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Dear Arun

**LCNF Fund - PATHS Project.**

Thank you for the opportunity to respond to questions on this innovative and exciting project. Scotia Gas Networks is fully supportive of the PATHS, Power to Gas, project and strongly believe it will demonstrate the technology and processes within the UK that will allow the conversion of renewable energy into hydrogen for use within other energy vectors. This can offer the following benefits to gas networks, gas consumers and the industry in general. These are similar to those offered to electricity networks and customers. They are as follows:

- The electrolyser will be used to produce hydrogen which can be used by gas Shippers as an alternative energy source to help meet customer demand and balance supply and demand on the system;
- The production of hydrogen introduces an alternative gas supply which helps enhance security of supply;
- The use of hydrogen as an alternative source of heat also helps green the gas and helps gas networks make the transition to a low carbon energy economy;
- The introduction of hydrogen helps SGN continue to meet customer expectations and environmental targets while securing the long term viability and efficient use of a well developed and valuable GB asset. Stakeholder engagement has indicated gas will continue to be the fuel of choice for most customers over the next decade and beyond;
- Hydrogen provides a cost effective alternative energy supply for customers and helps address customers' concerns about the transition to a low carbon energy sector as they will continue to be able to use existing appliances and will not have to finance alternative heating, cooking and hot water systems;
- The project will allow SGN to test and better understand the potential value and ability of an electrolyser to provide network services (similar to storage and demand side response) to help a GDN manage constraints on the gas distribution network and avoid the need for upstream investment. For instance, it will allow GDNs to better understand how an electrolyser could be positioned as an embedded entry point on the gas distribution network to enter gas closer to demand and make use of

spare capacity on the network and avoid upstream network constraints which would otherwise trigger investment on the Local Transmission System (LTS) and investment in associated Pressure Reduction Stations, District Governors etc

- The creation of embedded entry points closer to demand could also potentially deliver additional financial and environmental benefits e.g. reduction in operating costs associated with transporting the gas over shorter distances and reduction in gas lost or used in transportation.

It is important to recognise most of these benefits will potentially help reduce costs to current and future customers. As most benefits are similar for gas and electricity distribution networks and most customers are likely to be dual fuel customers, benefits should materialise across both energy bills.

In response to the direct question "**SGN's contribution is "subject to further application". Please clarify the expected source of SGN's contribution to the project**", we would highlight that there are a number of sources available where SGN would look to secure the appropriate funding. These include (but not exclusive to)

- the Fuel Cells and Hydrogen Joint Undertaking (FCH JU),
- the Technology Strategy Board
- the Network Innovation Allowance/Network Innovation Competition.

We believe the success of the PATHS Project will be a significant step forward to developing renewable, sustainable sources of energy that can be replicated across the UK, thereby benefitting all energy consumers into the future.

Yours sincerely,



**Paul Denniff**  
**Network Director**