



SGN
Station Approach
Horley
Surrey
RH6 9HJ

Energy Systems Integration Team
Office of Gas and Electricity Markets
4th Floor,
9 Millbank,

11 January 2017

Dear Sir/Madam,

SGN Response to OFGEM / BEIS Call for Evidence: A Smart, Flexible Energy System.

SGN welcomes the opportunity to respond to this call for evidence. We're the second largest gas distribution company in the UK serving 5.9 million customers in Scotland and across the south and south-east of England.

It's our primary responsibility to provide a safe, reliable and efficient gas supply, in line with our vision to be the leading operator of gas networks in the UK. In Scotland we distribute gas to 1.8 million residential and business customers, including some of the most remote areas. In southern and south-east England we distribute gas to 4 million customers including London boroughs south of the River Thames.

We believe that decarbonising the UK's gas network is a vital part of the UK's transition to a low carbon energy system and we have innovated in the areas of biomethane and hydrogen to demonstrate how important the gas network's role is in the future of heat.

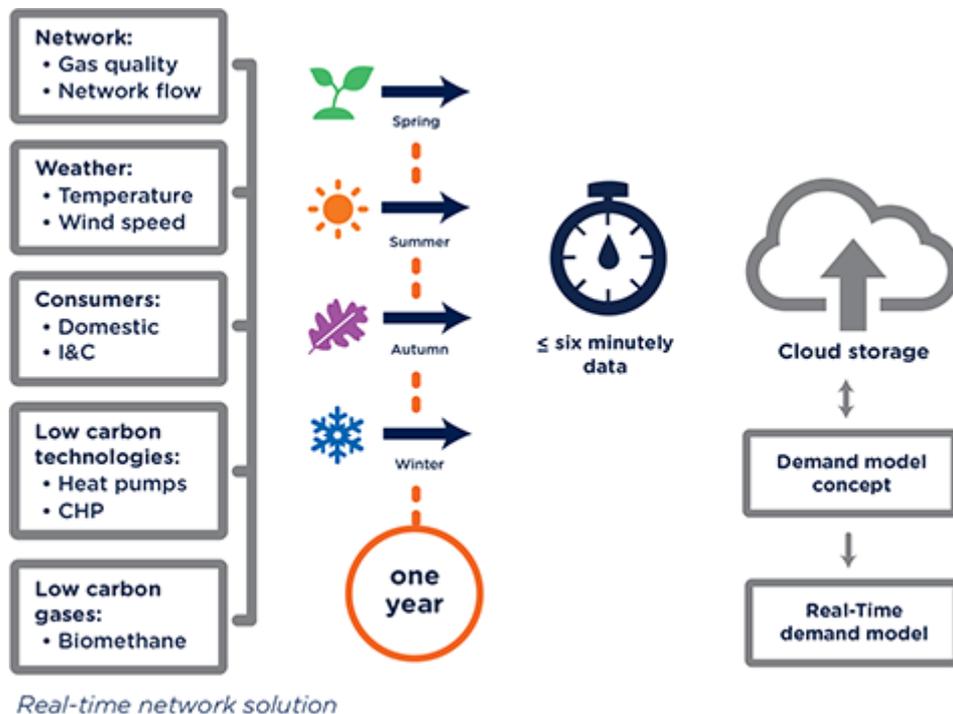
The call for evidence is clearly focused on the electricity system and we would like to draw the distinction with the broader energy system and the role of gas networks within this.

- *Catalysing Innovation.* We support the objectives of rolling-out innovation into business as usual. We would encourage recognition that the innovation priorities for electricity and gas vary substantially. Innovation in gas networks is focused on the introduction of new sources of gas onto the network whilst maintaining safety standards and the path to decarbonising heat.

The focus of innovation is less focused on delivering flexibility as responding to extremely rapid rates of change in energy delivery over the day, and managing very high ramp rates, is a physical characteristic of the gas network rather than objective that has to be economically incentivised.

As an example our Real-Time Networks project builds on our completed Opening up the Gas Market project (which shown us that varying qualities of gas can be used safely in our Oban gas network) and aims to demonstrate a flexible and intelligent gas network that will meet the needs of our rapidly changing gas industry and enhancing our network's ability to respond to new downstream renewable technologies and more efficiently deliver gas to our customers.

SGN Trial: Real Time Network Solution



- *Removing Policy and Regulatory Barriers.* The call for evidence focuses on regulatory barriers for storage and the role of aggregators in delivering flexibility.
 - For Storage. We would like to emphasise that there is a clear distinction in the application of short-term (within-day) storage in the electricity and the gas markets due to different physical characteristics of each energy vector. The solutions and proposals that are appropriate for one do not have immediate carry across to the other.

The challenge of delivering a commercially viable long-duration storage proposition has commonality in both markets and is important to address. This is primarily a question of market structure and making a project investable rather than technical innovation.
 - For aggregators. The objective of the call for evidence focuses on aggregator participation in delivering short term flexibility. This has limited overlap with the gas markets where short term flexibility is delivered through the physical characteristics of the network.
- *Providing price signals for Flexibility.* The call for evidence draws an important distinction between price and contractual flexibility. Whilst the pricing structure in the electricity market needs to be significantly more granular than their equivalents in the gas market, we support the principle of improving transparency surrounding the provision of flexibility in use patterns at times of system stress.
 - *Introducing Smart Tariffs.* Enabling new business models should clearly be encouraged, however, we would caution against any direct read across between the electricity and gas markets. Rather we need to keep in mind the physical characteristics of each market, how

these physical characteristics drive different economic drivers. It is important to ensure that market design promotes efficient and market relevant price signals.

- *Introducing Smart Distribution Tariffs.* We welcome OFGEM’s consideration of network charging arrangements and recognition that there can be points of conflict between desirable objectives.

For the design of distribution tariffs, it is also important to recognise the valuable insurance role that networks provide within a decentralised energy mix, particularly as customers deploy alternative sources of energy that reduces their overall use of networks. We would encourage OFGEM to think through how the insurance component of the network should be priced given its public good characteristics.

- *Smart Appliances.* We would encourage OFGEM to extend its thinking on smart appliances to gas as well as electric solutions. Thermal energy storage (ie when a home or hot-water tank is heated) provides one of the greatest points of flexibility in terms of time-of-day end user energy consumption. Enabling smart appliances that are enabled for flexibility for gas will deliver valuable forward preparation at a low incremental cost if implemented early.
- *Ultra Low Emission Vehicles.* We welcome OFGEMs recognition that the ultra-low emission vehicles market is comprised of both electricity and hydrogen. We believe at this early stage of the market, it is too early to advocate any single solution. Rather need to ensure that all options remain open and are able to find their appropriate market as the economics and commercial structure matures.
- *Consumer Engagement with DSR.* There is no direct comment.
- *Cyber Security.* The call for evidence is right to focus on domestic smart and industrial control systems as this often overlooked and breaches can be high profile and undermine consumer confidence. In terms of the impact of the risk however, cybersecurity on the network needs to remain a focal point. This is particularly important as we move towards a more distributed network and as competition in network provision and the number of actors with different objectives increases.
- *System and Network Operation.* We recognise that the drivers for system change that exist in the electricity network market do not currently exist gas network market. There are a number of areas identified in ‘potential future arrangements’ that may have parallels and it is important that information is shared so that consumer benefits can be maximised. Good examples of this include the implementation of innovative approaches for network planning such as the application of constraint management zones and testing non-build alternatives (pg 78).
- *Innovation.* We would encourage OFGEM to look more broadly for examples of Innovation. The Summary of Learning from the LCNF referred to on page 83, is focused almost entirely on electricity network innovation projects and as such it missed many examples of good practice that are available in the gas network innovation projects.

The areas identified by the consultation document for innovation support - Flexibility trading platforms, storage costs, and vehicle to grid demonstrations –are clearly areas of innovation. However, we would appreciate clarity on how the proposals presented here interact with existing funding mechanisms and priorities.

- *Overlap with EU Winter Package.* There is significant work being undertaken on implementing the EU Winter Package that builds on many of the issues highlighted in the flexibility call for evidence. The EU commission is also looking to bring legislation forward an equivalent package for the gas markets and we are concerned that EU commission may not have OFGEM's awareness regarding the different characteristics of the two energy systems.

We would encourage OFGEM to engage appropriately at the European levels to ensure that there is recognition that the two market operate differently due to their physical characteristics and that a direct read across of policy between the two may not be appropriate.

If you have any questions on the points raised please don't hesitate to contact me by email at david.handley@sgn.co.uk.

Kind regards

David Handley
Head of Regulation