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RIIO Team

Network Price Controls

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RIIO-2 Sector Specific Consultation: Response to Consultation

We welcome the opportunity to respond to this consultation. Progressive Energy is an established independent UK clean energy company focusing on deployment of emergent technologies and associated project development and implementation. Our specialist areas include energy transformation relating to the gas networks, including the production, distribution and use of low carbon hydrogen, conversion of biomass resources to renewable gas using advanced conversion technologies, and a long track record of Carbon Capture and Storage developments as well as whole system solutions.

We have worked closely with the Gas Distribution Network operators over the last 10 years, with a particular focus on low carbon innovation. This has included collaboration on four Network Innovation Competition (NIC) applications with Cadent, Northern Gas Networks and Wales and West Utilities. We are also involved in various Network Innovation Allowance (NIA) projects, including whole systems projects, as well as BEIS, Innovate, DfT and private sector programmes to catalyse innovation and deployment of low carbon solutions

This response is focused on gas network related issues, responding to specific relevant consultation questions. We welcome the opportunity to discuss any of the points raised bilaterally.

Background

Climate change represents a serious and pressing threat to society. Failure to act has significant health, wellbeing and financial implications for the population, and de-facto, consumers. The energy networks have a key role in enabling a transition to low carbon solutions through delivering of energy from source to consumer.

Low carbon policy is a matter for government. However, energy networks and the regulatory regime which governs them are an important part of the delivery mechanism. This role spans from providing evidence to inform policy, catalysing innovation, demonstrating solutions and rolling out deployment. There is a strong track record of the RIIO-1 regime enabling this, with examples such as the HyDeploy programmes. Whilst disseminating findings related to HyDeploy, we have had feedback from international stakeholders 'enviously' endorsing the importance of the RIIO Innovation regime. Discussions with counterparties in other regulated sectors, such as water, indicate that OFGEM has been particularly successful in its approach to innovation, and provides a model to be replicated. It is important that the successes of the past inform the design of the future regime. It must also be recognised that energy transformation is not just about innovation but deployment, and so this upcoming RIIO-2 period will be critical in enabling the changes that must take place during the 2020's.



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Specific Question Responses

CSQ44: Do you agree with our proposals to encourage more innovation as BAU.

Broadly we agree that there are some types of innovation which are more closely linked to BAU. However, this isn't universally the case. It is also important that all innovation has a pathway to deployment.

The structure of innovation programmes should recognise the distinction between 'short-term consumer value' innovation and 'longer-term low carbon' innovation. Funding for both of these areas is important. The former is more likely to be characterized by cost savings and so has a business case that can justify activities as BAU early in the cycle. However, 'long-term low carbon' innovation is delivering value that is less likely to be justified economically on normal business cycles, and the beneficiary may not be the entity that is best placed to undertake the innovation.

Therefore, innovation funding should be primarily focused on facilitating a low-carbon developments in line with government policies designed to deliver carbon targets.

Innovation funding structure is an important element in the pathway from concept through deployment and ultimately BAU adoption, however a whole-chain approach has to be developed to ensure regulatory frameworks are suitably designed to transition innovation initiatives into BAU. This is addressed in more detail in response to GDQ31.

CSQ46: Do you agree with our proposals to introduce a new network innovation funding pot, in place of the Network innovation Competition that will have a sharper focus on the strategic energy system transition challenges?

We agree that this type of funding should have an even sharper focus on strategic energy system transition. Were a new funding system to be introduced for this type of innovation, it would be important to build on the learning from what has worked well under the RIIO-1 Regime. Maintaining the scope flexibility that has characterised the NIC is important compared with other constrained funding sources. The Expert Panel role is also important.

The NIC fund through RIIO-1 has provided a framework to deploy innovation, for example SGN's 'Opening up the gas markets' and Cadent and NGN's HyDeploy series. The scope, timescales, and regulatory changes associated with these programmes would not be commercially justified in a regulated (or even non-regulated) business. This is particularly the case where the ultimate beneficiary is not the network owner, but consumers more generally. This may be for example enabling lower cost or non-disruptive carbon savings, or avoiding burdens on other energy networks.

Valuable learning should be secured from the NIC to inform the structure and governance of the proposed Innovation Challenge Fund. Examples of this are:

- The flexibility and non-solution specific scope of the programme. Whilst we agree that focusing innovation towards energy transformation is absolutely right, we would have strong reservations about each call being too specific. Innovation is by definition creative, and the NIC programme is uniquely "open" compared with many other funding sources which are often very narrowly defined. It allows those best placed to understand what innovation is required and barriers that need to be overcome and then propose approaches for evaluation by an Expert Panel.



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- Expert Panel, which provides the necessary challenge and review of proposals to ensure the efficient and targeted deployment of funds. This is an important role going forward.

The objectives should be such that the regime provides a pathway to deployment and necessary infrastructure in line with government's low carbon policy. A holistic review of wider regulatory barriers should be taken in tandem to objective definition to ensure network regulatory structures and frameworks are aligned with the objectives of the fund.

CSQ48. Do you think there is a continued need for the NIA within RIIO-2? In consultation responses we would welcome information about what projects NIA may be used to fund, why these could not be funded through totex allowances and what the benefits of these projects would be

There is a continued need for the NIA. The focus should be on energy transformation.

As noted above, important areas of innovation which benefit the consumer may not have a commercial case, particular as related to carbon savings. To deliver the necessary Energy Transformation requires innovation activities at a range of scales. There are areas where NIA projects have value as stand-alone projects, but other cases where they act as enablers to evaluate concepts which can be developed in the wider NIC (or Innovation Challenge Fund) projects.

The scope of NIA should be focused to deliver on key policy innovation objectives to facilitate a low carbon economy. This would unlock further funds within the current framework to be redirected from innovation activities which could potentially be funded under BAU such as 'reliability and maintenance' initiatives to then be focused on the future of gas and facilitation of a low-carbon economy.

The governance and reporting structures of the NIA could be modified to provide a greater level of clarity on the outcomes of NIA projects, with respect to the defined objectives. As well as ensuring the learnings and outcomes are suitably distributed across GDNs and supporting supply chains to maximise the value of each NIA to ensure funds are allocated efficiently.

The funding structure of the current NIA promotes supply chain innovation drawing innovation up to the GDNs. A totex model would not yield the same result as the value of a well-executed totex programme fall primarily to the overseeing GDN, rather than incentivizing the supply chain to deliver innovation.

CSQ49. If we were to retain the NIA, what measures could be introduced to better track the benefits delivered.

The NIA programme deployed in RIIO-1 has promoted innovation across a wide range of topics and allowed GDNs to harness supply chain value and investment. Maximising the value to consumers through RIIO-2 of this programme could be achieved through modification to the defined scope and governance of the fund, instead of fundamental modification of the principles and incentive structures.

GDQ31: Do you agree with our proposed approaches to funding GDN activities over RIIO-CD2 related to heat decarbonisation

Broadly yes, as described below, but with some particular observations noted.



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Key elements in an innovation strategy are as follows:

Innovation genesis. The freedom to explore opportunities that deliver low carbon, customer focused solutions for heat. This requires flexible resource that can be used to undertake early evaluation and screening of innovative ideas, typically NIA funding. This is addressed in responses to CSQ48/49.

Evidence provision, typically through demonstration. Providing evidence to inform policy and provide industry confidence, particularly by enabling network-based demonstration activities, typically NIC (Innovation Challenge Fund) type projects. It is imperative that the GDNs have a key role in such network related programmes. These projects are typically an order of magnitude greater in cost. A good example of such project would be HyDeploy. This is meaningful scale demonstration, clearing regulatory barriers, delivering technical outcomes, engaging with customers on transformation and informing future policy. This is addressed in responses to CSQ46

Enabling Deployment. Demonstration projects, of the NIC scale of investments are necessary, but in many cases not themselves sufficient to unlock deployment, particularly first of a kind infrastructure projects. Enduring regimes may also not be put in place until early projects have operated over a number of years. Typically the costs of these projects are another order of magnitude higher. It is critical that the RIIO-2 regime is able to support the emergence of such projects. This is discussed further below.

Enabling of early deployment is a step beyond existing innovation, and requires that the business plans themselves can include provisions for establishment of new enduring assets. Importantly, given the nature of innovation and emerging policy, this must be flexible. It should include triggers to enable expected investment once uncertainty is sufficiently reduced, and also be able to respond to unforeseen new developments. There are some key principles and opportunities:

- It is expected it would be focused in enabling Energy Transformation
- Such assets would need to be 'no regrets' ie there would be standalone merit in establishing elements of early infrastructure, even it doesn't roll out further.
- The wider *regulatory* regime would also need to be able to handle and facilitate change. It is likely that energy transformation will require not only funding, but some managed changes to status quo from a regulatory perspective.
- Appropriate socialisation of costs associated with initial infrastructure, recognising that the value is likely to accrue beyond the local geography.

A good example would be early cluster projects such as HyNet. This project is designed to catalyse delivery of low-carbon heat in the first instance. It is based on the conditioning of natural gas to remove carbon, which is captured transported and sequestered, with the resultant fuel (hydrogen) distributed to industry for high blend applications and through the network as a 'HyDeploy blend at 20%vol which requires no change for the user or network operation. This project is designed to come on stream during the early to mid 2020s, and therefore firmly falls within RIIO-2. Taking elements of the project in turn:

- Some elements are clearly not in the scope of the RIIO-GD2, such as offshore CO₂ transport and storage, and changes to industrial end user appliances to accommodate high blends
- Some elements require no investment, such as domestic properties



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- Some elements are clearly RIIO-GD2 type investments, such as the hydrogen distribution system with associated injection equipment into the existing network. The early infrastructure for this would be required in the RIIO-2 timeframe and should sit in business plans, appropriately socialized, and may need some kind of trigger. Some other elements could also logically fall within RIIO-GD2 type investment, such as the gas conditioning plant which is removing CO₂. Arguably this is akin to other gas conditioning activities such as odourisation.

For those identified RIIO-GD2-type assets, there would inevitably be some regulatory changes as well as investment requirements. Some of these could be addressed through demonstration programmes, but it is likely that the regulator would need to be constructively and flexibly engaged to enable important developments to take place. This is not that different from the introduction of biomethane. Lessons should be learned from that process to improve continually to ensure barriers can be addressed efficiently where it is safe and prudent to do so.

More specifically, Observations on the mechanisms proposed in the document

- We agree that low and no regrets heat decarbonization projects should be able to be part of GDN's business plans.
- The concept of a Heat-policy Re-opener" uncertainty mechanism is a helpful suggestion. This would need to be structured carefully to ensure it isn't too blunt an instrument. This appears to envisage a single major step change in policy (eg a policy decision to promote conversion of grid to hydrogen). However, it is likely that across the range energy transformations that could take place more nuanced policy advancements or indeed other events could be appropriate triggers. For example HyNet would not need a major 100% conversion to hydrogen policy decision, but potentially decisions relating to CCUS, industrial strategy or indeed successful completion of HyDeploy. Potentially individual GDNs should be able to propose appropriate triggers for the development that they envisage.

However, broadly we agree that the kind of mechanism envisaged are likely to be important, and should be refined to ensure they are fit for purpose.

We trust these observations are helpful. We would be very open to discussing any of these issues further with you as required.

Yours sincerely

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