



St. Lawrence House
Station Approach
Horley, Surrey, RH6 9HJ

Victoria Low,
Head of DSO Governance,
Ofgem, 10 South Colonnade
Canary Wharf,
London, E14 4PU

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Dear Victoria,

Future Local Energy Institutions and Governance

Thank you for the opportunity to respond to your call for input on the future on local energy institutions and governance. SGN is a gas distribution network that transports gas to 5.9m customers in the southern and Scotland licence areas. Accordingly, we have a particular interest in the planning and eventual operation of any local energy institutions and governance frameworks.

A point that we would like to emphasise from the outset is that we believe that these institutions need to be developed with the whole energy system in mind. As it stands the objective of these local energy institutions is not clearly defined; we believe that it should be working with the FSO and customers to deliver net zero.

Given this objective of delivering net-zero, then it is our view that - as with the FSO - it is very important that the local energy institution should be fully independent of the individual network companies. This is because existing network companies are likely to have an established corporate view as to the most likely decarbonisation pathway that may be aligned to a broader corporate strategy.

Accordingly, we believe it is important that any institutions put in place are independent of existing corporate entities, that they have a duty of impartiality and base their advice and decision making on a transparent evidence base, reasoning and extensive customer engagement.

If the focus of the local energy institution is limited to supporting local electricity market services then independence is less important. However, it is important to recognise that the expertise needed to resolve challenges on a specific network is not the same knowledge and expertise necessary to provide a longer-term optimal net zero pathway. Accordingly, the objective needs to be defined and limited to electricity market services only.

The Local Energy Institution call for input identifies three cases for change - institutional gaps and accountability, assignment of roles and responsibilities, and the level of coordination at a subnational level. We believe there should be a fourth case which focuses on capacity and capability across stakeholders at the sub-national level, to engage in significant regional differences.

Of the different models, it is our view that only frameworks 3 and 4 provide the level of independence and strength of institutional structure which will allow the local energy institution to operate in an effective whole systems manner and deliver net zero. We believe that framework 3 will eventually be required, however, framework 4 could be sufficient in the short term.

We have responded to each of the questions below, if there are any questions then please let me know. We note that gas appears to be added into the document as an afterthought which is disappointing given the importance of gas networks in delivering net zero.

Best regards,

David Handley
Head of Regulation, SGN



1. Are the three energy system functions we outline (energy system planning, market facilitation of flexible resources and real-time operation of local energy networks) the ones we should be focusing on to address the energy system changes we outline?

We note that in the call for input the energy system changes identified (para 2.1 -2.5) are all focused on examples from electricity. It is disappointing that the implications of these for the gas networks and provision of heat have not been identified despite the significant customer impacts these changes will have.

The section on **'Energy System Planning'** does identify gas(es) and heat as a point that is 'in scope', however, it is unclear the extent to which this is in scope and whether the organisation will have the technical expertise and knowledge to consider gas(es) and heat in an appropriate manner. It is very important Energy System Planning does include gas(es) and heat as a part of the remit. However, it is also important that there is an appropriate assurance that gas(es) and heat will be considered in an impartial manner and resourced appropriately.

Of the institutions currently performing this function, we note the national gas transmission operator has not been identified. It's important to recognise their capacity booking arrangements are fundamental to the services that can be delivered at a local GDN level. The interaction between the transmission and the distribution for long term system planning is something which must be carefully considered, particularly as delivering the volumes of energy necessary for the decarbonising of heat is likely to require a large scale industrial production, strategic storage and connections to global hydrogen markets.

With **'Market Facilitation'**, we would like to emphasise the role of the gas networks as a part of the facilitation of flexible resources. Currently, a significant and increasing share of flexible capacity is provided by gas generators which are attached to the GDN. The rules that govern these generators, which provide energy to the electricity market, are not aligned with the rules that govern how they withdraw energy from the gas network. This is a serious and growing concern; markets developed in isolation without a full perspective of the entire energy system could create challenges in other parts of the network that may undermine service delivery.

Finally, with **'Real-time operation'** the importance of gas safety is mentioned, but we should emphasise the safety implications of poor gas network management and the direct safety consequences which can arise. If at the outset of any 'real-time operations' that will have implications for gas network operation, safety will always be the priority over operational service delivery. If the electricity network is looking for flexible gas generators to provide electricity network support services and flexibility on a real-time basis, then local energy institution needs to fully consider the ability of gas networks to provide the energy that will deliver that flexible response.

2. Do you agree with the criteria we have set out for assessing the effectiveness of institutional and governance arrangements?

It is our view the criteria should be extended to include **'Impartiality'**. This is important as the Local energy institution will have to take a view on the credibility of different technologies for delivering both the immediate service requirements but also the longer-term best outcome for customers.

3. Do you agree with our assessment of how far the current institutional arrangements are, or are not, well suited to deliver the three key energy system functions?

It is our view the current institutional arrangements with GDNs and DNOs with separate and clearly defined responsibilities for their respective networks can deliver the key energy system functions. We do work together and as a part of the RII0-2 Business planning process presented an agreed charter on how we would continue to work together.



However, we recognise as we move to specific decarbonisation pathways, whether that is a cross-over to hydrogen or electrification of heat, the challenges or coordination will increase and the consumer consequence of poor communication will be increased, however, we believe they can be managed.

We do not believe the DSO, as an institution in its current form is suited to deliver the **‘energy system planning’** or the **‘market facilitation’** extended across to involve gas(es) and heat networks. To do so would require a significant change in the approach and capability of current institutions.

We recognise many of the issues identified such as the requirement to have a range of technical skills and democratic mandate, and we agree that the technical skills often reside in the networks, whilst some local government institutions may face a challenge of resource constraints and associated skills constraints.

The call for input’s suggestion that DNO’s have the technical skill set for competence and credibility (para 3.9) needs to be caveated, they clearly have the competence and credibility for electricity networks, but we see no evidence that they have the competence for assessing the impact of actions on the gas networks.

The call for input also points to concerns regarding credibility challenges for DNOs with regard to their preference for a perceived preference to long-term asset upgrade over short-term flexibility deployment (para 3.10). Given the security of supply requirements to their customer and the long-term planning horizon to implement asset upgrades, we recognise the challenges that this can present and understand the confidence that can be placed in physical assets compared to more intangible and short-term flexibility deployments. Rather we would suggest that the credibility challenge is primarily one of DNOs’ ability to fully account for the role of other fuels without the appropriate level of expertise.

The call for input raises important points about accountability and the balance between local governments’ needs and priorities compared to the networks’ plan to deliver safety and reliability. We do not consider the two to be in contradiction, rather we consider the safe and reliable network to be the bedrock from which local government needs and priorities can be delivered.

This highlights the need to ensure that responsibility for decision making is aligned to the accountability of the institutions making those decisions and the strength of those institutions to make those decisions in an informed manner. If a decision is to take a less pathway which may reduce the reliability of the network then the decision-maker needs to have the right information on which to base that decision and to be accountable for it.

Given the customer implications of optimising between cost and reliability, it is also important that there is a strong and informed customer representation embedded within these institutions that are able to represent the concerns of the most vulnerable customers. The pathway to net-zero has to be defined according to customer acceptability and customer choice. It is disappointing that the role of the customer is not more clearly set out within the call for input on the local energy institutions.

It is also very important the local energy institution has the knowledge and understanding to assess the impacts on gas networks, as they may be responsible for delivering the energy into that location and ultimately providing a flexible service.

Finally, there is a significant concern that a lack of coordination between local and national plans could lead to mismatching assumptions, expectations, and a lack of accountability. This lack of accountability between national and local planning has the potential to cause a significant issue when a plan either can’t be delivered, the costs are significantly greater than originally anticipated, or results in an adverse consumer outcome that was not appropriately prepared for.

4. Overall, what do you consider the biggest blocker to the realisation of effective energy system planning and operation at sub-national level?

From our perspective, the biggest blocker is the lack of knowledge about the role of the gas networks in the delivery of energy, plus the impact of decisions being made on the electricity network potentially adversely affecting the gas network. It is important to keep in context that at times of peak demand gas networks



currently deliver approximately four times the energy currently delivered by electricity at peak demand and it delivers this through a carefully managed system.

5. Do you agree with the opportunities of change we outline and the potential benefits they may create?

We agree with the synergies identified with the following observations

- **Synergy 1 Market Facilitation and Planning (across functions);** it is important to recognise these functions also cross networks (GDNs and DNOs) and not just the traditional trade-offs between flexibility and network solutions. They also include alternative network solutions and storage solutions.
- **Synergy 2 Planning (within function);** it is very important to be clear on the remit of this function and the extent of the planning horizon being considered, as the representation will differ according to whether it is a short-term planning horizon (within-day) or long-term planning horizon (the next 5-10 years). The synergies exist in both, but the manner in which those synergies are realised will be very different.
- **Synergy 3 Planning and operation (across functions);** Whilst there are clearly benefits associated with learning from experience and implications for future decision making, it is not clear how there are significant synergies associated with this, rather there is a risk that historical knowledge may be lost in the creation of the local energy institution.
- **Synergy 4 Operation (within functions);** Again, whilst there are potential benefits, it is important that to realise these synergies there needs to be a sharing of knowledge and information across local energy institutions, to support commonality and consistency in decision making.
- **Synergy 5 Operation and market facilitation (across functions);** It is our view that decision around the design and operation of flexible markets and their impacts for all aspects of the energy system is one of the critical synergies that can be realised, this has to span local and national levels for both heat and electricity.

6. Are there additional opportunities for change and benefits that we have not set out?

We think that there are also Synergies with regards legislation. Both the FSO and the Local Energy Institute are likely to require a level of legislative definition if they are going to have the clear remit necessary to support the delivery of net zero. It is our view that combining both will support the clarity of the roles and responsibilities and the public scrutiny that legitimises their mandate.

7. We set out a number of risks associated with change. Do you agree with these risks and the potential costs they create? Are there additional risks of change and costs that have not been set out?

Whilst the call for input is correct in identifying the risk of change and the delay that this may introduce for decarbonisation, we should also be clear there is a substantial risk of not changing, of only undertaking incremental changes, and the risk of institutions being given responsibility for a commitment they do not have the competency, capability or the public mandate for.

We should also recognise that a decision of less change today, may not be sustainable in the longer term and that capability and requirements will be migrated over time without due consideration (scope creep) on the basis it is the easiest option. In hindsight, it may be that a short-term risk of delay resolves a longer term risk of poor delivery or higher costs to consumers due to poor decision making.



8. For each model, we have set out the key assumptions which need to be true for the model to offer the right solution. Which of these assumptions do you agree with?

Whilst we do not disagree with any of the assumptions, they need to be closely aligned to where the responsibility sits and there needs to be a clear line of sight between decision-maker and responsibility for any adverse impact arising from that decision.

If it is the gas networks' responsibility to ensure customers have the right pressure at the point of consumption to enable them to use the energy in a safe and efficient manner, then the role of the Gas network system operator must be fundamentally aligned with the operator of the gas network. If the system operator takes that responsibility, then it is appropriate that the functionality is aligned to the system operator and that the gas network follows the instructions provided by the system operator. It is our view that the same principle works with the electricity networks.

What we would disagree with is the responsibility for safety siting with the network and instructions that may impact that provision of safety arising elsewhere.

9. Out of the framework models we have developed which, if any, offer the most advantages compared to the status quo? If you believe there is another, better model please propose it.

It is our view that either Framework 3 or Framework 4 could be the most appropriate. However, it is important to be clear about the objective that is looking to be achieved and to have this clearly defined at the outset.

If the objective of the local energy institution is to support the delivery of net-zero at the local level, which we believe it should be, then it is our view that only Framework 3 and Framework 4 can deliver this. As it is only these two that have the level of independence and perspective across all forms of energy that can enable this to be delivered impartially and with appropriate customer representation.

It is our view that Framework 4 could be sufficient on a short to medium term basis, SGN has worked with networks in our areas through a Whole Systems Charter which sets out how GDNs, the DNOs and the ESO should work together. This was initiated in the RIIO-2 business planning process and a detailed Charter has been signed by the network operators and system operators in Scotland and a GB version has been signed by through the ENA. The charter supports Framework 4 has led to projects focusing on Dundee Energy Master Plan and the Joint Data Portals. It is our view that the Whole Systems Charter can be strengthened as a building block in Framework 4.

Framework 4 also provides an important structure through which the local assessments necessary to convert from natural gas to hydrogen can be co-ordinated and aligned at the early stages of development. However, as customers are being crossed over between gas and hydrogen or electricity then we believe that the greater level of integration that is set out in framework 3 will be required to deliver the transition effectively and appropriately.

If the objective of the local energy institution is limited to supporting local inputs into the electricity market, supporting the provision of flexible services to electricity and supporting the local balancing of the electricity market, then we believe that either Framework 1 or 2 could work, but consider Framework 2 to be more independent – which has a benefit in terms of how it is perceived, but risks a misalignment between decision making and accountability.

For Framework 2 whilst it provides the level of independence that we consider to be important, we are concerned with the statement around operation where the DNO would be responsible for maintaining network reliability and ensuring safety if the management of constraints and operations is being delivered by the IDSO. If this was applied to gas networks we would be concerned as we do not believe these two cannot be separated.

We consider Framework 4 as a more distributed system, with similarities to the current institutional



structures this may be sufficient in the near term, however as we progress towards net-zero we would be concerned that this would lack the capacity or accountability to deliver the important decisions needed to be taken as we transfer towards net zero. It is very important that the customer has an integrated role in the regional system planner.

It is our view that the ownership of the IDSO, or the Regional System Operator, should be independent of any of the networks. There must be impartiality across the organisation and they should have the capacity to evaluate decisions from a full whole system perspective, and that their focus should be appropriately allocated between long term strategic planning across all energy and the immediate and direct operational challenges.

In terms of Geography, this needs to be considered on the basis of inter-operability and ability to subdivide regions. We suspect that it may be easier for each geography to be defined by the gas network distribution zones (Local Distribution Zones) as these are broadly aligned with the offtakes from the national grid system, and we suspect there is less inter-operability between gas network zones than the electricity equivalents.

10. What do you consider to be the biggest implementation challenges we should focus on mitigating?

The most significant implementation challenge is fully scoping the roles and responsibilities so that it is appropriate for the end-state we want to deliver rather than the immediate short-term priorities. After this, it will be developing the skill capacity and resource within the institutions to enable them to function appropriately and manage their respective responsibilities for safety, customers and the environment.

11. Taking into account the varying degrees of separation of DSO roles from DNOs under framework model 1, do you consider there are additional measures we should consider implementing, in particular in the short term (e.g. changes in accountability etc)?

No immediate comment.

12. Are there other key changes taking place in the energy sector which we have not identified and should take account of?

No immediate comment.

13. What do you consider to be the most important interactions which should drive our project timelines?

It is very important this is progressed alongside the creation of the FSO, both will require legislation to enable them to deliver their role appropriately and effectively. It is our view that this is important to deliver a full separation between system operation and network.