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Dear Anna,

NGN Response to Ofgem's Open Letter Consultation On The Development Of Gas And Electricity Innovation Stimuli

Thank you for the opportunity to respond to your open letter on the proposed development of the innovation stimulus package in Gas and Electricity.

The pathway to delivery of a low carbon economy in the UK and the achievement of the prescribed environmental targets is very uncertain at this stage. However, it is clear that gas and electricity networks will have a central role to play both in facilitating this transition and sustaining the delivery of low carbon energy to the UK.

Against this background, NGN welcomes and supports the proposed introduction of the broad innovation stimuli package which addresses some of the shortcomings of the previous framework. Network companies will be required to invest significantly in investigating the role they need to play in delivering the environmental targets in an efficient manner.

Responses to the specific questions raised within your consultation are set out in more detail below.

- ***What innovation might be required to facilitate a low carbon economy and securing supplies as efficiently as possible in gas distribution and transmission sectors?***

Recent work completed by The Energy Networks Association Gas Futures Group (ENA GFG) to examine the future utilisation of gas out to 2050, and the consequential impacts of this for gas networks, identified credible and robust scenarios in which gas could play a major ongoing role in the GB energy mix while meeting both the 2050 carbon targets and the 2020 renewable energy targets.

Managing CO₂ emissions under these scenarios would require the successful development and roll-out of Carbon Capture and Storage (CCS) technology, supported by the deployment of biomethane injection into the gas distribution network, roll-out of district heating, and/or the usage of combined electricity and gas dual fuel systems for domestic heating. Scenarios with ongoing gas use could offer a cost-effective solution for a low-carbon transition relative to scenarios with higher levels of electrification.

It is likely that significant levels of expenditure will be necessary to research, develop and trial technologies, processes and commercial arrangements in all of these areas to achieve the targeted outcomes.

The costs of maintaining the existing gas transmission and distribution networks are relatively small in comparison to the other system costs associated with a low-carbon transition. This suggests a compelling economic rationale for maintaining the operation of the GB gas transmission and distribution networks for the foreseeable future.

- ***How the annual level of funding to facilitate the innovation in each sector should compare to the £64m available annually under the LCN fund?***

All potential pathways to the delivery of a low-carbon future in the UK will involve a requirement for significant investment in the development of new technologies, systems, processes and commercial and regulatory arrangements.

Given the current uncertainty on the likely delivery of these targets it is vital at this stage that the levels of funding allocated to each sector to stimulate the necessary level of innovation does not introduce unnecessary bias into the process for one sector compared to another. Or artificially restrict the level of investment required to introduce the necessary innovation to deliver the most cost-effective and sustainable solution for delivery of a low carbon economy in the UK.

The gas and electricity network sectors face different challenges in their potential role in the delivery of the required environmental targets. Many of the issues faced by gas networks are in their infancy and it is therefore difficult to identify fully at this stage the level of innovation funding required to address these over the period of the next price control. However, the size and complexity of these issues does not that there is strong case for a level of funding significantly different from that provided to the electricity distribution companies under the LCN fund.

As the price control review process develops more detail on the issues and the likely size of innovation funding required will become clearer and will inform the size and scope of the necessary stimulus package.

- ***Details of potential projects you consider could meet the objectives of the gas or electricity stimuli and the potential costs of these projects.***

As indicated above many of the issues currently identified are in their infancy and may prove difficult to provide detailed specification of projects aimed at overcoming those issues and their associated costs.

However, the level of thinking and understanding in certain areas is developing rapidly, such as Biomethane to Grid schemes, and certain projects can be outlined at a high level and NGN will be examining how these projects can be taken forward. Several of these issues and projects are highlighted below:

- Development of appropriate quality monitoring equipment and configuration for Biomethane to Grid Schemes
- Development of network analysis tools for low flow conditions to accommodate Biomethane to Grid schemes
- Development of network solutions to accommodate connection of Biomethane to Grid schemes on local low pressure networks

- Identification and development of system control procedures for localised gas distribution networks supplied by Biomethane or non-conventional sources of gas.
- Research into the constituents of non-conventional sources of gas and their impact on gas networks
- Research into the impact of changes to GSMR gas composition limits to accommodate non-conventional sources of gas

These examples of schemes that would be required to address a small number of issues associated with the development of Biomethane and other non-conventional sources of gas to grid schemes highlight some of the challenges that the move to a low carbon economy pose and how gas distribution networks can take forward projects to assist in their potential development.

- ***What speculative investment companies should include in their business plans to be funded through the price control, versus what they should compete for through the stimulus – and the potential value and required justification for this investment?***

Schemes identified within companies business plans will inevitably be well understood, fully quantified projects that Ofgem can provide ex-ante funding within the price control. Consequently these schemes are likely to be relatively low risk and involve a high degree of certainty on the outcomes.

Given the large degree of uncertainty that exists on the developments required to deliver the low carbon economy and the relative infancy of certain of the necessary issues to be faced, there is likely to be only a relatively small percentage of the total level of investment required in these areas that can be specified within a well justified business plan.

- ***Licensing and Third Party Access***

The proposed development of new licensing arrangements to facilitate third parties to receive funds through the innovation stimulus process would seem to pose certain difficulties both in terms of set up and ongoing administration.

It is not clear that small technology developers or R&D organisations would want or indeed have the ability to administer an ongoing licence arrangements and associated obligations. This issue is exacerbated in the gas industry where a licence may also entail the preparation and maintenance of a Gas Safety Case with the Health and Safety Executive.

The proposed arrangements should build on the experience already gained from the LCN fund and consider whether the absence of a licensing arrangement has been a hindrance to the participation of third parties in that process and the level of innovation being brought forward. Care needs to be taken to ensure that the licence arrangements do not prove to be a barrier to entry for third parties to the process. Potential alternatives to this arrangement need to be considered to ensure that an appropriate approach is adopted and that network companies have the correct incentives to ensure all parties can be involved in the competitive process.

- ***Stakeholder Engagement***

Establishing a working group that includes networks, prospective third parties to be included in the stimuli and wider stakeholders is a positive development in this area. The introduction of specific expertise, new ideas and an environment of cooperation with network companies will be a key element in addressing the key challenges to deliver a low carbon economy.

I hope you find our response useful. Please feel free to contact me if you would like to discuss any of the issues raised above.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Gareth Mills', with a long horizontal flourish extending to the right.

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