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| ESB GT’s response to Ofgem Consultation: *Frameworks for Future Systems and Network Regulation* |
| **19/05/2023** |

1. Introduction

This submission presents ESB Generation and Trading’s (“ESB GT”) response to the Ofgem Consultation: ***Frameworks for Future Systems and Network Regulation***

ESB GT welcomes this opportunity to discuss this important topic. ESB’s portfolio in Great Britain includes a combined-cycle gas turbine plant in the northwest, offshore wind farm interests in Scotland, and a growing onshore wind presence. A central feature of ESB’s business is to deliver benefits to consumers by investing in the most efficient renewable assets, particularly offshore and onshore wind at locations where the wind resource is highest. Naturally, it is important for the rules to facilitate investments at locations where the energy yield is economically viable for these renewable assets.

By way of an introduction, ESB is Ireland’s foremost energy company, with around 7,000 employees. Established in 1927 by the Irish Government, and remaining 95% state owned, ESB created the first fully integrated electricity system in the world. ESB owns the transmission and distribution systems in Ireland and Northern Ireland. ESB have been present in Great Britain since market liberalisation and for 25 years has powered homes and businesses across the country, investing around £2 billion. ESB was one of the first IPPs in the UK with our investment in Corby Power Station (350 MW) in the early 1990’s.

ESB is supporting Britain’s transition to a low carbon future by investing in flexible and renewable generation assets, including combined-cycle gas turbine, wind, and biomass technologies. ESB opened Carrington Power Station (880 MW) in 2016, one of the most flexible and efficient plants in the market on the site of an old coal plant near Manchester. This was the first large-scale gas-fired station to come on stream in Great Britain since 2013. Carrington is owned by ESB’s 100% subsidiary Carrington Power Limited. ESB also owns 125 MW of onshore wind generation capacity (with over 1,400 MW in the development pipeline across the UK), a 7 MW battery storage project in Lincolnshire, and recently invested in the 353 MW Galloper offshore wind project.

1. Key Points
2. **A long-term, cross vector vision of the electricity and gas networks is a crucial factor in encouraging the necessary investment in GB infrastructure**. Increasingly, there is a clear view of what will need to be delivered by 2035 and 2050. Any plan should start with that vision, and work backwards to define the required regulatory regime and more local requirements. However, it is not clear from current published policies how this strategy will be achieved, which creates uncertainty about its practicability and for investors.
3. **Sensible and evidenced low regrets anticipatory investment of the transmission and distribution networks would be helpful to achieve required network enhancement within tight timescales and at the same time reduce costs to consumers.** Regulatory frameworks need to be much more agile than current processes allow, prioritising the accelerated delivery of a net zero grid which will form the backbone of our future energy security and decarbonisation ambitions. There is also a need to be proactive within anticipatory investment to ensure security of supply and the most economic cost transition for consumers.
4. **The role of the Future System Operator (FSO) will be key in delivering future network development plans.** How the FSO is incentivised to ensure its plans reflect what is realisable by the network operators is of crucial importance. The FSO also cannot be unfairly exposed to any failure to deliver by the network operators. We would like to see more clarity on what Ofgem, DESNZ and the ESO see as the functions, roles and responsibilities and governance structure of the FSO. It is important that these parties agree on what the FSO will be accountable and responsible for, and that this view is shared with industry. Stakeholders also need certainty that the FSO will have the adequate skills and knowledge so as to successfully implement the emerging roles.
5. **The use of incentive RIIO regulation has been successful in attracting low-cost investment into energy network companies.** This has resulted in lower costs of capital which has allowed these lower costs to be passed through to consumers. However, the RIIO framework has imposed an increased regulatory burden on both the network operators and Ofgem. Therefore, simplified approaches such as RPI-X could be attractive options going forwards.
6. **There is a trade-off between reduced complexity and delivering effective incentives.** In some cases, a detailed and complex approach to regulation may be the only way to ensure that consumers are protected, where effective outcomes are hard to measure and there is evidence that simpler incentives do not work.
7. **An ex-post monitoring regime, which is a key feature of the *Freedom and Accountability* Archetype, would potentially allow network companies more freedom in their investment choices.** This would allow them to pass costs through where they can demonstrate ex-post that their expenditure forms part of an agreed plan to achieve net zero objectives at low cost. However, the downside to an ex-post monitoring regime is the uncertainty caused by any ex-post penalties or disallowances which increases risk and therefore cost of capital.
8. **We agree that it may be appropriate to consider different regulatory approaches for the different stages of network development.** We agree that it is appropriate that replacement and BAU activities would be regulated using mechanisms from Archetype 2 *(Ex ante Incentive Regulation)*, whereas new investments and upgrades, which require a high degree of strategic planning, would be better delivered using a *Plan and Deliver* approach (Archetype 1). However, the RIIO-2 approach is well understood by industry participants, including the network operators. The introduction of any new regulatory frameworks is likely to cause some investment uncertainty and potentially an increase in costs of capital.
9. **The Gas Distribution and Gas Transmission price controls should be linked to the development of future hydrogen business models.** These are intrinsically linked and should be considered at the same time**.** It is impossible to evaluate the level of repurposing of the existing gas network without a view on future hydrogen uses. Future plans, and interlinking policies, for instance, the role of the Regional System Planners focuses heavily on Electricity Transmission and Electricity Distribution and there is a risk that future of gas/hydrogen is a secondary consideration that will have negative impacts on consumers.
10. **The timing of the gas and electricity price controls should mean that the Transmission controls should run on a staggered cycle to the Distribution controls.** This is more appropriate than synchronising all four controls to 2028, meaning a mini price control in Gas Transmission from 2026 to 2028. This would result in a short-term price control in Gas Distribution to 2028 to synchronise with Electricity Distribution, while Electricity Transmission and Gas Transmission maintain their existing cycles.
11. **If the wider regulatory framework and incentive mechanisms change, the approach to the financial framework may need to adapt to ensure it remains fit for purpose.** It will be important to ensure that investors maintain their confidence in the stability and predictability of the regulatory framework so that companies are able to retain access to capital and can keep their financing costs as low as possible. This will ensure that the infrastructure required to meet net zero targets will be delivered at the lowest overall cost to consumers and that incentives remain aligned with desired outcomes.
12. detailed responses

***Q.1. What should the role of the ‘consumer voice’ be and through what institutions and processes should it be channelled?***

It is important that the *“consumer voice”* should be heard in the operation and development of the energy markets as, ultimately, the costs are borne by the consumer. However, most consumers are unlikely to have a thorough understanding and/or an interest in the detail of how, for instance, the price control process works. Therefore, key intermediaries act on the consumers’ behalf: these include Suppliers; consumer groups and Ofgem itself.

Consumer groups, such as Citizens Advice, have a key role to play in representing domestic customers’ interests as individual domestic customers have very limited power to influence market developments. Increasingly, local authorities are taking more of an interest in energy-related matters as costs increase.

For industrial and commercial customers, there are well established industry groups who represent their interests. These groups tend to have experienced and knowledgeable staff who understand the energy markets and can provide well-critiqued input into calls for input and consultations.

Of course, overseeing all of this is Ofgem with its duty to safeguard consumer interests, ensuring security of supply at a fair cost.

***Q.2. How detailed could an independent, cross vector view become to determine future plans for periods beyond RIIO-2 and support effective use of the ‘Plan and Deliver’ model?***

We believe that sensible and evidenced low regrets anticipatory investment of the transmission and distribution networks would be helpful to achieve required network enhancement within tight timescales and at the same time reduce costs to consumers. Strategic investment in critical infrastructure can significantly help to reduce the UK’s carbon consumption and cost to consumers, by lowering the need to constrain off generation in the north of Scotland and turn up gas generators in the south of England, to meet demand when there are periods of high wind. At a distribution level, strategic investment can avoid costly disruption of repeated upgrades in step with the gradual increase in demand, or of retrofitting the network after demand has emerged. Regulatory frameworks need to be much more agile than current processes allow, prioritising the accelerated delivery of a net zero grid which will form the backbone of our future energy security and decarbonisation ambitions. The introduction *of Accelerated Strategic Investment Mechanisms*, where Ofgem had to step in and develop an alternative mechanism due to slow and low levels of investment, shows the need for anticipatory investment to enable safe connections to meet 2030 targets and alleviate system constraints.

We believe that a long-term, cross vector vision of the electricity and gas networks is a crucial factor in encouraging the necessary investment in GB infrastructure. Increasingly, there is a clear view of what will need to be delivered by 2035 and 2050. Any future plan should start with that vision, and work backwards to define the required regulatory regime and more local requirements. Having such a forward-looking plan would enable planning permission to be sought ahead of need for infrastructure projects. Establishing planning permission is relatively low cost and low regret, and if done in advance of investment decisions would de-risk projects, allowing a lower cost of capital. This could already be used in conjunction with the *Network Options Assessment (NOA)* process, which helps to establish the future infrastructure need.

The role of the Future System Operator (FSO) will be key in delivering future network development plans. We would like to see more clarity on what Ofgem, DESNZ and the ESO see as the functions, roles and responsibilities and governance structure of the FSO. It is important that these parties agree on what they FSO will be accountable and responsible for, and that this view is shared with industry. The development of the electricity, gas and hydrogen infrastructure are intrinsically tied in with the future of industrial hubs in Great Britain, as well as major infrastructure such as new nuclear power stations, offshore wind seabed leasing and consenting regimes and facilities for carbon capture and electrolysis. Many of these decisions can be made by government, in advance of the FSO being set up, and should enable the FSO to make clear decisions. It is important, therefore, that there is interim cross-vector planning while the FSO is being set-up: network development must not be delayed while the FSO is taking shape. There is also a potential issue if/when the FSO becomes heavily involved/integral to future price control models - this raises further questions about whether it will have the necessary skills/knowledge and also about the future role of Ofgem.

***Q.3. Under what circumstances would competition, or other procurement models such as open book contracting, have benefits over ex ante incentives as a cost control mechanism?***

There is currently a lack of clarity on the future governance structure for the industry. ESB would like to see more detail on the functions and governance structure of the FSO and how the Regional System Planners (RSPs) and existing network operators will fit into this overall structure**.** An effective governance structure should allow well-developed plans to be developed which give a clear specification for potential solutions. In the OFTO regime, unclear specifications have meant that competition has led to a lack of consistency in developed products, which leads to issues with harmonisation. To effectively develop competition in transmission and distribution networks, it is vital that the 132kV network is treated consistently across GB.

Competition is most effective where it leads to a reduction in costs and/or timescales for delivery. Competition may be less effective for small scale projects, instead, many of the same benefits could be delivered by clearer incentives on the network operators. For example, if DNOs and TOs faced some costs for non-delivery, with a balanced incentive that rewards earlier delivery and penalises late delivery against an agreed plan, they would be incentivised to speed up connections. It is notable that where there are contestable works, the connecting party will usually carry out the contestable works themselves because it’s generally the cheaper and quicker option. These clearer incentives could involve an element of ex-post monitoring, for example when customers experience significant delays in connection and/or poor communication from the network operator. We note and welcome that such monitoring is included in the *Accelerated Strategic Transmission Investment (ASTI)* framework. It will also be useful to learn lessons from the introduction of competition at the transmission level, which is due to begin in 2024 under the FSO.

***Q.4. What is your view on the options identified for simplification of incentive regulation? What would be the benefits and costs by comparison to the approaches used in RIIO-2?***

We agree with Ofgem that the use of incentive RIIO regulation has been successful in attracting low-cost investment into energy network companies. This has resulted in lower costs of capital than would otherwise have been the case and this has allowed these lower costs to be passed through to consumers. However, the RIIO framework has imposed an increased regulatory burden on both the network operators and Ofgem. Therefore, a simplified RPI-X approach could be an attractive option going forwards, as the current complex incentive regime requires a large amount of resource from the regulator. Simple output targets could be introduced such as a target on network operators to meet all reasonable requests for a connection offer with a set number of days.

However, there is a trade-off between reduced complexity and delivering effective incentives. In some cases, as noted in the consultation document: *“a detailed and complex approach to regulation may be the only way to ensure that consumers are protected, where effective outcomes are hard to measure and there is evidence that simpler incentives do not work*”.

It is important also, that simplified regulation in some areas does not lead to less focus on others. In turn, this could lead to a piecemeal regulation approach that increases the burden on Ofgem and licensees. In addition, if there is a possibility that the FSO directs future investment through network planning, which sets the amounts given to monopolies through future price controls, what is the role of Ofgem? How would Ofgem fulfil its duty to protect consumers?

***Q.5. What are the network activities where there would be benefits for a move to an ex- post monitoring regime, and what would be the associated costs?***

Modern theories of economic natural monopoly regulation have emphasised the problem of asymmetric information between the companies and the regulator, to address the requirements of what investment is required, how this investment can be delivered efficiently and how consumers can be assured that this is the case. What all the effective options for economic regulation have in common is to address this problem of asymmetric information, either upfront, or via incentives that lead information on actual costs being revealed by the companies. So, whatever option(s) for network regulation is/are chosen, this is the key question that must be addressed.

The benefits of an ex-post monitoring regime, which are a key feature of the ***Freedom and Accountability*** Archetype, are that it would potentially allow network companies more freedom in their investment choices. This would allow them to pass costs through where they can demonstrate ex-post that their expenditure forms part of an agreed plan to achieve net zero objectives at low cost. However, the downside to an ex-post monitoring regime is the uncertainty caused by any ex-post penalties or disallowances which increases risk and therefore cost of capital. An example of this is the case of the St. Fergus Gas Terminal where National Grid made investments in the 2010s that were then disallowed by Ofgem. This case damaged investor confidence and led to a greater regulatory burden for the regulator.

We note that RIIO-2 already includes some targeted use of all three archetypes described in the consultation document, and the expectation that effective future network regulation will increasingly need to consider a combination of these archetypes. We also note that Ofgem suggests that an ex-post monitoring regime could be an interim model in advance of a *“Plan and Deliver”* model. We would caution that having three different models in a short space of time would be highly complex and may increase uncertainty and hence risk.

There is, also, uncertainty around the timings of when an ex-post monitoring regime could be implemented, especially aligned to FSNR - there is a risk that any strategic plan is rushed to align to future price controls which is a key concern due to FSO’s lack of experience in this sector. In addition, CSNP will take about 3 years for policy development, and it will take two years for the FSO to develop the physical output. Regional plans are more complex, with greater energy vectors and stakeholders, so there is a risk of a poor output, negatively impacting stakeholders

***Q.6. What are the benefits and costs of this approach for Electricity Transmission by comparison to an evolution of the approach in RIIO-2, and what are the implementation barriers?***

The new approach to Electricity Transmission (ET) network regulation envisages a combination approach, using the *Plan and Deliver (Archetype 1)* and the *Ex-ante Incentive Regulation (Archetype 2)* for the different stages of network investment. The amount of investment in new ET network build that is envisaged will require strong strategic planning to ensure that appropriate development takes place in the required timescales. There are likely to be delays in delivering sufficient network development in time and in the right place to meet need. This strategic planning needs to be starting now and we are concerned that they may be a hiatus while the FSO gets up to speed. DESNZ may have to step into the gap to ensure effective delivery to build on the ESO’s Holistic Network Design, that has informed Ofgem’s decision to accelerate the reviews of £20 billion of new network investment under the Accelerated Strategic Transmission Investment (ASTI) programme.

On an ongoing basis, ESB agrees that the FSO should carry out the strategic planning function, with close interaction with the network operators, who have expertise and knowledge of their assets, and engagement with Ofgem and industry participants. Ofgem would have a key role in scrutinising long-term network development plans, to ensure timely and cost-efficient delivery of infrastructure. The strategic planning carried out by the FSO also needs to take into account the decisions on reinforcement versus new build - these are presented as mutually exclusive in Figure 5 (page 39 of the consultation document) but under many circumstances will be competing options. This detailed planning decision should involve the FSO and the licensees.

Strategic planning will be key to delivering anticipatory investment. We suggest that any change to price controls should be with the intention of delivering infrastructure more quickly. We agree broadly with the regulatory approaches suggested in Figure 5 for the different stages of network development. We agree that it is appropriate that replacement and BAU activities would be regulated using mechanisms from Archetype 2 *(Ex ante Incentive Regulation)*, whereas new investments and upgrades, which require a high degree of strategic planning, would be better delivered using a *Plan and Deliver* approach (Archetype 1).

The benefits of the suggested approach for ET, compared to an evolution of the RIIO-2 approach, are that more tailored frameworks will be used for different stages of network development – this should allow better allocation of investment in the light of the need to deliver significant new amounts of network capacity, and hopefully easier monitoring of delivery outcomes. On the downside, the RIIO-2 approach is well understood by industry participants, including the network operators. The introduction of any new regulatory frameworks is likely to cause some investment uncertainty and potentially an increase in costs of capital. We are not, however, in a position to say what the cost implications may be – the network operators are obviously better-placed to make this assessment.

***Q.7. What is the potential for Electricity Distribution planning and commissioning to move to an alternative model by the end of RIIO-2, and what might be the benefits and costs of doing so?***

The two ongoing Ofgem consultations on local institutions and governance[[1]](#footnote-2) and distributed flexibility[[2]](#footnote-3) will have implications for the future of the distribution network. It is difficult, therefore, to answer this question in the absence of the decision on the governance arrangements for the distribution networks. However, we believe that sensible and evidenced low regrets anticipatory investment of the transmission and distribution networks would be helpful to achieve required network enhancement within tight timescales and at the same time reduce costs to consumers. At a distribution level, strategic investment can avoid costly disruption of repeated upgrades in step with the gradual increase in demand, or of retrofitting the network after demand has emerged. Regulatory frameworks need to be much more agile than current processes allow, prioritising the accelerated delivery of a net zero grid which will form the backbone of our future energy security and decarbonisation ambitions.

We agree that distribution planning is likely to be much more disrupted by flexibility and storage options, and innovation may play a much bigger role than in ET and it will be important for the regulatory model to allow new entrants to propose new solutions. The boundaries of these solutions may not be obvious to the new planning institutions. Access to temporal and locational data will be key to realise opportunities for optimised system planning and operation and the development of innovative solutions.

We agree that it is hard to ascertain whether, at this early stage of the development of a Regional Planning model, the ED model can use Archetype 1: *Plan and Deliver* in the way suggested for ET. We note that some of the options for change, linked to Ofgem’s consultation on the Regional System Planner, will require a long lead-time to implement. In addition, as the FSO has no skills and experience of the distribution network, it is difficult to ascertain how it could become system planner to ensure effective price controls within this timeframe. While we note the positive benefits of taking a strategic approach, we believe that there is currently a lack of underlying policy thinking and this reduces confidence that plans will be practicable and will result in effective outputs for stakeholders and consumers.

We would need to see more information on how Archetype 1 could work for the ED. However, we believe that it is essential that the development of the distribution network is coordinated with the transmission network. It will be impossible to efficiently develop the transmission system without a view of the distribution network, so detailed planning at both levels is necessary.

***Q.8. What is your view on the most effective approach to regulation of Gas Distribution and Transmission beyond RIIO-2? What would be the benefits and costs of moving to a simpler approach to regulation of the ongoing costs of operating and maintaining the network?***

The two large-scale uncertainties hanging over the gas sector: what scale and type of hydrogen conversion[[3]](#footnote-4) should be planned for; and what heating decarbonisation solutions are envisaged on what timetable will dictate the timing of the GD and GT price controls. We believe that the GD and GT price controls should be linked to the development of future hydrogen business models as we believe that these are intrinsically linked and should be considered at the same time. It is impossible to evaluate the level of repurposing of the existing gas network without a view on future hydrogen uses. We believe that this is more important than aligning the gas and electricity price controls in the short term, where there is less interdependence, although we understand the rationale for bringing all the transmission price controls onto the same timetable eventually although this would potentially create a large regulatory burden. On balance, we agree that *Option b)* where the Transmission controls would run on a staggered cycle to the Distribution controls would be more appropriate. This would mean a short-term price control in GD to 2028 to synchronise with ED, while ET and GT maintain their existing cycles.

The gas market faces different challenges to electricity. Gas infrastructure will not be growing in the same way as that in electricity and gas network operators will face different investment challenges. This will include a phased reduction in network usage but with some repurposing for hydrogen. Until the extent of this re-purposing is known, it is difficult to say precisely what would be the best price control framework, although *Archetype 2: Ex ante Incentive Regulation* would seem to be the most appropriate option as Ofgem’s preliminary modelling suggests that 90% of RIIO-GD2/RIIO-GT2 spending will be on Replacement/BAU activities. Longer term this will change as more decommissioning and/or repurposing of the gas network occurs – a *Plan and Deliver* (Archetype 1) framework would be more appropriate. Once again, we are not in a position to say what the cost implications may be – the network operators are obviously better-placed to make this assessment.

***Q.9. Should there be a shorter-term price control in gas distribution and/or gas transmission, and how could this work in practice?***

As per our answer to Q8, we agree that *Option b)* where the Transmission controls would run on a staggered cycle to the Distribution controls would be more appropriate than the alternative of Option a) where all four controls could be synchronised to 2028, meaning a mini price control in Gas Transmission from 2026 to 2028. This would mean a short-term price control in GD to 2028 to synchronise with ED, while ET and GT maintain their existing cycles. We agree that, as the BAU operation of networks is a relatively static problem, a simplified roll-forward would be appropriate for the period 2026-28 as this would address many of the objectives of a more intensive review.

***Q.10. Would there need to be any changes to maintain a stable and consistent financial framework if we were to make greater use of different regulatory archetypes, and if so, what would those changes need to be?***

We agree that, If the wider regulatory framework and incentive mechanisms change, the approach to the financial framework may need to adapt to ensure it remains fit for purpose. There may well be different levels of risk for investors associated with significant and accelerated investment programmes, possibly leading to a requirement to vary the cost of capital allowance according to the type of investment programme or asset. It will be important to ensure that investors maintain their confidence in the stability and predictability of the regulatory framework so that companies are able to retain access to capital and can keep their financing costs as low as possible. This will ensure that the infrastructure required to meet net zero targets will be delivered at the lowest overall cost to consumers and that incentives remain aligned with desired outcomes.

It is unclear exactly what the changes would need to be to maintain a stable and consistent financial framework if greater use of different regulatory archetypes was made. An important factor will be clear communication with investors, network operators and other stakeholders to explore what changes may need to be made to cost of capital and financeability. For instance: would different equity betas be appropriate to reflect the change in risk profiles of the required investment?

***Q.11. Do you have any views on our proposed analytical approach?***

We support the proposed analytical approach in Section 5 of the consultation document. We believe that it is appropriate before deciding on the future regulatory framework, to assess the options, as they might apply to each of the sectors, against a counterfactual. We agree that the RIIO-2 approach would be the most appropriate counterfactual, assuming incremental change. We support the use of an impact assessment, based on Ofgem’s consumer interest framework (as described in Figure 7) for assessing the key decisions and the trade-offs involved, including the impacts on direct benefits and costs which may be passed through to consumers.

We believe that is important to also consider indirect and uncertain costs and benefits, how changes in the incentive framework may lead to changes in network company behaviour, which could either increase or decrease the expected costs passed to consumers. It is also important to consider if and how such changes might influence the broader quality of service provided to consumers, and to come to a view of whether, taken together, there is a case for a move away from aspects of the RIIO-2 approach.

1. *The Future of Local Energy Institutions and Governance*; Ofgem – March 2023 [↑](#footnote-ref-2)
2. The Future of Distributed Flexibility; Ofgem – March 2023 [↑](#footnote-ref-3)
3. There is a fundamental question of where the hydrogen will be produced: close to the customer or close to the generation/natural gas resource. This needs to be addressed. [↑](#footnote-ref-4)