Appendix A19 – Template Stakeholder Contact Email

Good Morning "Name",

My name is Camila Blanco from Northern Gas Networks (NGN). Your team provided me with your email as the best to contact within "Company Name" to assist us with our project.

NGN are responsible for transporting gas to yourselves on behalf of your energy provider. We're currently developing plans for a new government funded project across the North of England, **East Coast Hydrogen**, which will look at how we'll convert the existing gas network from the natural gas you use now, to low carbon hydrogen (more information attached).

As one of our top 200 consumers of natural gas, we'd really appreciate the opportunity to **discuss your future plans for net zero** to gather some important data which will enable us to assess how your demand for gas may change in the future.

Next steps:

1. **Confirm contact details** – please confirm by replying to this email that we have the correct contact details, or advise who is best to contact within your organisation

2. **Arrange initial discussion** – if this is something that you would like to hear more about please let us know to arrange a time to discuss, either virtually of F2F.

3. **Complete** – the attached form on future plans for energy use

Any data discussed or submitted will remain confidential and will only be used for the planning of East Coast Hydrogen. If required, NGN can ensure into a Non-Disclosure Agreement to provide further reassurance around this.

Kind regards,

[redacted]

Hydrogen Project Manager

Northern Gas Networks

Mobile: +44 (0) 7714 159128

www.northerngasnetworks.co.uk

East Coast Hydrogen

An introduction to East Coast Hydrogen

Bringing Hydrogen to You

Northern Gas Networks

Cadent

Your Gas Network

nationalgrid

An introduction to East Coast Hydrogen

East Coast Hydrogen

East Coast Hydrogen will help deliver the UK Government's Hydrogen Strategy

- East Coast Hydrogen will **invest ~£1bn in the re-purposing and development** of new hydrogen infrastructure
- **Enable over 7GW of publicly announced hydrogen production projects** to export their hydrogen across the region to up to **4 million homes and 39,000 larger users of gas**

East Coast Hydrogen is a blueprint for a GB wide conversion to hydrogen

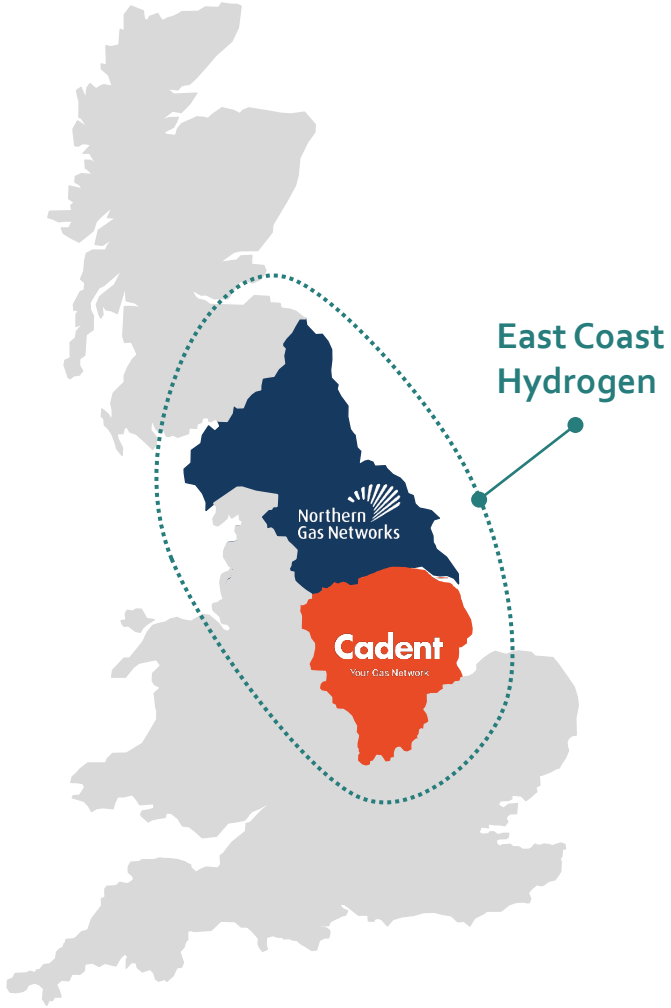
- East Coast Hydrogen will look in detail at the specific **engineering requirements for network conversion in the region and will act as a blueprint** for regional conversion.
- It will **build on the successful innovation projects** delivered by Northern Gas Networks, Cadent and National Grid, including the Hydrogen Home and HyNTS.

East Coast Hydrogen is a perfect region to commence the national conversion

- East Coast Cluster represents up to **50% of the UK's industrial emissions and a concentrated proportion of the publicly announced hydrogen production**.
- The East Coast of the UK is **home to some of the UK's largest offshore wind sites** which provide a valuable opportunity for the production of green hydrogen.

East Coast Hydrogen is an infrastructure project that spans two of the UK's most emission intensive industrial clusters in the Humber and Teesside regions

East Coast Hydrogen



Hydrogen produced in the Humber and Teesside regions will be connected utilising new and existing network infrastructure

The hydrogen network will **power industrial decarbonisation, supply transport, and heat homes and businesses** within the region

Interconnection with production facilities, salt cavern storage, and neighbouring hydrogen schemes will enhance the system resilience

The hydrogen network will **grow into urban centres** such as North, West and South Yorkshire, Cumbria, the North West and Midlands

This 15 year major UK infrastructure project will **bring together gas networks and large industrial players** to drive the hydrogen economy

East Coast Hydrogen (ECH2) is crucial to meeting the UK's Net Zero target by 2050

East Coast Hydrogen has four key objectives that aim to…

1. **Connect hydrogen supply with hydrogen demand across multiple end use cases** commencing with industrials fuel switching to hydrogen
2. **Transport hydrogen through repurposed and new build pipelines** to industrial users first with further potential to supply domestic users
3. **Build resilience with the interconnectivity of the Humber and Teesside industrial clusters and storage facilities** across the East Coast Hydrogen region
4. **Support efficient market growth by balancing supply and demand** and enabling connections across the East Coast Hydrogen region

….solve three major decarbonisation challenges

1. Industrial Decarbonisation

2. Residential Decarbonisation

3. Resilience and Interconnection

East Coast Hydrogen is being delivered by three of the UK's largest gas networks with one shared vision

East Coast Hydrogen

Cadent
Your Gas Network

Cadent's East Midlands Region is seeking to take relationships with major off-takers to the next level by connecting hydrogen producers and industrial off-takers across the Lincolnshire Arc and East Midlands area. Cadent's longer-term aim is to connect ECH2 with the HyNet industrial cluster and, ultimately, convert towns and villages across its whole region to hydrogen.

nationalgrid

National Grid Gas Transmission through Project Union aims to develop a hydrogen 'backbone' by connecting industrial clusters across the UK. The Humber-Teesside cluster is the largest industrial cluster in the UK and conversion of one of the three arterial routes of NTS will prove the case for hydrogen transportation at scale, whilst connecting these clusters with production, storage and demand points.

Northern Gas Networks

Northern Gas Network is leading the H21 research programme to assess the suitability of gas network to transport 100% hydrogen, as well as proving that gas network can safely transport a hydrogen blend through HyDeploy, in partnership with Cadent. ECH2 presents a great opportunity to scale the experience to date into a broader deployment strategy across its region, including homes, commercial and industrial users.

East Coast Hydrogen

East Coast Hydrogen will act as a blueprint for cross-network conversion of existing assets and the application of business models to provide investor confidence in the hydrogen opportunity

Why the East Coast Hydrogen region?

01 Interconnectivity

20%
UK's domestic, industrial and commercial gas usage is in the East Coast Hydrogen region[1]

6+
Accessible offshore CO_2 (Endurance, Bunter, Cygnus and Viking), and gas (Rough and Aldbrough) storage sites

3.4GW
Operational and 10GW+ pipeline of offshore wind capacity landing on East Coast[2]

02 Industrial decarbonisation

Up to 50%
UK's total industrial greenhouse gas emissions accounted for by East Coast Cluster[3]

39,000+
Industrial and commercial gas customers connected sites from clusters out to the East Midlands

Late 2020s
DelpHYnus and V Net Zero industrial cluster bids with potential deployment date

03 Domestic decarbonisation

~6 million
Households connected to the gas grid across Cadent Eastern region and entire NGN network

5+
Multiple domestic hydrogen heating trials providing domestic conversion feasibility

75%+
Cadent Eastern and NGN networks are ready to transport hydrogen

East Coast Hydrogen will bring...

East Coast Hydrogen

01 Interconnectivity

Over 7GW
Current planned hydrogen production by 2030 in the East Coast Hydrogen region

~800km
Total repurposed and dedicated new-build hydrogen national and local transmission pipelines

~10TWh
Planned hydrogen storage capacity in the East Coast Hydrogen region

02 Industrial decarbonisation

Up to 39,000
Commercial and industrial sites supplied with low carbon heating and process fuel

Up to 24%
Annual UK industrial and commercial gas demand decarbonised by East Coast Hydrogen

Up to $11MtCO_2$
Annual avoided commercial and industrial emissions by fuel switching from gas to hydrogen

03 Domestic decarbonisation

Up to 4.4 million
Domestic properties switched to a low carbon heating solution

Up to 17%
Annual UK domestic gas demand decarbonised by East Coast Hydrogen

Up to $9MtCO_2$
Annual avoided domestic emissions from switching to a hydrogen gas supply

1. BEIS, "UK Energy in Brief 2021," 2021. *Industrial and Commercial demand includes Industrial, Commercial and Energy Services demand*; 2. Renewables UK, 2021, 3. East Coast Cluster, 2021;

East Coast Hydrogen Stakeholder Consortium

East Coast Hydrogen

A wide range of stakeholders across the hydrogen value chain, industry and local stakeholders have signed Letters of Support for the East Coast Hydrogen Programme to date.

Cross-value chain
Hydrogen value chain participants

bp, VPI, EQUANS, SIEMENS energy, EAST COAST CLUSTER, equinor, DelpHYnus, kellas MIDSTREAM

Upstream
Hydrogen production

uniper, BOC A Member of The Linde Group, CPH2 CLEAN POWER HYDROGEN, ITM POWER Energy Storage | Clean Fuel, ECO ENERGY WORLD, HiROC, PHILLIPS 66

Downstream
Sector-specific utilisation

AGGREGATE INDUSTRIES, TRITON POWER, LIBERTY, KNAUF, FORTERRA, GUARDIAN GLASS See what's possible, Boots, sembcorp, Lenzing Innovative by nature, SOFIDEL, TOYOTA, BritishSugar, 2 sisters Food Group, ALSTOM mobility by nature, Singleton Birch, Vaillant, Enertek International, PEPSICO, CRANSWICK plc Great British Taste, Loughborough University, H+H PARTNERS IN WALL BUILDING, Samworth Brothers QUALITY FOODS

Midstream
Transportation and storage

centrica storage, Navigator

Local stakeholders
Regional and local partners

MIDLANDS ENGINE, TEES VALLEY COMBINED AUTHORITY, Greater Lincolnshire Local Enterprise Partnership, North East Local Enterprise Partnership, D2N2 Derby Derbyshire Nottingham Nottinghamshire, EM DC EAST MIDLANDS DEVELOPMENT COMPANY, West Yorkshire Combined Authority, CATCH

51 stakeholders have committed to contribute through their respective capabilities to support the successful delivery of East Coast Hydrogen

47 of the 51 stakeholders who have committed Letters of Support have approved to show their logos above.

East Coast Hydrogen

Thank you for completing the ECH2 data collection survey!

Please feel free to contact us with your thoughts on the Programme, or if you wish to be further involved in the engagement over the coming months.