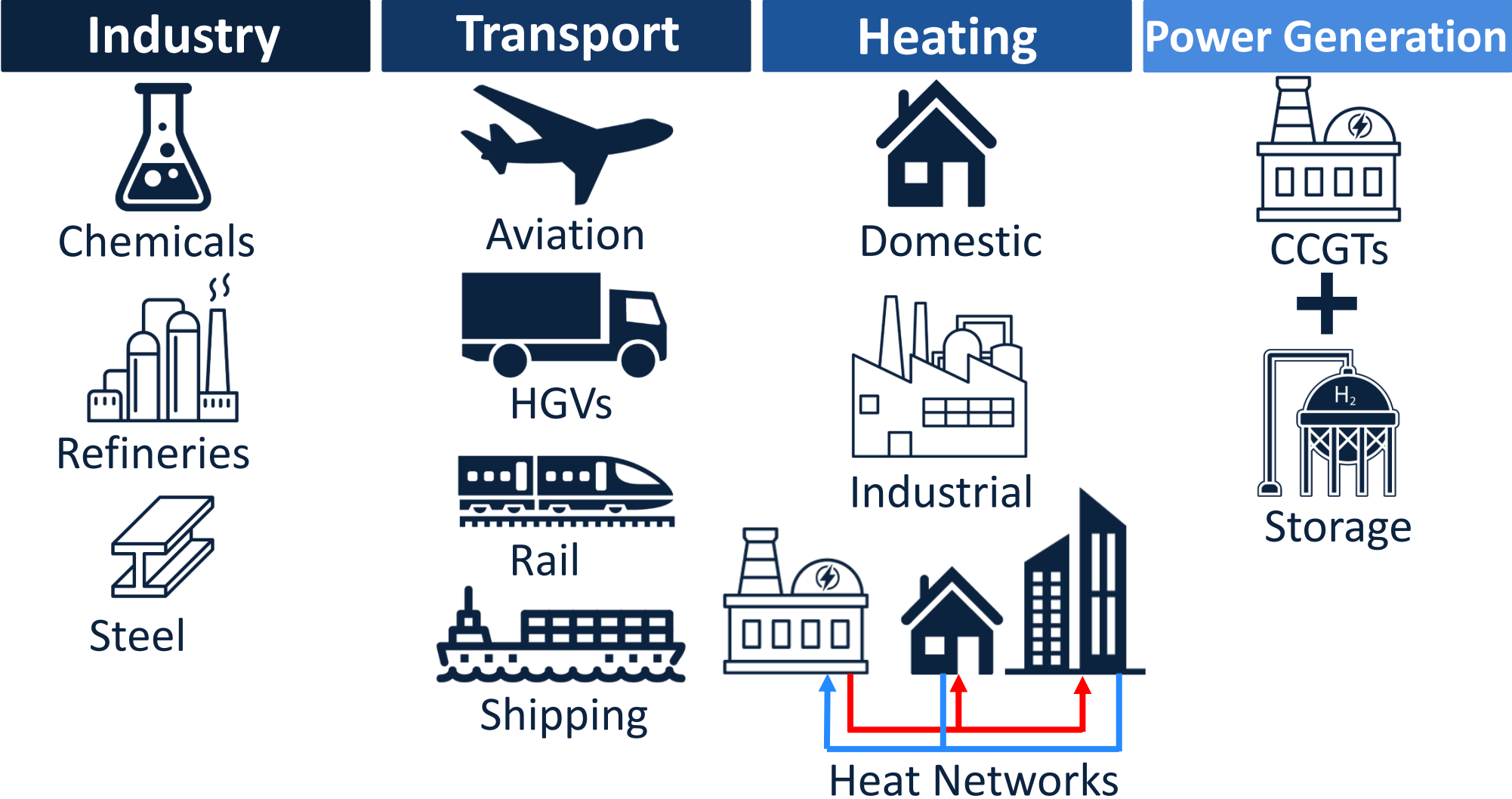
2021 Global H₂ Production: 94 Mt



- 10 GW Low-carbon H₂ by 2030 – UK Gov.
- 5 GW Low-carbon H₂ by 2030 – Scottish Gov.

International Energy Agency, Global Hydrogen Review 2022, 22 September 2022, p. 71.
 House of Commons Science and Technology Committee, The role of hydrogen in achieving Net Zero, 19 December 2022, p. 17.

Hydrogen End Uses



UK and Scottish Government decarbonisation targets

Heat

- Current hydrogen ready boiler consultation
- Decision on hydrogen blending by end of 2023
- UK Government decision on hydrogen for heat in 2026
- Ambition for 600,000 heat pumps/year by 2030
- Biomethane could treble from current levels by 2030
- Heat networks 5% by 2030 and 20% by 2050



H2

- UK production 10GW by 2030 (with at least half green hydrogen)
- UK Government supporting the development of hydrogen for domestic heat evidence base



UK



Emissions reduction

2020

2025

2030

2035

2040

2045

2050

Scotland



Heat

- 1 million homes and 50,000 non domestic buildings equivalent by 2030
- 20% blended hydrogen by 2030, 5% biomethane
- No natural gas in new homes consented from 2024
- 64,000 homes a year being converted to net zero by 2025 – the focus is on heat pumps and heat networks

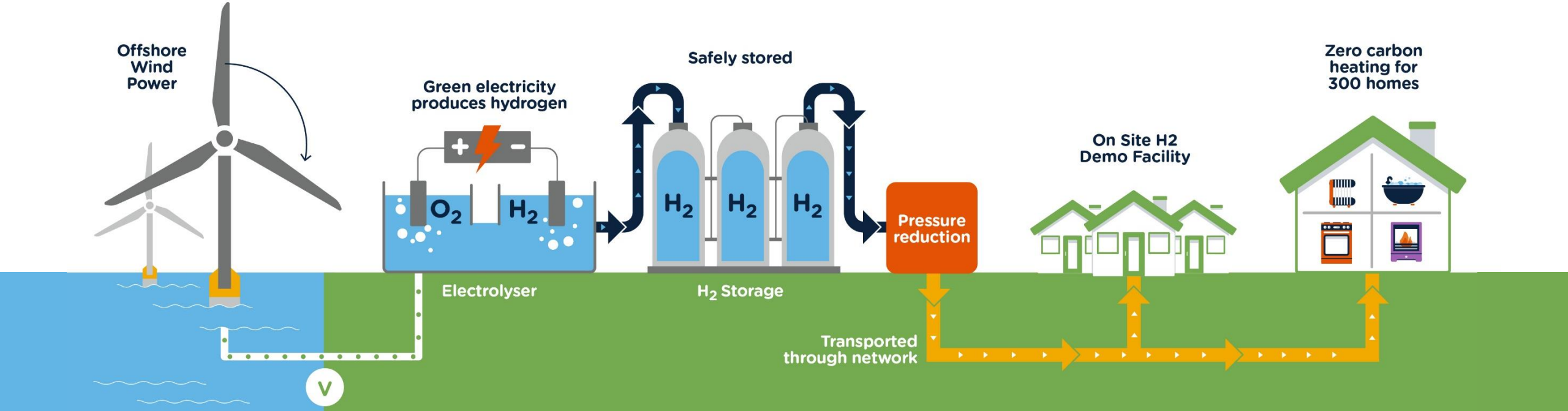


H2

- Hydrogen Action Plan targeting Scottish production 5GW by 2030 and 25GW by 2045 and 12 Regional Hydrogen Hubs
- Energy Strategy & Just Transition Plan
- Scottish Government supporting the development of hydrogen for domestic heat evidence base



H100 Fife – demonstrating green hydrogen to customers



H100 Fife will provide technical and consumer evidence to support government policy decisions on heat decarbonisation

2020

Funding from shareholders, Ofgem and Scottish Government secured

2021

Planning and consent

2022/3

Procurement and construction

2024/5

Delivering zero carbon heat/green hydrogen to customers

LTS Futures: repurposing the local transmission system to hydrogen

1. Determine the suitability of the materials in the network for hydrogen.











2. Validate the operational strategy for operating a hydrogen network, identifying any differences from operating a natural gas network.

3. Understanding the suitability of wayleaves and communication with landowners

4. Develop the skills and competencies, and procedures, for managing, operating and maintaining assets in a hydrogen network

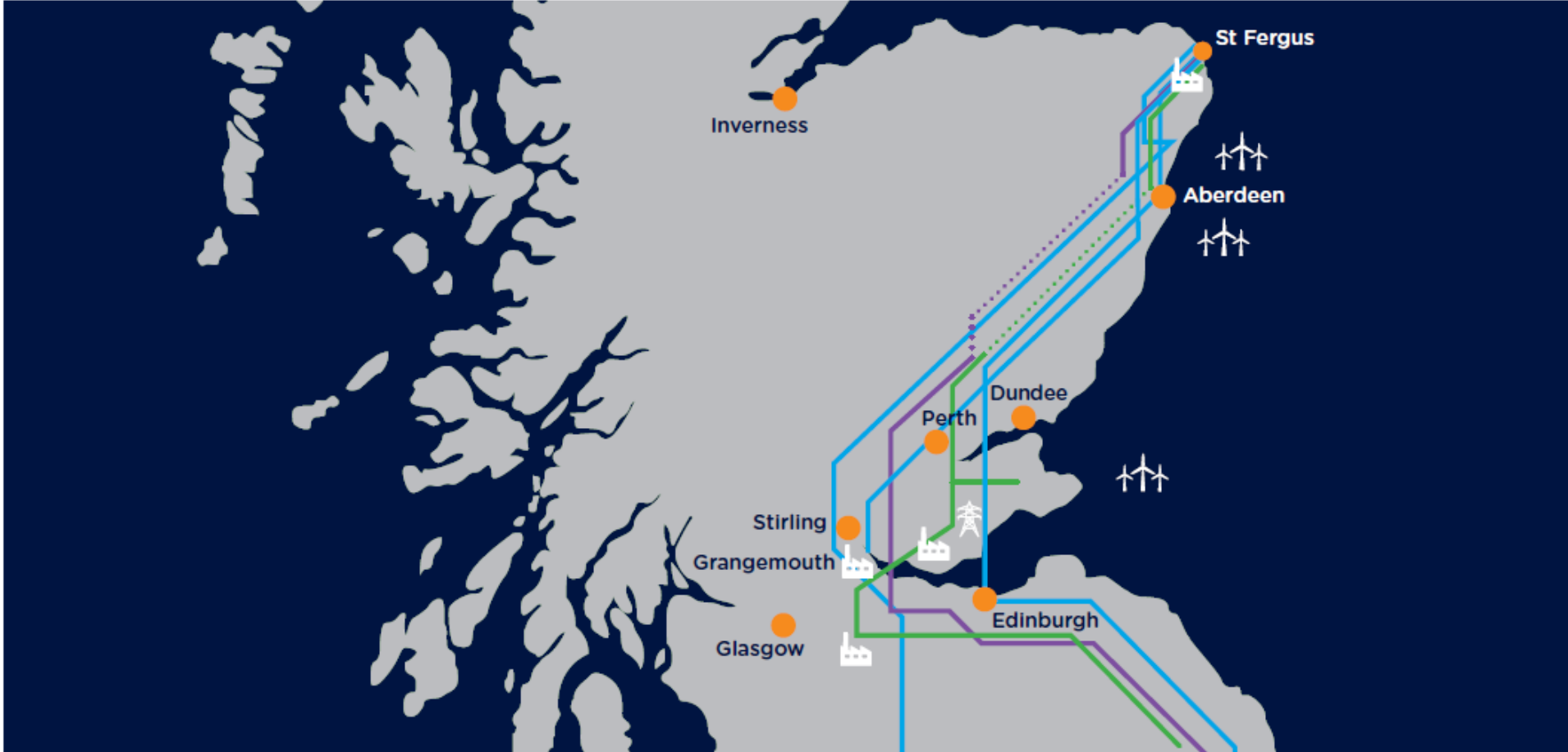
5. Defining the role of LTS in a hydrogen system transformation.







-  Whisky to green heat
-  Optimising renewable energy production
-  Network modelling and hydrogen conversion planning
-  Supporting the Scottish Cluster
-  Understanding future demand
-  Maximising the potential of offshore wind
-  Stimulating local energy production
-  A whole system view of energy transition
-  Strategic infrastructure development
-  Delivering a just transition



H2 Caledonia (Scotland)



Key

 H2 Caledonia	 NGT's Project Union	 Optimised solutions for the pre-FEED projects	 NTS
 Locations	 Tidal	 Solar	 Production
		 Green production	 Wind



Thank you

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