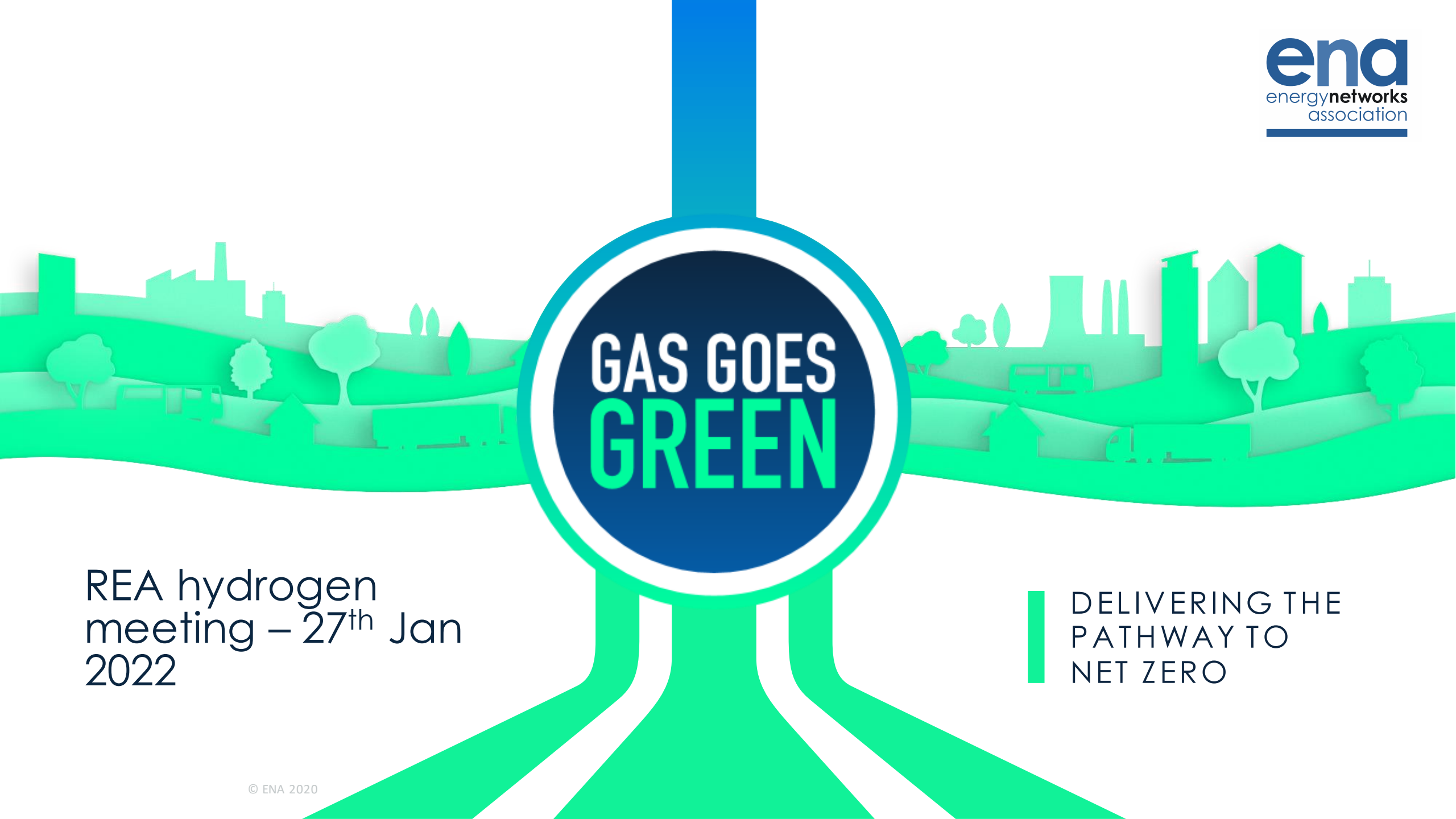

REA hydrogen meeting – 27th Jan 2022

DELIVERING THE PATHWAY TO NET ZERO

Projects to deliver the Net Zero Pathway

1. Decarbonising Britain's Industrial Clusters

Helping decarbonise Britain's six Industrial Clusters, which contain a mixture of heavy industries that are currently dependent on natural gas for manufacturing.

2. Ensuring our networks are ready for net zero

Using innovation to repurpose our existing infrastructure so it is hydrogen-ready.

3. Accelerating Britain's hydrogen economy

Infrastructure innovation investment that will help unlock the development of the hydrogen economy in the UK.

4. Delivering a whole systems approach

Finding new ways to work more closely with other parts of the energy system across traditional boundaries.

5. Creating options for decarbonising transport

Using innovation to ensure that the right network infrastructure is in the right places to support people's decarbonised transport choice.

INNOVATION PROJECT MAP

CUMBRIA

FutureGrid

Ensuring we maintain safe & secure energy supplies.

Using real-life infrastructure to build a model that represents all the different parts of Britain's gas grid, Future Grid will show how hydrogen can be used to ensure that we continue to receive safe and secure energy supplies wherever and whenever we need them. Beginning in 2022, this project will look at the gaps of knowledge that still exists around running the National Transmission system on hydrogen and how they can be addressed, using individual parts of gas network infrastructure, in a controlled environment.

Read more here.

FIFE

H100

Delivering renewable hydrogen to homes. From 2022, the world leading H100 Fife project will demonstrate how hydrogen produced from renewable electricity generated by a nearby offshore wind turbine can provide 300 local homes with clean heating, hot water and cooking. In particular, this project will demonstrate safe operating procedures and instructions for workforce managing a network delivering 100% hydrogen.

Read more here.

GATESHEAD

Hy4Heat

Demonstrating hydrogen in action. Led by the Department for business, Energy & Industrial Strategy, the UK's first homes with household appliances fuelled entirely by hydrogen are sited in low Thornley Gateshead. The 2 semi-detached homes, funded with the help of the UK Government's Hy4Heat. Innovation programme, will open spring2021, showing how hydrogen can be used as a clean replacement to natural gas in the home.

Read more here.

GAS GOES GREEN

ena energynetworks association

THE WIRRAL

HYNET

Using hydrogen for greener heavy industry.

HyNet will demonstrate how hydrogen in 'industrial clusters' can be used to reduce carbon emissions from Britain's heavy industry, using carbon capture, storage and utilization technology. In later stages, it will show how that hydrogen can also be delivered to local homes, reducing carbon emissions in a way that supports green industrial jobs and investment.

Read more here.

KEELE

HyDeploy

Safely mixing hydrogen into Britain's gas grid.

Working with Keele University and the Health & Safety Executive, the HyDeploy project has successfully demonstrated how we can safely replace up to 20% of the natural gas in Britain's gas grid with hydrogen. This could reduce carbon emissions by the equivalent of taking 2.5 million cars off the road each year – all without households having to change their existing boilers, cookers or other appliances. With trials on a private gas grid at Keele University now complete, the project will move to larger-scale public tests in the north-east of England, in late 2021.

Read more here.

CUMBRIA

H21

Safety testing 100% hydrogen.

Working with the Health & Safety Executive, the world-leading H21 project has successfully tested 100% hydrogen-ready boilers made by leading manufacturers Worcester Bosch and Baxi, in a variety of different circumstances and settings, demonstrating their safety in action. At a purpose build site at RAF Spadeadam in Cumbria, the project has proven the safety case for hydrogen to be used in local gas network pipelines and other infrastructure.

Read more here.

WALES, LONDON & SE ENGLAND

HyCompact

HyCompact is a ground breaking new project that will provide households with home heating from both green gas and electricity, switching between the two, dependent on which is cheaper at any given time. It brings together a boiler and heat pump into one 'hybrid' unit, connected by a 'smart energy' hub that responds to signals from the energy grid.

Read more here.

GAS GOES GREEN

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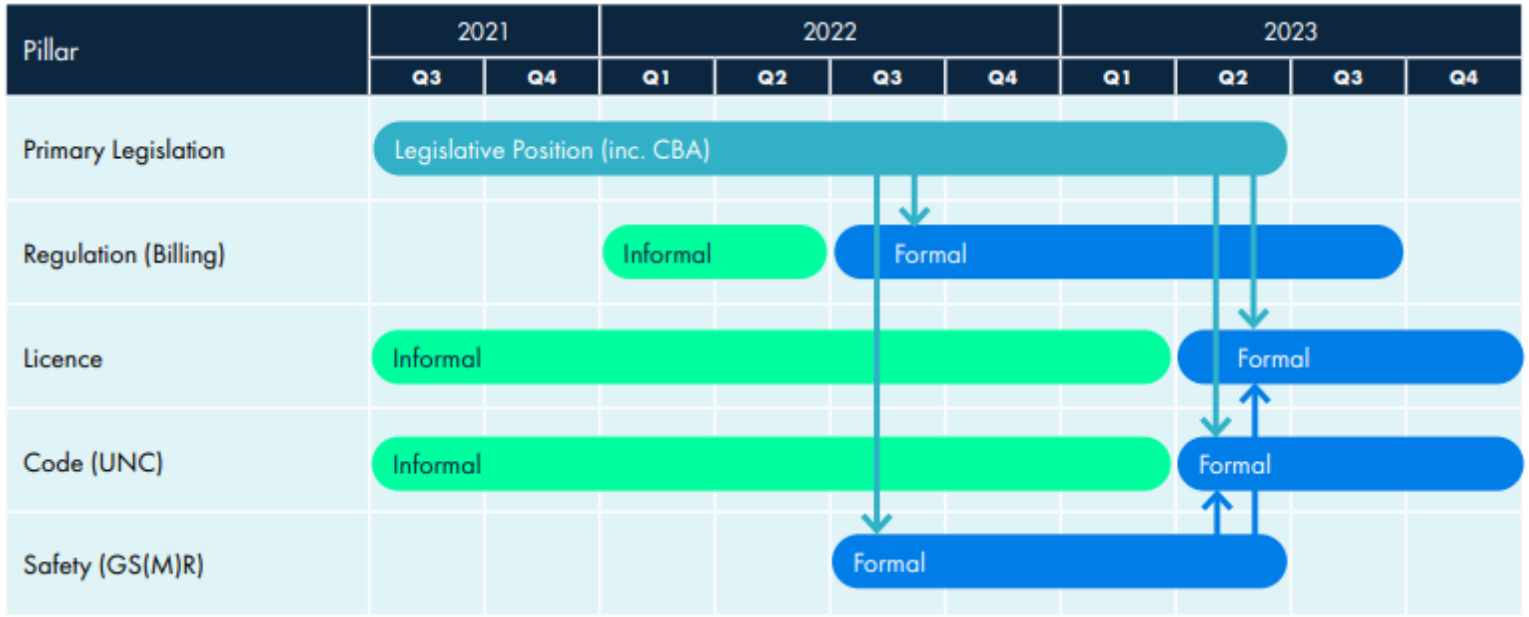
Britain's Hydrogen Blending Plan

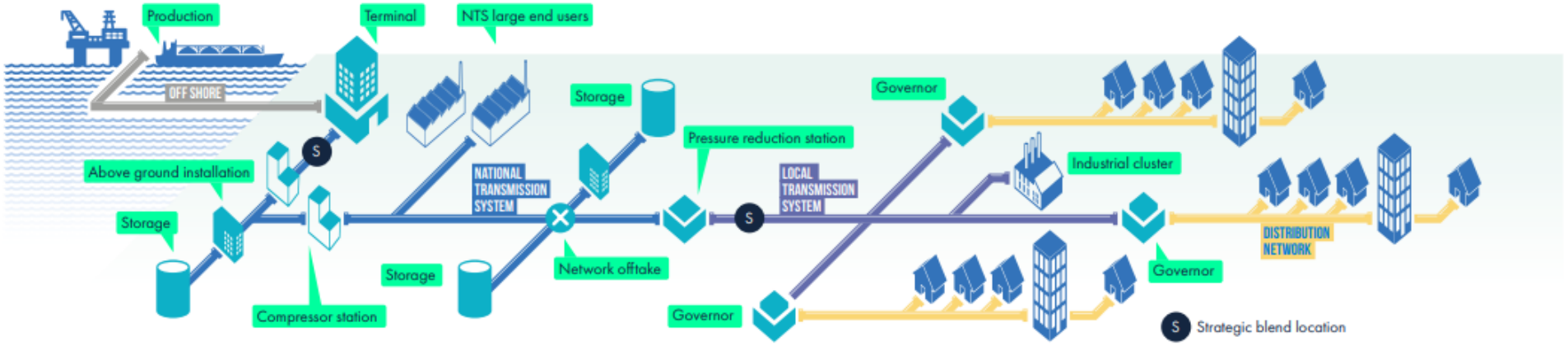
An accelerated approach to gas market changes to be ready to blending by 2023.



Britain's Hydrogen Network Plan

Potential physical roll-out models for blending

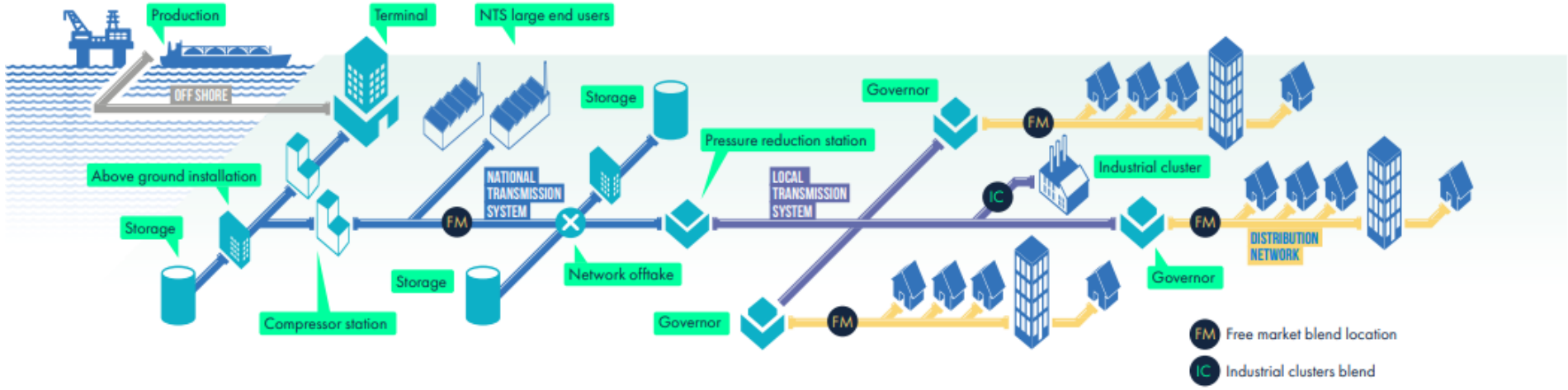
Strategic Approach



Britain's Hydrogen Network Plan

Potential physical roll-out models for blending

Free Market Approach



GAS GOES GREEN

Thank you

Northern Gas Networks

WALES&WEST UTILITIES

Cadent
Your Gas Network

SGN
Your gas. Our network.

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