The Hydrogen Economy for Built Environment

Review of H100 Fife
(SLG Lunch and Learn Webinar)

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Your gas. Our network.

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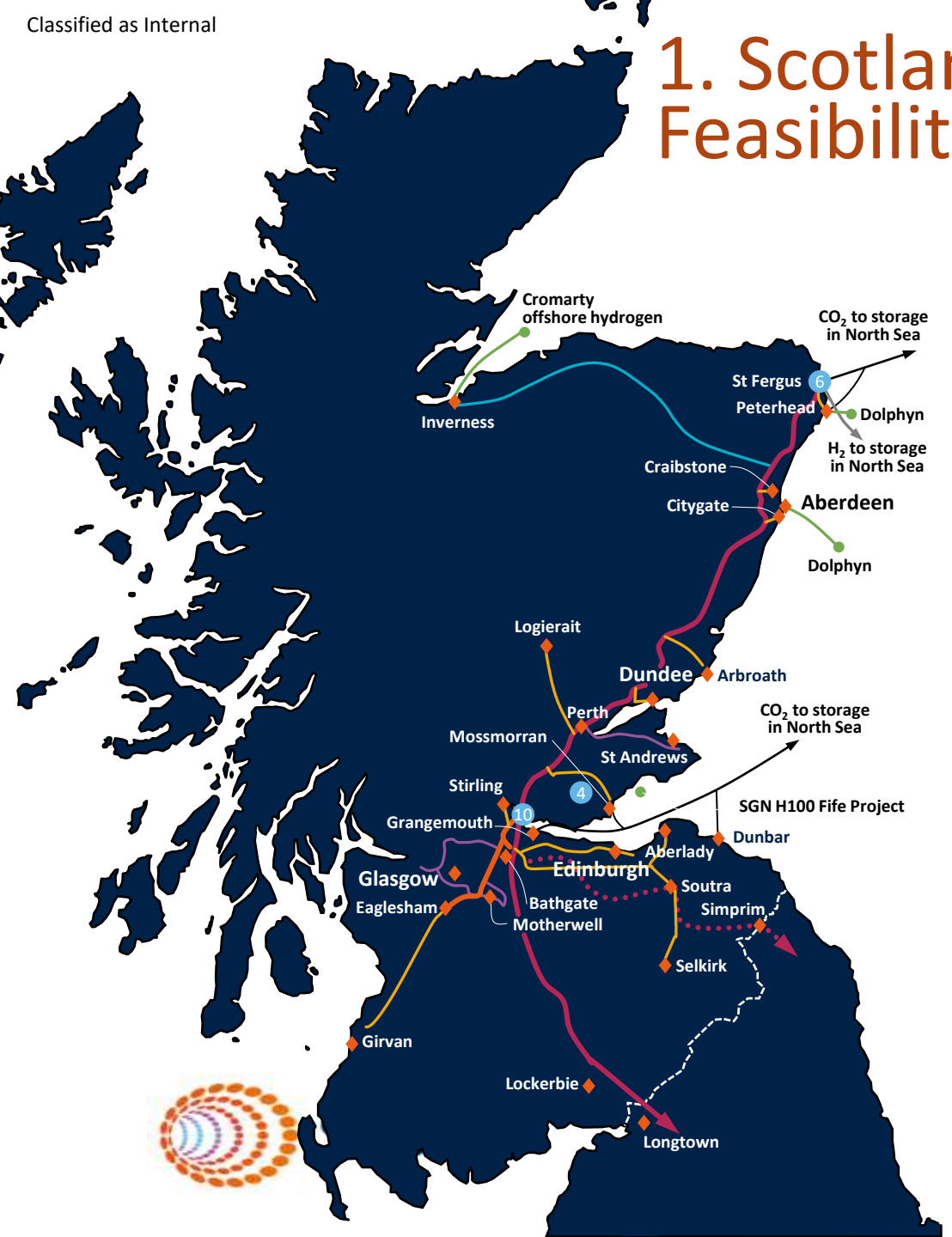
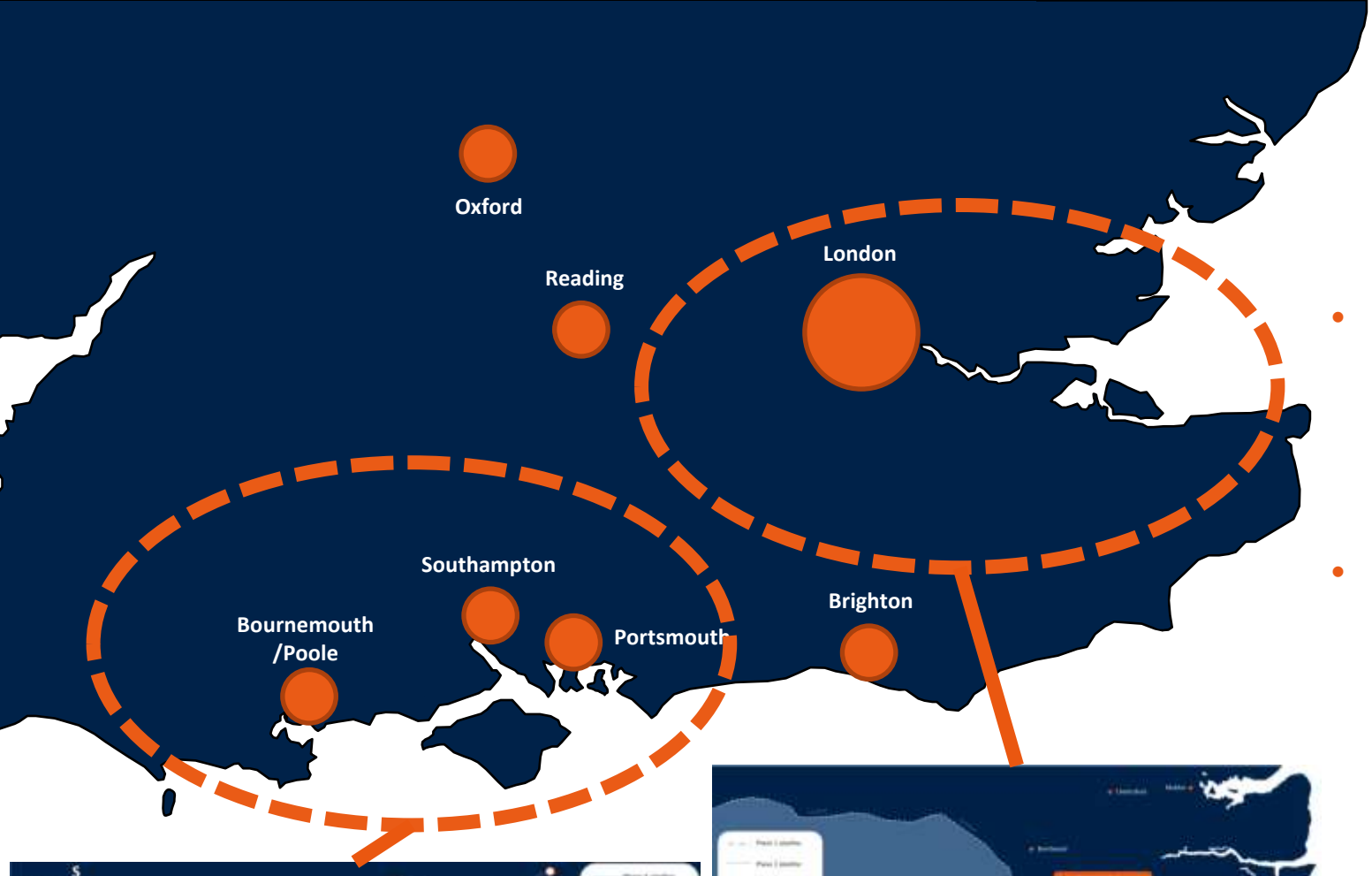
1. Scotland System Transformation – Feasibility & FEED Development



- **North-East Network and Industrial Cluster Project**
- **Detailed optioneering feasibility assessment of optimal strategic rollout plan of hydrogen across the Scottish Gas Networks**
- **Proposed distributed hydrogen production across Scotland transported by a new hydrogen transmission backbone**
- **This project has laid the foundations for system transformation and hydrogen conversion planning, which will cumulative in a full FEED – Progression to readiness to take this step will require significant technical and commercial development work.**
- **This development work includes further supply and demand assessments, regional studies, Hydrogen Town Bid preparation, Pipeline Pre-FEEDs, Below 7-Bar planning and other relevant study work.**

New main hydrogen trunkline
Alternative main hydrogen trunkline
Main hydrogen spur line
Repurposed existing spur line
New hydrogen spur line
New or repurposed spur line
CO_2 network
H_2 network (offshore storage)
Proposed green hydrogen production
Proposed blue hydrogen production (No. = SMRs/ATRs to be constructed)
City/Town



Southampton Water Feasibility Study

Project Cavendish Hydrogen Pipeline

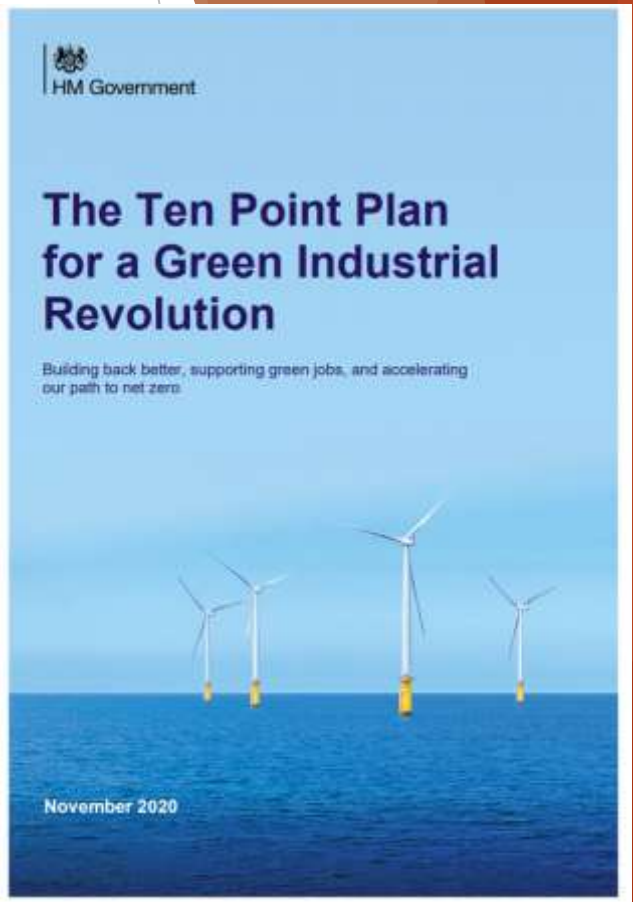
2. Southern System Transformation

- **Southampton Water Feasibility Study – This project assessed the potential for a hydrogen economy in and around the Southampton Cluster and outlined the required infrastructure.**
- **Project Cavendish (Consortium) assessed the potential for the construction of hydrogen production at the Isle of Grain. SGN have carried out a feasibility study for a pipeline to transport this hydrogen to South London and the gas networks en-route.**
- **These projects have laid the foundations for system transformation and hydrogen conversion planning, which will cumulative in a full FEED(s)**

3. Project Overview

H100 Fife aims to deliver evidence to inform heat policy decisions by demonstrating 100% hydrogen for heat as a viable alternative to natural gas.

- Now adopted as the 'Hydrogen Neighbourhood' trial within the UK Government's 'Ten Point Plan for a Green Industrial Revolution'
- Feeds evidence into 91 of 104 Evidence Strands identified by DESNZ required to inform a policy decision
- Commenced in 2021 following 5 years of cross industry evidentiary work in preparation of trial phase
- Now in construction phase
- Go live expected Sep 2024
- Trial runs until 2027
- Funded by SGN, OFGEM, Scottish Government, Cadent, NGN, WWU
- Project Partners include Baxi, Bosch



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Cadent Your Gas Network · Northern Gas Networks · Wales & West Utilities · Baxi · Worcester Bosch · Gazco · Valor · Charlton & Jenrick · Enertek International · GlenDimplex · Beckett · nationalgrid · gtc ...leading utility networks · Hy4Heat · h21 · Scottish Power · Scottish Water

Britain's hydrogen network plan

GAS GOES GREEN

2020 2025 2030

2023
H100 Fife delivering green H2 to 300 customers

2023
20% blending into gas grid

2025
First SMR units and CCUS plants online

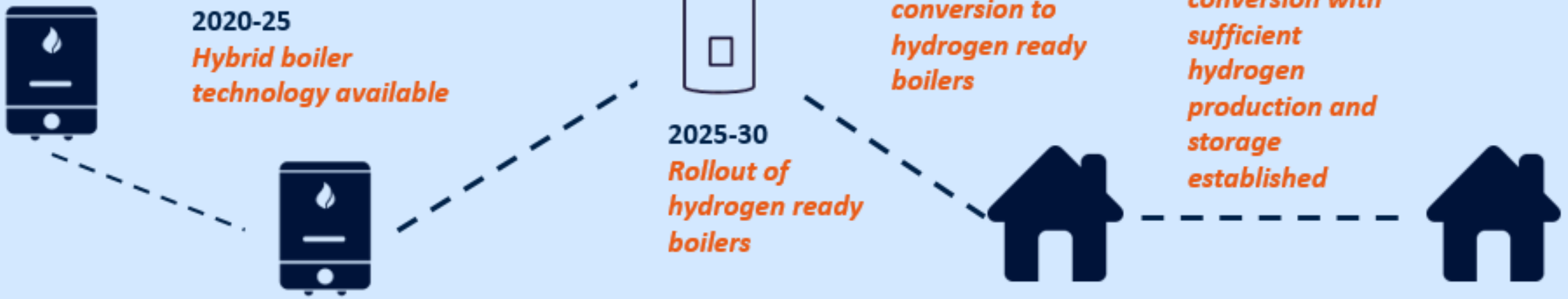
2026
Completion of national R&D providing evidence base to UK Government

2028-2045
Cut over of gas network to hydrogen commences

2030
UK 5GW H2 production target

NETWORK AND PRODUCTION

HOMES



2020-25
Hybrid boiler technology available

2025-30
Rollout of hydrogen ready boilers

2030
Scale up and conversion to hydrogen ready boilers

2030-onwards
Wider domestic conversion with sufficient hydrogen production and storage established

4. Project Overview

4. Project Overview

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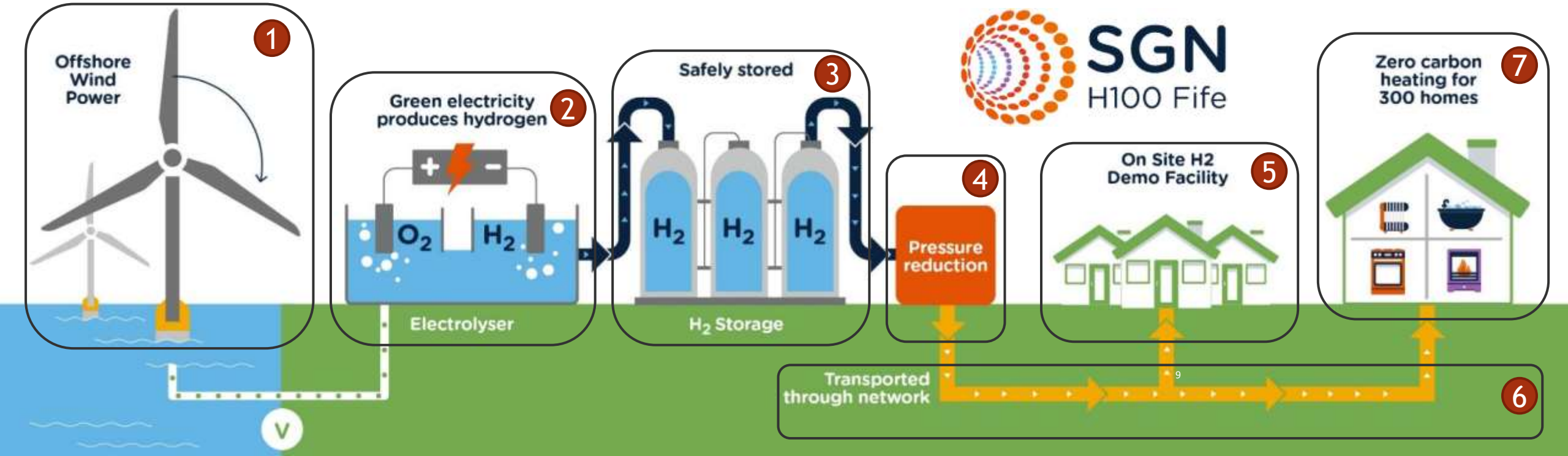
5. End to End System



H100 Fife

Our Hydrogen Future

Project Phases

Project Stages

H100 Fife Site

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visit our website

Project funded by: ofgem SGN Cadent

Project partners: Cadent HyFires BAXI HyCookers BOSCH

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Levenmouth Site

ORE Catapult 7MW Turbine

Energy Park Fife

H100 Fife Phase 1 (Neighbourhood)

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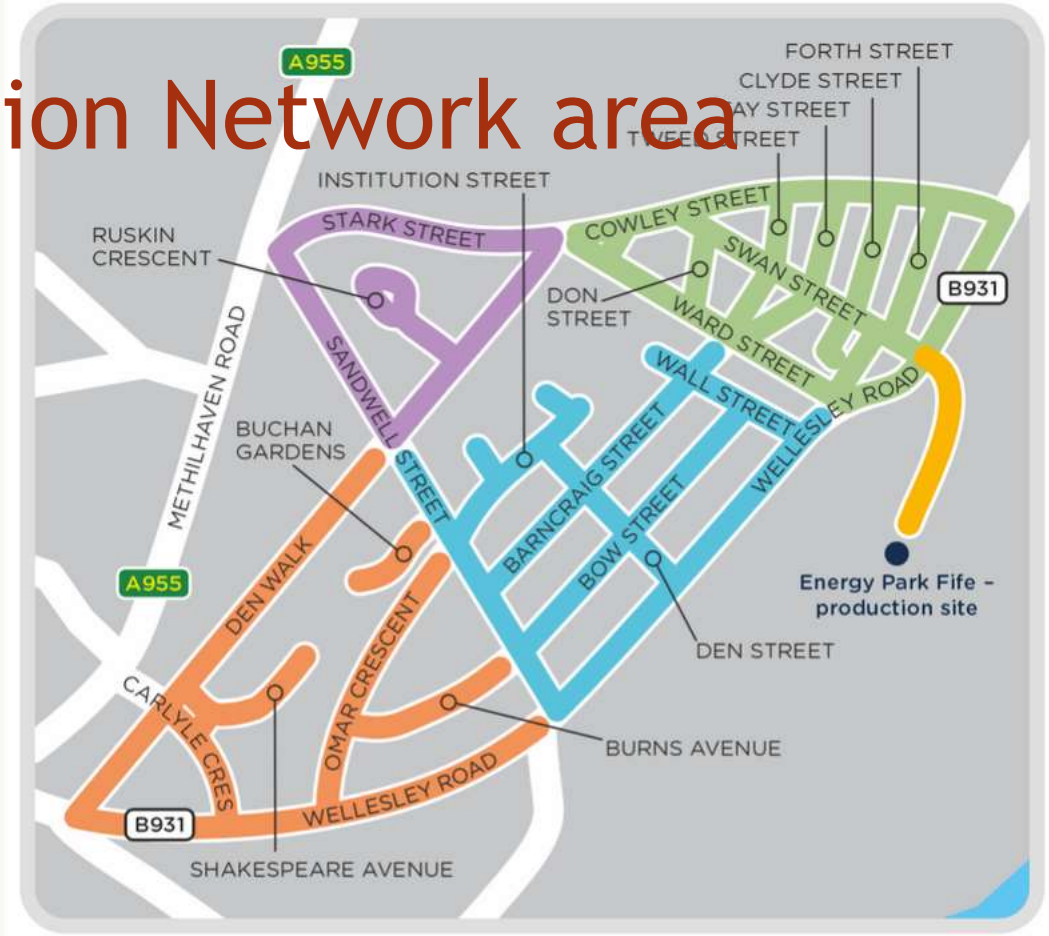
7. Distribution Network area



Key

Phase one work area	May 2023
Phase two work area	May 2023 - October 2023
Phase three work area	September 2023 - February 2024
Phase four work area	January 2024 - February 2024
Phase five work area	March 2024 - July 2024

Phase 6: Customer connection: August 2024 - March 2025

H100 Hydrogen Pipeline visual

Protective Measures: *Heavy duty tape & Cable located tape - advance early warning*

New H Pipeline *(PE80 Yellow with Blue stripes)*

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8. Downstream (In People's Homes)

Progress:

- ✓ 96% homes currently surveyed are eligible to be converted to hydrogen
- ✓ Warmworks survey programme completion expected next month.
- ✓ Installers engaged and content with survey data gathering.
- ✓ Savanta Quantitative consumer research on disruptions and mitigations complete and in review.
- ✓ Customer connection agreement on track.
- ✓ Insurance Event 5th September with 51 insurers representing 17 companies. 95% polling support for hydrogen trials.

Next key focuses:

- ❑ Planning property selection and scoring process.
- ❑ Award key contracts to engaged parties.
- ❑ Bilaterals with insurers to firm up support.

Property Survey Total Statistics:

- **159 out 162** of can be converted to H_2 with varying levels of cost, time & disruption (*quantified and stage gate scoring in Dec 2023*)
- 3 ineligible (*IGT, 40kW boiler & no ventilation option*)

9. Customer & Community Engagement

- By aligning our research and advice from our panel of local experts, we have designed an engagement plan that appeals to our customer and ensures they feel supported and informed throughout the entire journey

40% of available homes in the network area registered to take part

Extensive consumer research approach to shape engagement plans

April - August 2021
- Arrive in community and begin getting to know local people and stakeholders
- Community Liaison Group set up to utilise

March - September 2022
- Informational Postcards
- Community & Partnership newsletters

September 2022
- Face to Face customer engagement begins
- Community fayre day & face to face customer interactions

October 2022
- Launch Day!
- Partnership door to door information
- Half of required registrations now made!

November - January 2023
- Community Engagement
- Surpassed minimum requirement for registrations!

February - Present
- Community & Partnership Work
- Local sponsorships
- Partnership door-to-door engagement

We're constructing the world's first green hydrogen gas network - H100 Fife

Thank you for your patience

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H100 Fife

A historic change starts here

Visit **h100fife.co.uk** or scan the QR code to find out more.

Customer Service 0800 912 1700