



## Gas Goes Green Advisory Group minutes, 14<sup>th</sup> May 2020

### Welcome

Michiel Stork (MS) informed the group that the meeting would be recorded for the purpose of minuting. MS introduced Matt Hindle (MH), Head of Gas at ENA.

MH welcomed the group and thanked all attendees for their time. MH introduced Gas Goes Green (GGG), a major programme of work for ENA and the gas networks which has the aim support the work that needs to be undertaken to reach net zero. To do this the programme will support policy makers, decision makers and the wider industry that share ambition. MH explained that the objective of this meeting was to provide an opportunity to share the GGG programme and allow participants to provide feedback. MH advised attendees to make contact with the GGG team if there was anything specific which required follow up.

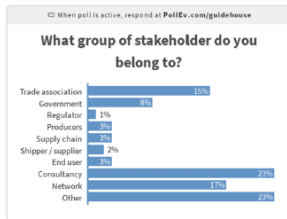
MS introduced himself and logistics for the meeting, that attendees are invited to ask questions over the chat function and responses to unanswered questions would be available on ENA's website shortly after the session. MS provided an overview of the agenda.

MS asked the attendees to answer 'What group of stakeholder do you belong to?' by using the polling software and 'How familiar are you with gas Goes Green?'. Results from the polls are included below and are available on the ENA website. MS also asked the attendees 'How important are hydrogen and biomethane to the future of the energy system?' and 'When do you see hydrogen as starting to have a significant role in the energy system?'

MS noted that ENA would like to share the names of attendees, and advised that if anyone was uncomfortable with this, to either note that in the chat or email.



## What group of stakeholder do you belong to?

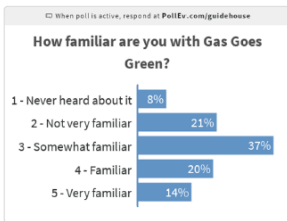


Response options	Count	Percentage
Trade association	15	15%
Government	8	8%
Regulator	1	1%
Producers	3	3%
Supply chain	3	3%
Shipper / supplier	2	2%
End user	3	3%
<b>Consultancy</b>	<b>23</b>	<b>23%</b>
Network	17	17%
<b>Other</b>	<b>23</b>	<b>23%</b>

88%  
Engagement

98  
Responses

## How familiar are you with Gas Goes Green?

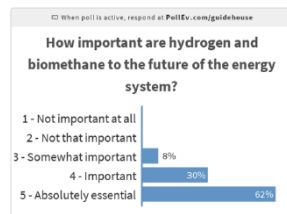


Response options	Count	Percentage
1 - Never heard about it	8	8%
2 - Not very familiar	22	21%
<b>3 - Somewhat familiar</b>	<b>38</b>	<b>37%</b>
4 - Familiar	21	20%
5 - Very familiar	15	14%

93%  
Engagement

104  
Responses

## How important are hydrogen and biomethane to the future of the energy system?



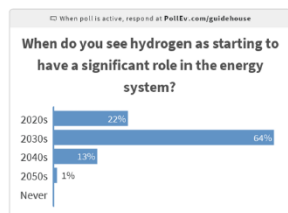
Response options	Count	Percentage
1 - Not important at all	0	0%
2 - Not that important	0	0%
3 - Somewhat important	7	8%
4 - Important	28	30%
<b>5 - Absolutely essential</b>	<b>57</b>	<b>62%</b>

82%  
Engagement

92  
Responses



## When do you see hydrogen as starting to have a significant role in the energy system?



### Response options

2020s

**2030s**

2040s

2050s

Never

### Count Percentage

22 22%

**65 64%**

13 13%

1 1%

0 0%



Engagement

**101**

Responses

### The role of gas in meeting net zero

MS introduced Chris Train (CT), Green Gas Champion to the attendees. CT started by noting the time for action has never been greater, particularly in light of the climate emergency. GGG brings together expertise from five UK gas network operators. CT explained that the pathway the programme is taking is the most cost-effective and least disruptive way possible to achieving net zero. The group were shown a UK Carbon Emissions chart and a Daily Gas and Electricity Demand chart. With reference to the Daily Electricity and Gas Demand chart, CT noted that gas delivers 4-5x more energy than electricity at peak. Referring to the UK Carbon Emissions chart, CT explained that there has been good progress on decarbonisation in the UK. The next challenge is to progress on heat and transport.

CT noted that 84% homes use gas for heating and hot water, which is a major source of GHG emissions in UK. In terms of a whole systems approach, CT explained that there isn't a realistic net zero scenario that does not involve clean gas and electrification. This will require hydrogen and repurposing of network, but that this is the most cost efficient and least disruptive for the consumer. CT discussed hydrogen and illustrated the need to start with blue hydrogen but transition to green hydrogen overtime as renewable capacity increases on electricity network. Whilst usage will be initially from industrial clusters, broader connectivity will increase over time so there is a need to ensure supply chain capacity. CT highlighted the need for political, community, business and investment support, and noted that this will require new policies and policy changes. Delivering the hydrogen economy, provides an opportunity for the UK to unlock private sector investment. CT addressed questions received from attendees.

*'Transport will 'soak up' excess renewable electricity generation well into the 2030s, so will the ramp up of green hydrogen need to wait until then, or in my view we should recommend ramping up wind particularly earlier than most forecasts suggest.'*



CT explained that it is not an 'either, or' situation as there needs to be a central policy framework. CT noted that solutions will need to be driven by local circumstances, for example in some geographical locations it would be more appropriate to use electricity/hydrogen/biomethane, or a combination of all to create a smarter energy system. CT explained that lots of pilot projects start with electrolysis.

*'How is the Northern Ireland gas industry going to feed into the overall Gas goes Green programme as its networks are connected directly to GB via the Scotland to Northern Ireland transmission pipeline and therefore will be impacted by GB's energy transition programme'.*

CT stated that as the GGG programme of work is run through ENA, it provides an opportunity to bring in all connected gas operators on board.

*'How does the Gas Goes Green approach for decarbonising the UK gas grid, sit alongside first movers who may be looking at behind the meter/private line green gases? i.e. green hydrogen fed into industrial sites directly in the first stages of the transition, before blending to the broader grid?'*

CT explained that the scale of electrolysis deployment is key, as is the scale of the industry that blue hydrogen is required for.

*Hydrogen via the gas network allows opening up new markets e.g. Transport to the Gas Distribution Networks - how does regulation deal with this?*

CT noted that whilst this is a challenge, it is also an opportunity to ensure the future delivers a competitive choice for customers.

In response to questions, MS noted that the presentation slides will be shared after the meeting, but the recording of the meeting won't be.

MS introduced Thom Koller (TK), Gas Goes Green Programme Lead at ENA. TK welcomed all attendees and explained the genesis of the programme, that Guidehouse were commissioned to assess the role of gas in meeting the net zero target. Two scenarios were considered: maximizing electrification and balanced energy scenario. Expert industry views were collected via a series of workshops in 2019 which informed the Pathway to net zero report. TK noted there were significant cost savings in the balanced scenario, and that the report set out recommendations for the gas networks to undertake to transition to net zero which had informed the shape and scope of Gas Goes Green. TK named the six programme workstreams and noted that these would be discussed in further detail later in the meeting.

TK provided an overview of the programme governance, and noted that the Steering Group, formed by the networks directs delivery of the programme and reviews progress. The role of the Advisory Group is to assist with the development of the programme. TK discussed the Terms of Reference and noted that the role of the Advisory group is to ensure stakeholders are aware of GGG and are using GGG to support own priorities. The Advisory Group will: request input from



stakeholders, improve outputs, increase awareness, and identify risks and issues. TK noted that information would be shared in advance of meetings, and resources would be shared after the meetings. TK explained that whilst ENA and the gas networks were grateful for the support of attendees, to ensure an effective Advisory Group, invitations for permanent roles on the Advisory Group would predominantly be sent to representative organisations. This is to ensure there is a manageable number of Advisory Group representatives to help direct the programme. A list of permanent Advisory Group representatives will be published on the ENA website, along with the outcomes of the meeting and responses to questions raised in the meetings. TK noted there will be regular wider engagement opportunities for stakeholders that aren't in the Advisory Group.

In terms of whole systems approach, TK noted that there will be cross-vector membership with Advisory Group representatives from the Open Networks Advisory Group. There will also be future alignment of some project deliverables. TK answered questions received from attendees:

*'important to assess public opinion on how acceptable blue gas is'*.

TK noted that the networks have started engaging with consumers and stakeholders about this. TK emphasised the need to ensure the right questions are being asked, and noted that GGG will play an active role in building an evidence base for this.

*'Will we be invited to join the Advisory Group?'*

TK explained that once expressions of interests are received, they will be reviewed to ensure the number of members in the Advisory Group is a manageable number.

*'Will this group feed into the BEIS consultation on: "Green Gas Support Scheme" from the Future support for low carbon heat note'*

TK explained that it will and ENA and the networks are generally supportive of the Government's approach on this, as it is important the Government look beyond the short term and confirm a trajectory including biomethane and hydrogen as part of the energy transition.

*Is ENA comfortable with including blue hydrogen under a heading of Gas Goes Green? Green means green to most people.*

TK explained that ENA is comfortable with this, as the pathway set out to meet net zero requires blue hydrogen to assist in developing the hydrogen market, even if the majority of hydrogen is green in future years.

## **Gas Goes Green workstreams and deliverables**

### Workstream 1 – Investing in net zero



MS introduced Greg Dodd (GD), Head of Strategic Planning at Northern Gas Networks. GD explained that Workstream 1 focuses on the investment aspect of transitioning to net zero. GD outlined collaborative projects, such as HyDeploy and H21, including other projects the networks mentioned in the RII02 business plans, as investment commitments that will pave the way for accelerated decarbonisation in subsequent years. Carbon commitments from the gas networks and GHG emission reductions to date under the Iron Mains Risk Reduction Programme, will form part of the deliverables for this workstream, alongside a timeline detailing when key policy decisions are required and investment is needed. There will also be work with local, regional and national stakeholders to develop pathways, and there will be pathways studies throughout 2020 that will deliver this. GD answered questions from attendees:

*Do the networks believe that Ofgem is onboard with significant cost expenditure on green gas infrastructure in RII02, such as new-build hydrogen distribution / local transmission networks, or that they think this will be GD3 onwards?*

GD explained that there is a need to engage the regulator through RII02 submissions including the net zero mechanism. ENA and the networks will continue to liaise with Ofgem.

#### Workstream 2 – Gas safety and quality

MS introduced Colin Thomson (CTh), Energy Futures Manager at SGN. CTh explained that workstream 2 will focus on supporting legislation and regulation changes to enable the use of green gases. GS(M)R defines gas quality and currently only 0.1% of Hydrogen is permitted. CTh explained that GGG will work closely with IGEM to develop framework to move GS(M)R into IGEM standard. There will be a workshop in July with IGEM to progress this work. This workstream will also support the National Grid's Gas Markets Plan (GMaP). CT answered questions from attendees:

*'Does it also consider the changes needed for biomethane and how the two might interact?'*

CTh noted that GGG will be looking at legislation for thermal energy as propane needs to be added to biomethane.

*'Absolutely essential to move the GSMR to a better place to support Hy - out for industry consultation now....'*

CTh agreed with this.

*'The amendment of GS(M)R will presumably require legislative change. Can we combine hydrogen and other changes (e.g. Wobbe) to streamline and accelerate the process?'*

CT explained that there might be an opportunity in the future to combine changes, but the currently it is important to focus on the IGEM standard that will help with the process of making changes in the future.



*'Will you have to add propane to h2 blending sites under current billing regs?'*

CTh noted that there may be a requirement to add propane but that the HyDeploy project may provide some evidence of this. Thermal energy regulations would need to be reviewed to allow a different approach.

*'Only secondary legislation so just get it done quickly'*

CTh agreed with this.

*'Is there a risk that changes to Wobbe require downstream user changes, and then a subsequent change to allow more hydrogen requires further downstream user changes?'*

CTh noted that stakeholders downstream will be consulted on this. There is a possibility of looking at midstream oil and gas industry and potentially adding nitrogen. This could make improvements but would have an effect on other users. The consultation is an important part of making changes to the IGEM standard.

### Workstream 3 – Consumer Options

MS introduced Ollie Lancaster (OL), Future of Energy Manager at Wales & West Utilities. OL explained that there has been a growth in biomethane vehicles in the transport sector, such as HGVs and bus fleets, that the BEIS Hy4Heat programme is developing hydrogen appliances, and that this workstream is building on this learning to consider consumer options across the whole energy system.

In terms of hydrogen, hydrogen trains are being introduced in Europe. Some of the workstream deliverables focus on the production and storage locations of hydrogen, alongside geological suitability and CCUS implications. OL noted that economic balance for hydrogen production capacity and load factor, is being looked at in the HyHy project. OL addressed questions from attendees:

*'How do hybrid heat pumps actually help gas networks? I assume this results in much lower gas flows'*

OL explained that they use less gas, and the modelling is based on 80% heat pump and 20% gas boiler. To make best use of the gas, parts of the networks where they are close to the point of having enough green gas, need renewable electricity to be hybrid ready.

*'Do you see a role for fuel cells using hydrogen for heat and power generation in homes?'*

OL noted that whilst using fuel cells in homes is an expensive option, there is an opportunity to do so in large dwellings. OL cited the Netherlands as an example of a country using fuel cells in homes.



*'With the linkage of electricity and gas systems, will this include evaluating Big Data and AI?'*

OL explained that there will be lots of data to manage, particularly with live decisions and heat pumps.

*'How will you engage with other programmes of work and organisations that look at how consumers can actually understand and use these new technologies in the home?'*

OL noted that lots of engagement will be required to ensure that consumers are aware of their options when introducing new technology into the home. There is a potential for energy showrooms, to allow consumers to see the cost of a system in their own home.

#### Workstream 4 – System Enhancement

MS introduced Lorna Millington (LM), Future Networks Manager at Cadent. LM explained that Workstream 4 focuses on looking at ways the system can become smarter and more responsive. LM noted that the market place has grown and a new decentralised gas forum will be formed to help challenge processes and drive work forward.

In terms of network capacity solutions, this workstream will focus on increasing the networks' abilities to receive biomethane supplies in areas that have limited local demand. LM referred to OptiNet, which is a project being run by Cadent and WWU that focuses on creating infrastructure solutions that increase the amount of biomethane and hydrogen can be used in future. This workstream will also focus on reducing fugitive emissions from biomethane transportation and existing Above Ground Installations. LM answered questions from attendees:

*'Govt does seem to support hybrid heat pumps under future of low carbon heat consultation which is out now'*

LM explained that hybrid solutions should be a part of government support mechanisms as they are part of the solution to balance the system. LM noted that they should form part of the consideration in future.

*'Our plan for HyNet sees a newbuild hydrogen local transmission network, with direct connections to storage, industrial customers and GDN blend points. This feels like it will need a new UNC (Uniform Network Code) for this new network type. Is Gas Goes Green going to address this? Thanks!'*

LM explained that GGG won't specifically address this, but projects using innovation funding are already underway. LM noted that a deliverable in workstream 2 focuses on GMaP, which will look at the changes needed to support this.

*'As part of system enhancement will you also be looking at improvements in IT/OT (Digital Enablers) enhancements and what we are seeing around the globe regarding initiatives around control room of the future?'*





LM noted that that they formed part of the considerations, but a mixture of technologies will be adopted to ensure efficient spending.

*'On consumer education it is not about telling them but giving them products and services that delight them - ie: product and service led rather than educating them to do the heavy lifting'*

LM agreed with this and noted that GGG will focus on service solutions rather than assets, as it is vital to ensure consumers have options.

*'Do you expect the proposed ISO hydrogen fuel standard to change to become more accommodating of blue H2?'*

LM explained that there a number of groups looking at a range of standardisation from hydrogen to gas quality. Standards will remain flexible to suit the environment that is needed.

#### Workstream 5 – Hydrogen transformation

MS introduced Danielle Stewart (DS), Long Term Strategy Manager at National Grid. DS explained that this workstream will coordinate, consolidate and evaluate existing and future networks projects that are hydrogen focused. The deliverables from this workstream will support and inform government activity related to hydrogen. DS highlighted the CCC's net zero report in May 2019, when referring to major studies outlining the need for a hydrogen economy and network business plans for RII02 setting out the ambition of the networks. DS referred to Project Cavendish and Aberdeen Vision, when noting that there has been good progress in this area but still lots to do in respect of gas transmission of hydrogen. DS suggested attendees look at the Gas Network Innovation Strategy on ENA's website, or the networks' websites for further details on the projects.

DS explained deliverables will focus on the July Hydrogen Transformation plan and disseminating findings in hydrogen. DS answered questions from attendees:

*'Lots of excellent focus in Gas Goes Green on hydrogen networks, which is excellent and an obvious focus for ENA given its network memberships. However, we also need a focus on hydrogen supply as well. Can you say a few words on what Gas Goes Green will do to 'encourage' large scale hydrogen supply rollout?'*

DS explained that the networks are involved in a number of consultations and hydrogen supply forms part of that. The networks will look across the value chain to ensure full understanding of supply, volumes, and optimal locations. DS noted that ENA and the networks consider hydrogen production and storage as part of the Hydrogen Programme Development Group, which is chaired by BEIS.

*'How is the 'final 30m' being managed, ie outside of the iron mains replacement programme?'*

DS advised that this question would be answered after the Advisory group.



*'Following on from [above], the key thing policy makers want is a practical demonstration at a town/city level with Leeds and Aberdeen being seen as key options. How soon can this be delivered? And I should add these means from demand to supply.'*

DS explained there are ambitious plans that need to be coordinated across supply, demand and the networks. DS referenced the National Infrastructure Commission report on net zero which expressed a desire to see 10,000 homes connected to hydrogen in 2023. DS noted that trials of green hydrogen are being undertaken but this needs to accelerate.

### Workstream 6 – Communications and Stakeholder Engagement

MS introduced Ed Gill (EG), Gas Goes Green External Affairs Lead at ENA. EG informed the group that as the networks are creating a platform for new technologies, there is a need to engage a wide range of stakeholders to ensure the right level of expertise is obtained. In terms of Advisory Group representation, EG highlighted the need for a structured approach to allow maximum input in future meetings. Post-lockdown, there will be wider events, which will be open to the public.

In terms of communications about GGG, EG advised that programme updates will predominantly be via a stakeholder newsletter. EG explained that ENA would be grateful if attendees could fill in the short survey which will be circulated after this meeting. EG addressed questions from attendees:

*'We need to build a strong narrative around a "better" as well as "greener" experience - matching energy efficiency with a hydrogen transformation - all sold off beautifully designed consumer focused products / benefits'*

EG agreed with this and referring to workstream 3, noted that there is a need to ensure the programme is people-focused, not just technology-focused.

*'With the huge financial hit we are seeing with COVID there needs to be a focus on affordability.'*

EG noted that particular GGG elements, such as investment and building a net zero economy, align well with the rhetoric of 'Building back better'.

*'Consumers might want a product that looks familiar - a boiler on the wall, with little change to reassure them. Fits in the same place, works the same way.'*

EG noted that the way people interact with their energy source is at the core of GGG. Energy consumption is emotive and consumers need to have control.

*'In practice 'the devil is always in the detail'. There are constraints on expanding low carbon electrification (e.g. redesign if 3 phase supplies needed to consumers) and unresolved challenges to operating a largely DC power source network.'*



*Equally transitioning the gas grid to be much more like the electric grid in terms of third party (H2) generation (and also blending / deblending activity) is likely to add significant novel operational complexity into the gas grid. Will the proposed whole system assessment go into that level of detail? How is it intended to identify optimal solutions for implementation? There will be major implications on UK plc if we get this wrong.'*

EG explained that in both GGG and Open Networks, there is an increasing amount of work focusing on technology, but noted that the technical aspect of the question would be responded to after the Advisory Group.

#### Deliverables Timeline:

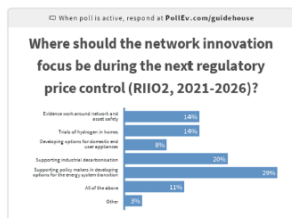
TK provided an overview of the timelines of the workstream deliverables and advised attendees to look on the ENA website for further information on the deliverable timelines, and email any questions.

TK noted that there will be opportunities for stakeholders to feed in their views throughout year. In relation to workstream 3, TK noted that there is an opportunity in energy show homes to demonstrate heat pumps and hydrogen heating systems, so consumers are able to maintain choice. In terms of hydrogen vehicles, there are biomethane buses in the UK and a hydrogen train in Europe. Therefore, there is an opportunity to gather data on user experiences and use this to formulate arguments and inform the GGG programme of work. TK noted that going forward there is an ambition to build relationships to help understand consumer views and experiences.

Referring back to the workstreams, MS then facilitating further polling addressing questions: Where should the networks innovation focus be during the next regulatory price control (RIIO2 2021-2026)?, 'What do you think the dominant long-term heating technology will be for the customers on the network?', For which transport applications do you think biomethane will feature to a significant extent in the energy system of the future?, For which transport applications do you think hydrogen will feature to a significant extent in the energy system of the future?, and If you have an interest in renewable gas production, which of these approaches do you think we should consider as options to support gas entry? The results are included below and are available on the ENA website.



## Where should the network innovation focus be during the next regulatory price control (RIIO2, 2021-2026)?

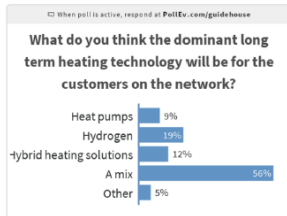


Response options	Count	Percentage
Evidence work around network and asset safety	21	14%
Trials of hydrogen in homes	21	14%
Developing options for domestic end user appliances	12	8%
Supporting industrial decarbonisation	29	20%
<b>Supporting policy makers in developing options for the energy system transition</b>	<b>43</b>	<b>29%</b>
All of the above	17	11%
Other	5	3%

73%  
Engagement

148  
Responses

## What do you think the dominant long term heating technology will be for the customers on the network?

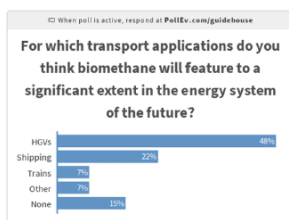


Response options	Count	Percentage
Heat pumps	7	9%
Hydrogen	15	19%
Hybrid heating solutions	10	12%
<b>A mix</b>	<b>45</b>	<b>56%</b>
Other	4	5%

72%  
Engagement

81  
Responses

## For which transport applications do you think biomethane will feature to a significant extent in the energy system of the future?



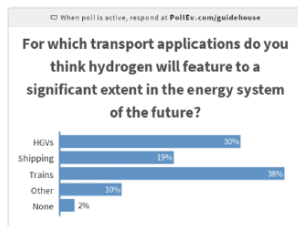
Response options	Count	Percentage
<b>HGVs</b>	<b>54</b>	<b>48%</b>
Shipping	25	22%
Trains	8	7%
Other	8	7%
None	17	15%

71%  
Engagement

112  
Responses



## For which transport applications do you think hydrogen will feature to a significant extent in the energy system of the future?



Response options

HGVs

Shipping

**Trains**

Other

None

Count Percentage

49 30%

31 19%

**61 38%**

17 10%

4 2%

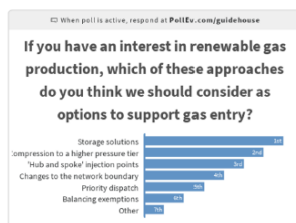


Engagement

**162**

Responses

## If you have an interest in renewable gas production, which of these approaches do you think we should consider as options to support gas entry?



Response options

Storage solutions

Compression to a higher pressure tier

'Hub and spoke' injection points

Changes to the network boundary

Priority dispatch

Balancing exemptions

Other

Rank

1st

2nd

3rd

4th

5th

6th

7th



Engagement

**43**

Responses

MH thanked the attendees for voting and noted that the result of 'a mix of technologies' for 'What do you think the dominant long-term heating technology will be for the customers on the network?', is a scenario that GGG is working towards. MH noted that the response for 'Where should the networks innovation focus be during the next regulatory price control (RIIO2 2021-2026)?' demonstrates the range of expectations of what the networks can deliver. In terms of the questions on transport, MH noted that the varying responses for these questions will be taken into account as GGG progresses.



## Programme Updates

### 1.1 – Carbon Commitment

TK explained that the first GGG deliverable focuses on the networks' commitments to reduce business carbon footprints, shrinkages and gas leaks. These commitments set out planned network projects to provide the evidence of learning required to deliver emissions reductions and accelerated decarbonisation of the networks. TK explained that the publication of this deliverable had been delayed slightly to allow attendees to feed in their views.

TK noted that this deliverable is focusing on four areas: new network for 100% hydrogen; hydrogen blends; repurposing network for 100% hydrogen; cross cutting innovation projects. TK noted that several projects link new hydrogen infrastructure with industrial clusters. The delivery of these investments in RII02 are driven by regional industrial clusters in combination with carbon capture, utilisation and storage. TK noted that BEIS provided the funding for pre FEED production and storage, but noted that funding is now required to bulk hydrogen pipelines which will enable the growth of industrial clusters. The ambition is to provide hydrogen via existing networks as a blend and then transition to 100%.

The other element focuses on 100% hydrogen domestic consumer pilots. There is a proposal for a 100% hydrogen distribution network. TK noted that SGN's H100 Fife programme integrates green hydrogen production and storage. TK explained that HyDeploy is another innovative project gathering technical evidence required to enable blending across the UK. The next step is to develop a commercial regime to support and enable blending to rollout and scale hydrogen production market.

In terms of repurposing the network for 100% hydrogen, TK noted the work done on below 7 bar in the H21 project. The next step is to undertake large scale customer pilots with 100% hydrogen.

With reference to cross-cutting projects, TK noted that the capacity of investment required in the networks to support cross sector decarbonisation includes flexible power generation, such as Bio CNG refuelling stations for heavy duty vehicles. There is also a need to ensure the networks can support leaking power generation which supports decarbonising the electricity networks. TK addressed questions from attendees:

*'Why Carbon? CCC Net Zero refers to all GHG emissions?'*

TK noted that the metrics used are equivalent to CO<sub>2</sub>, so this will be taken into account.

*'How do we ensure that politicians and government engages with this critical agenda'*

TK explained that the GGG programme details have been shared with BEIS, Ofgem and other regulators, and they are aware of the progress ambitions for GGG in 2020. TK was pleased that



representatives from BEIS and Ofgem were able to join the webinar, and noted that there will continue to be close working.

*'A lot has been talked about Hydrogen ready network and also appliances but what about the important parts in between, i.e. meters, regulators, service fittings, etc?'*

TK explained that some network projects are considering those aspects in development of pilot projects and are working with the Hy4Heat team. There are several pieces of work looking at potential gaps in areas of research where further research is required. TK noted that any suggestions on this are welcome.

### **Closing remarks:**

MS thanked the attendees for their engagement and explained to attendees that unanswered questions will be responded to in due course. MS noted that ENA will send out a short survey to attendees. MS advised attendees that if they are uncomfortable with their name being shared to inform ENA.

TK explained that minutes from the meeting would be shared and responses to unanswered questions would be published on the ENA website. News about deliverables are available on the ENA website and will be shared in the Gas Goes Green newsletter.

TK thanked the speakers, Guidehouse and attendees.