Gas Goes Green Advisory Group
4th November 10:00-12:00

Welcome - Thom Koller, ENA

Timeline

- This is the 3rd AG meeting.
- ENA has listened to your (Advisory Group) feedback in a number of areas:
    - Who to collaborate with and in what areas, more focus on local studies, local work? *Example: Optinet project - which options to consider for addressing grid capacity issues; ENA has launched a customer forum to consider more views from different stakeholders;*
- ENA appreciates the continued feedback, keep views coming in - policy, technical, regulation.

Progress update & coming up

- ENA is developing a growing list of updates and publications
- Hydrogen transformation plan: demonstrate how networks will convert to transport hydrogen; how it impacts 4 sectors - household, power, industry, transport
- Hydrogen cost to customer: the latest update reflects new electricity demand, power generation assumptions (FES). Aim is to be transparent with assumptions and update data whenever these become available
- November webinar - hydrogen grid to vehicle research: Role of gas in heavy-goods vehicles; how far down the road are we
- December - ENA's energy conference with special gas goes green session to present hydrogen transformation plan. Register via ENA website.
- Beginning of next year - gas transport pathways: views on low-carbon and renewable gas in HDVs. How it is a viable option to move away from diesel.
- Dates/details on UK's carbon budget: https://www.theccc.org.uk/comingup/advice-on-the-sixth-carbon-budget/

November update

- Most deliverables are moving forward nicely, 2 are delayed - but confident they will be worth the wait

Input into 2020 deliverable 1.3 Delivering the pathway to net zero - Bethan Winter, WWU

- Remaining challenges at the end of pathways
    - 1) Clear vision of 2050, but more granular data on the low carbon technologies required on pathway to net zero, aligned to RIIO periods
    - 2) Diverse range of views across business sectors as to possible deployment curves
- Gas Goes Green
    - Aim is to develop pathways to net zero scenario with clear numbers for different technologies at interim stages; updated for latest thinking (FES20, HyHy), using Pathfinder+ model and provide common set of upstream and downstream assumptions
- Challenges
    - Significant data required
    - Availability of data from reports, but data definitions and consistency add challenge - example: how you categorise vehicles? *A minibus can be categorised as 'bus', 'van', 'passenger vehicle', etc. --> Those things become important when looking at the impact of having a 1000 of these connected to the network.*
    - Iterations of the model to balance inputs - current state
- Outputs
    - Detailed parameters for significant numbers of input variables: deployment rates for different technologies
    - Network impacts: will we need more or less storage / capacity

- Household investment: what will it cost for households
- Carbon reductions: aligning with carbon budget period

- Poll Question 1: We assume all Electric and Gas vehicles are connected to the grids because we don't have robust data to suggest otherwise and, whether grid connected or not, there would be costs to distribute their energy – is this a fair assumption?
  - TRUE: 25 votes (86%)
  - FALSE: 4 votes (14%)
- Comments from people that voted "False" and in the chat:
  - "I voted false on the basis that there will be circumstances where that does not hold true. Will networks be available and cost effective in all circumstances? I would question that. It is probably the case in most cases, but not for all energy. Does that mean you account for that with a discounting approach? That is probably how I would tackle it."
  - "Does this include large industrial clusters? There are quite a lot of vehicles there. Or is this purely commercial." Bethan: "This is all electric and gas vehicles, taken from FES which should include everything. Shipping & rail is not included, only road transport." Response: "Given this is purely road transport, that makes the assumption more fair."
  - "I get that it is grid connected. I think it's a fair assumption. But the 2nd part of this is the distribution cost. If you think about DSO areas with storage to use up energy when demand is low; it may mean that energy is utilised / balanced at local level and never hits national network; that would reduce transmission cost." Bethan: "Correct it will not give us regional impacts, more about system balance, costs, insights, at UK level."
  - "Very interested in the need to upgrade infrastructure to help rural economy - including farmers and landowners. I think it is likely we see local capacity independent from the networks, for gas but especially for EV charging. We are starting to see local hubs – e.g. what GridServe is doing. They are going to be semi-independent from the narrow pipe connecting them to the network." Bethan: "In terms of whole system cost - would that

be significantly cheaper or more expensive (at system / UK level), or should we assume a discount because on balance it is cheaper?" Response: "Difficult to say, it will be driven by need – only where current networks simply don't go."

- "Difficult question. Some hydrogen transport options may have standalone hydrogen production so may be electricity connected but not gas connected."

- Poll Question 2: How can we best share data with each other

Idea:	***Upvotes:***	***Downvotes:***
Create standard documentation/terminology that others are encouraged to adopt (and include revision process) Bethan: "Key is getting it right in the first place, encouraging others to adopt it. The two go together, if it is fit for purpose it will be an easier process of adopting"	17	0
Use open data networks such as Open Data Institute https://theodi.org/ Michiel: "Option for person who suggested it to reach out bilaterally"	8	0
Open source assumptions log	7	0
Through national independent bodies such as ENA	3	0
Standardise sector data should make it easier to share data within the sector.	2	0
Open collaboration space	2	1
Graphics and data	1	0

Make data accessible to wider stakeholders and public	1	0
Standardisation of data is no mean feat. Agreeing on the terminology needs time and who decides on the final terminology.	0	0
The NG ECO portal appears to be a good model of data exchange and reporting	0	0
API catalog	0	0

GGG 2021 Plans - Thom Koller, ENA

- Questions:
    - Does GGG share the presentation with stakeholders, or is this confidential?
        - Thom: "Presentation is not confidential, happy to get input from other stakeholders"
    - "I can't be the only one who has noticed there is no specific mention of biomethane (from AD or others) in the WS. GS(M)R reform will certainly help, but dare we not mention biomethane by name?"
        - Thom: "Biomethane plays a key role. While it doesn't have a particular workstream we think activities across the program should be supporting biomethane."
        - Other participant: "I did a check of proposed deliverables for GGG in 2021 against different themes, and by my reckoning biomethane and hydrogen have an equal focus. Green gas is used as a catch-all term for both biomethane and hydrogen. Hope that helps."

Perspectives on heat decarbonisation challenges and 2021 priorities - Zoe Guijarro, Citizens Advice

Michiel mentions that the survey that GGG sent to the AG members showed that the members are keen to hear more from other AG members' perspectives and that a greater focus on consumer perspectives was highlighted as something GGG should focus on, and thus introduces Zoe Guijarro (Citizens Advice) to give her perspective on the 2021 GGG Plans.

- Background: working on low carbon policy, focus on getting it right for consumers
- Work on decarbonisation - putting people at the heart of net zero, making sure costs are distributed fairly and nobody is left behind; read more at Citizens Advice landing page
- Challenges:
    - 1) How we talk about net zero - one of the key questions is why is not discussed more widely; feedback from people: "I just need educating on the whole subject".
        - ENA to follow up by sharing video
    - 2) How do we deliver net zero - moving from patchwork to a systemic geographical approach:
        - How to deal with consumer choice? People are not that concerned about the technology, they are concerned about what that technology gives them: warmth, cost, some level of choice within that.
        - Focus has been at national plan level, there is a lot to be done at local deliver level;
        - New technologies, new workforce - how do we scale up enough of those people to meet demand?
    - 3) How to better protect people:
        - People can fall between the cracks of different schemes, scams, miss-selling
        - There is a need for a more cohesive system that is fit to the future, and that ensures that all consumers are informed and protected
- Citizens Advice priorities:
    - Policy and advocacy:
        - Regulation of heat networks

- Heat and buildings strategy
- Energy white paper

- Research
  - Audit of heat network suppliers
  - Citizens advice data from customer contacts about home energy
  - Local area energy planning

Michiel asks participants to react on the planned deliverables Thom presented, and to prioritize these based on relevance.

Input:	***Upvotes:***	***Downvotes:***
Taking an energy systems perspective (heat, transport, power)	15	0
Timing of anticipated government policy announcements, e.g. EWP, Heat and Buildings Strategy, Bioenergy Strategy, etc.	9	0
Regionality/geographical element - the transition may start as a patchwork. How do we deal with this at a national level?	8	0
Low regret actions that can be taken in the 2020s	8	1
How this will interact with a wider net zero plan and so other stakeholders?	6	0
How to galvanise the industry, government and the public to support/facilitate greater/faster green gas uptake.	5	0
Consumer appetite to heat technologies/alternatives	5	0
How the programme can contribute to "Green Recovery" and potentially accelerate development as a result	4	0

Likely availability for hydrogen and biomethane. Other potential uses.	4	0
An emphasis on involving consumers through engagement and research, to ensure the evidence base for your decisions reflects the diversity of the public	2	0
Cost	2	1
How strands fit together	1	0
Identification of holistic enablers and blockers. E.g. what is needed to ensure interoperability between various systems, what are the key blockers stopping this etc.	1	0
Perhaps we should consider the Government's recent commitment to develop a new Biomass Strategy building on the previous Bioenergy Strategy	1	0
How will the transition be financed?	2	2
Building a clear evidence base through R&D to support large scale deployment	2	2
How practically you would plan to convert parts of the gas network to Hydrogen	0	0
Recognise the marked difference between decarbonising industrial processes and consumer processes: avoid merging or extrapolating the data between the two	0	0
Sustaining a networks "net zero" into the future may necessitate moving to a position of aiming for beyond zero i.e. building the capacity for negative zero emissions energy	0	0

What is the required deployment rate of green gases so that we do not get overtaken by electrification	2	4

Report back from the three break-out groups

- BO 1 – Workstream 3 Consumer Options and Workstream 6 Communications and Stakeholder engagement:
    - Great to have a breakout group on consumer/stakeholder engagement - felt like this was missing in some of the events this year.
        - You need to consider how you might engage with consumers...directly? through local organisations?
        - I'd advocate more direct consumer engagement to inform the evidence base
    - You need to be mindful of the issue of vested interests both actual and perceived interests too.
    - On some of these big topics - it would seem worthwhile for networks to come together to commission consumer research - but yes you'd need to scope in an independent approach e.g. oversight groups, peer review etc
    - Reduce heat demand for domestic customers – liaise with other organisations.
        - Whole house retrofit / non exclusion of future options
        - Heat pumps expensive - net out energy requirements would save costs - limit stress on the energy networks
    - Use opportunity of transitioning home technology to intervene in building efficiency measures to optimise home energy performance (bearing in mind whole house approach to not lock-out further retrofit and getting the degree of retrofit right, such as not over-retrofitting at greater cost than supply solutions.
    - Outcome focused (not individual technology); outcome must end up with consuming less energy – whether solutions using gas, electricity or both.

- It would be good to engage consumers on what a socially inclusive transition looks like to them; consumers are interested in outcomes: warm home, affordable costs - so engaging with them on those outcomes
- Use social research methods of using customer panels to represent the public or underrepresented voices who would be most impacted (economic impact / job implications of the transition)
- Who is looking for consumer insight - how to ensure it is robust and truly representative
- Engagement with consumers on available options (equip cost, timing, fuel cost)
    - Focus down on locally available options
- Start with big picture net zero need
- Consult on how the engagement should take place (individuals, consumer forums, other options?)
- Devolution matters/differences so it is clear what is required either side of borders. Such as Scotland's accelerated target.
    - Analysis of consumer options in regions
- Who will do the consumer insight to make sure it is as robust as possible?
- Get information of options available to customers – getting in early. First step is the peoples debate about what net zero means and then what the local context is for local communities and customers.
- We need to explain what options are to people – and understand how customers want to be engaged and what they want their role to be.
- Would it fit for workstream 3 to consider how this programme interacts with LAEPs?
- Citizens Advice is doing a bit of research into LAEPs currently that might help with the debate!
    - For Scotland this is likely to be LHEES https://www.gov.scot/policies/energy-efficiency/energy-efficient-scotland/
    - There is trust in local authorities (debatable), but LAs are not currently responsible for delivery of LAEPs. LAs are probably not the right geography – they're too small, but wider regions/combined authorities may be.
        - How do they interact with Planning System (for new build)?

        - For LAEPing, build local supply/demand solutions on top of a national net zero backdrop
        - On the role of networks in industrial clusters: Industrial heating, process requirements, impact regionally on homes, transport
    - BO1 - **WS6: Comms and Stakeholder engagement**
        - Definitions or glossary for gas transition and a smart gas grid to help engage with customers.
        - Linked to entry capacity
        - Entry forum
        - Network compression (passive to smart) for flexible network system
        - Industry:
            - Transparency on G'ment timetables
            - What are the G'ment consultations
            - How can stakeholders respond to these consultations
        - Summary info on progress (e.g H2 blending - several ongoing but separate projects)

- BO 2 – Workstream 1 Investing in net zero and Workstream 5 Hydrogen Transformation:
    - Developing a shared scenario is essential for whole systems approach
    - Need to look at transport also for total systems view
    - There needs to be some measurable, low regrets actions to point to
    - There needs to also be broader understanding on what can be done as well as low regret options, such as further understanding of evidence base required so govt can make policy decisions
    - Whole system approach not just focus on domestic - integrating power, buildings, transport, industry
    - Be output-oriented; ensure efficiency across programme of work, projects shouldn't significantly overlap, should be able to answer questions in a unique way and contribute new knowledge and evidence base

- Consider cost of consumer across all of this work
- Balance focus on technical, cost and regulatory issues
- Understanding the industrial side - what work do the networks need to do to meet government objectives in industry
- Understanding demand, what is the minimum demand needed to ensure gas networks are viable
- Iron mains replacement program - what is the importance of hydrogen networks there
- Transition pathways - what are the practical issues, e.g. when transitioning from NG network today to the future network (decommissioning, blending) - what projects / outputs / are needed to enable this
- Regional and geographical element shouldn't be overlooked as there is a challenge with practical issues on conversion to hydrogen/other green gases. Multiple options to consider: creating separate networks; blending; full conversion; decommissioning. There will likely be regional differences, so needs further consideration.
- Consider how much gas is needed in the grid for it to be economic as partial conversion and creating separate networks is inefficient long term. This could be linked to HPDG outputs
- Once a portion of the grid converts to hydrogen or biomethane, is that set in stone? Or could this change eg depending on availability?

- BO 3 – Workstream 2 Gas Quality and Safety and Workstream 4 System Enhancement:
  - Gas Quality and Safety - How to build user confidence in the suitability of a wider gas specification

- Question raised as to how useful a timeline would be as the dates so dependent on government policy and it could quickly become out of date
- Regional approach / differences to gas quality and how to tackle
- Could be an explainer of how GS(M)R changes interact with blending / would support hydrogen, link Frontier Economics recent study on blending commercials, with National Grid's GMaP, with Cadent's Future Billing Methodology and with SGN's Real Time Networks
- Could also look at the evidence gap in the IGEM work as to industrial and commercial properties; there is work ongoing in the background but has not come to the forefront yet
- System enhancement – a need to focus more on biomethane as a green gas source that can be grown now – and distributed now
- Support to share learnings from Entry Customer Forum in 2021, adopting best practices across the country - less project focus and more learning focus]
- Potential focus on conversion of biogas CHP – to be evaluated in a whole system approach; create the right framework and the right investment opportunity