Innovation Stimulus Open Letter:
Summary of responses

Introduction

On 12 October 2010 Ofgem published an Open Letter consultation on the Innovation Stimulus. This letter consulted on the following four questions and issues.

- What innovation might be required to facilitate a low carbon economy and securing supplies as efficiently as possible in each of gas distribution, gas transmission and electricity transmission sectors?
- Please give details of potential projects you consider could meet the objectives of the gas or electricity stimuli and the potential cost of these projects.
- How should the level of annual funding to facilitate innovation in each sector compare to the £64m available annually under the LCN Fund?
- What speculative investment should companies 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 speculative investment.

We received 26 responses to our Open letter from a range of stakeholders including technology companies, a consumer organisation, network companies, an energy supplier, trade bodies, universities and an independent party. Non-confidential responses are published on our website. Key points from these responses are summarised below.

Innovation required to facilitate a Low Carbon Economy

Electricity

Stakeholders felt that increases in renewable generation will present challenges requiring innovative solutions. For example, one trade body noted that encouraging active network management and a 'smart grid' is likely to facilitate further connection of renewable energy sources. Other parties noted that innovation may be needed to provide faster connection for renewable generation and that commercial arrangements could minimise network investment requirements or allow sharing of network reinforcement costs between parties.

A network company suggested that innovation will be needed to meet future demand-side management needs, potentially reducing network reinforcement requirements and maximising efficient use of distributed generation. Another network company noted that innovation will be required in transmission given that many renewables will be connected in locations remote from demand concentrations. A supplier noted that innovation to improve cost-reflectivity of Line Loss Factors and Distribution Use of System charges could improve network efficiency.

Gas

One network company highlighted that future pathways in the gas sector are more uncertain than in the electricity sector. Another noted that the Energy Networks Association Gas Futures Group 2050 scenarios suggest that both Carbon Capture and Storage (CCS) and bio-methane injection into the gas network will require significant investment. A number of stakeholders felt these issues would be disruptive for gas network companies and therefore require innovation. Their view is that innovation may be needed given the potential for the gas network to transport Carbon Dioxide (CO_2) for CCS and to accommodate injection of bio-methane onto the gas network. One gas network operator highlighted the potential for bio-methane use in transport and micro Combined Heat and Power (CHP) use in households.

Collaboration

The importance of collaboration in innovation was raised by a number of respondents. One network company emphasised this for transmission and distribution networks. Examples given include concurrent management of network constraints and in understanding effects on the transmission network of multiple concurrent distribution-level developments. Potential for innovative collaboration between electricity and gas network companies was also raised by a network company. CHP and dual fuel boilers were given as examples of technologies which may benefit from such collaborative innovation.

One stakeholder felt that large-scale demonstration projects may also benefit from collaboration, either to reduce financial burden on individual companies or diversify project risk. Similarly, a technology company felt that therefore a strong incentive to invest in end-to-end innovation should be implemented.

Scale of trials

One technology company emphasised the importance of 'city scale' trials to demonstrate technologies.

Scope of funding

Another technology company noted that support for innovation should be provided across the full Technology Readiness Level (TRL) spectrum, from 1 to 9, given that companies face challenges at each stage of the process.

Level of Innovation Stimulus funding

Several respondents referred to the level of funding available under the Low Carbon Networks Fund (LCNF) in their comments on funding for the Innovation Stimulus. Some stakeholders felt that the level of funding available from the LCNF is broadly appropriate for electricity distribution. One felt that Innovation Stimulus funding should use this amount as a benchmark. In contrast, a technology company noted that network innovation spending is low in comparison to telecommunications, advanced engineering and pharmaceuticals. Another network company noted that the level of funding should depend on availability of innovation funding in the business plan.

An electricity network company suggested three considerations which should be included in an assessment of total funding available for each network area. First, the area's role in delivering a low carbon future, second, projections of future investment required and third, the current size of the regulatory asset value. Further, a different network company noted that the level of funding should take into consideration the types of innovation project in each sector.

Flexibility

A majority of responses on funding were against an annual cap on funding, indicating that funding should be flexible from one year to the next to allow funding to reflect variation in the quality and quantity of applications year to year. A range of stakeholders expressed this view, including a technology company and some network companies. A consumer organisation explained that it is not concerned at this prospect. In contrast, one network company expressed preference for an annual funding cap to ensure consistency in the amount of innovation activity over the price control period.

Gas versus electricity

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A range of organisations commented on relative funding levels in gas and electricity. A gas network company noted that many issues faced by the gas industry are in their infancy, making it difficult to identify the scope for future innovation in gas. Another respondent noted that future pathways in electricity transmission are clearer. One university noted that transmission faced a particularly challenging future given the need to connect new offshore generation, reinforce transmission corridors and control the network as changes happen. One respondent noted that sectorally differentiated funding levels risks creating a sector bias.

Transmission versus distribution

Two distribution network companies indicated that distribution networks face the greatest future challenges, for example resulting from electric vehicle take up, electrification of heat and increasing distributed generation connection. One noted the complexity of such issues, for example if electric vehicle take up is geographically clustered. Another distribution network company has the view that although distribution network projects are likely to be smaller scale than transmission projects, there is a greater range of potential projects given the diversity of distribution networks and associated future challenges.

Other network companies indicated that transmission projects may require larger investments given their larger required scale. Another noted less potential for competition between transmission companies given the smaller number of eligible parties. One suggested that transmission projects may therefore be more suited to receiving funding every two years, rather than every one.

Innovation Stimulus funding profile

Several stakeholders commented on the profile of Innovation Stimulus funding over time. A network company believes the level of funding should reflect a likely natural decline in the level of innovation over time. Another noted that customers would benefit from front-loading funding to allow learning and its associated benefits to be realised earlier.

Example potential projects

Stakeholders identified a range of projects across the four network areas in each sector; gas transmission, gas distribution, electricity transmission and electricity distribution. These examples can be found in individual responses to our Open Letter available on the Ofgem website.

Business plan funding vs. Innovation Stimulus funding

One network company indicated that the business plan should be an opportunity to 'pitch' for ex ante funding for less risky projects, while medium-risk projects should fall into an Innovation Funding Incentive (IFI)-style mechanism and more risky projects should fall under the Innovation Stimulus.

A network company response expressed the view that projects which can be assessed on an individual project basis should be included within the business plan, while other network companies believe the Innovation Stimulus should be targeted at higher-risk projects. Another indicated that the Innovation Stimulus should fund projects where the up-front cost represents a significant barrier to investment and that projects in the business plan should be demonstrably commercially unviable on a Net Present Value (NPV) basis. However, this respondent also urged caution with reference to NPVs as a basis for project assessment and noted that benefits beyond the price control should also be considered.

One network company set out further potential criteria for including innovation projects in the business plan, including a requirement that projects present only incremental risk above business as usual or that investment is ahead of need but has a strong likelihood of

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successes and where the financial scale of a project is limited. A different network company suggested rollout should be included in the business plan rather than in the innovation stimulus, while another noted innovation can be risky even at rollout stage. Another noted that the extent to which more risky projects are included in the business plan depends on how risks associated with innovation are reflected in the price control.

Third Party Access

All stakeholders commenting on third party licences agreed that third parties should be encouraged to innovate and that collaboration was the best way to achieve this. A consumer organisation set out their view that some form of regulatory mechanism is required to ensure that third parties can benefit from Innovation Stimulus funding.

However, a significant majority of respondents argued that Ofgem should not introduce a third party licence. Stakeholders do not view such a licence as necessary to ensuring third party involvement. Some therefore expressed their view that the case for third party licences has not been sufficiently made. A range of network companies suggested there is no evidence to suggest that good ideas put forward by third parties are being rejected by network companies. One respondent questioned the case for the licence particularly in light of it being time-limited. An independent respondent indicated a view that Ofgem does not have the powers sufficient to create the new licensable activity as proposed and that trying to do so could lead to a Competition Commission Reference.

Network company respondents believed that network companies must participate actively in projects which involve trials on active networks, given that their outputs may be put at risk by projects of this type. Some felt that network companies should therefore always be lead partners in collaborative projects of this type. Further, they expressed concern about allowing third parties to have 'rights' to access their networks. Some others suggested that, should such 'rights' be granted, third parties should take full responsibility for risks to network outputs. Others noted that the LCNF provides evidence that network companies are open to working with third parties.

A number of network companies believe that there are simpler ways to include third parties. Some suggested that as an alternative to third party licensing, third parties could gain a 'right to appeal' to Ofgem, should network companies refuse to trial their innovations. Another agreed with this approach and noted that it would involve lower cost than creating a new licence. Furthermore, another noted that network companies may be best placed to identify the optimal location on the network for trials to take place, limiting learning from trials which did not involve network companies. In addition, a network company suggested that projects could be required to demonstrate how they have established collaboration between a range of parties potentially including the research community, suppliers, entrepreneurs and technology companies. Another noted that coordinated innovation best serves the interests of consumers.

One technology company believes that introducing direct funding for third parties through a third party licence would introduce direct competition between network companies and third parties. This would break the link between innovation and the end user, which this respondent considered to be essential. In their view, creating a third party licence would therefore increase barriers to deploying innovation.

The Innovation Funding Incentive

A considerable majority of stakeholders noted the importance of the IFI and urged Ofgem to continue the incentive in some form. These stakeholders include universities, technology companies and network companies. One network company argued for a three-tier approach including well-justified business plan, a regulated funding arrangement such as IFI and the innovation stimulus.

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Stakeholders mentioned a range of arguments for preserving the IFI as set out below. A number of different parties stressed the importance of flexible funding to address short-term business needs which can be unpredictable. They argued that ring fencing innovation funding through the IFI ensures that other short-term business needs do not crowd out Research and Development (R&D) spending.

Furthermore, a range of network companies set out perceived benefits of IFI beyond delivering low carbon networks and sustainability. Examples given include innovation to extend asset lives and to improve safety and reliability of the networks. A network company also highlighted that removing the IFI could restrict early-stage projects while another network company felt that doing so would restrict projects involving third parties such as universities. Another network company indicated the importance of IFI in ensuring support for innovation at all stages of the innovation cycle while one noted that the IFI has funded projects subsequently leading to latter-stage innovations and LCN Fund bids.

Respondents highlighted the importance of IFI-style funding to development of skills and knowledge within the industry, development of innovation supply chains for networks and dissemination of information to avoid wasteful project duplications.

One network company felt that IFI should be extended to 1% of allowed revenue given that 0.5% required significant prioritisation of potential projects, and should be targeted towards business-specific outputs as in the RIIO model. A university felt that IFI should be retained with specific ring fencing of R&D to prevent it being crowded out in IFI by spending at other stages of the innovation cycle.

Consideration of alternative funding sources

One network company suggested that a threshold should apply to consideration of alternative funding sources, £100,000 for example. This would help avoid inertia and complexity resulting from intermittent or unpredictable alternative sources of funding.

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