Energy for generations

ESB Generation & Trading's response to CRUs Review of LEU Connection Policy

15/01/2024

1. EXECUTIVE SUMMARY

The key points from this submission are:

- The underlying policy by which LEUs connect into the Irish energy networks should be designed in a way in which they benefit the customer, the system, and the economy collectively.

- ESB GT believes that an approach to connection policy which places an emphasis on optionality and choice, and steered by incentives would be favourable to both the market participants and the system. We look forward to engaging with the CRU on the incentives that the CRU might consider appropriate to achieve this goal, whether that be through changes to use of system (UoS) charges or another mechanism.

- The landscape in the Irish electricity system is changing rapidly and policy needs not only to keep up with that change but anticipate it and be ready to adapt to it. LEUs are one such example of this rapid change and, therefore, this connection policy needs to adapt accordingly. We believe that whilst a sense of urgency is important in keeping up with the rate of change, LEUs should not be subject to sudden changes, but rather be given clear and achievable targets to aim for to allow them to adapt and change over a realistic timeframe.

- Influencing the geographical distribution of LEUs and encouraging organisation and optimisation between users has the potential to be an important aspect in managing these large connections in order that the network can handle their demands and continued growth. ESB GT looks forward to seeing the CRUs proposals for how to deal with these issues, either by providing appropriate signals to encourage LEUs to locate close to renewable generation or other.

- We believe that LEUs should have optionality in whether they choose to generate their own renewable energy on-site or connect into an existing or purpose built coordinated renewable generation project(s). With this in mind, the connection policy should avoid creating a landscape where independent on-site generation is encouraged or mandated where it is less efficient to do so and has the potential to create unintended consequences.

  ESB GT believes that the safe and efficient development and operation of Ireland's electricity system is paramount, and this should be done in the interest of all customers and in the national interest of achieving full decarbonisation. ESB GT recognises the potential benefit of providing appropriate signals to new LEUs to locate close to areas of renewable generation, including the reduction in the need for network reinforcement and a reduction in the level of constraints for renewable generation.

- Energy parks or 'Hubs' are potential measures to facilitate the connection of LEUs closer to renewable generation and offer the opportunity of a clustered approach to development i.e., renewable generation, hydrogen production/storage, renewable dispatchable generation and demand. If energy hubs are to be developed it is important that the standards of infrastructure are appropriate and meet current international transmission and distribution standards. The related regulatory framework would need to create the appropriate balance between facilitating competition, reaching climate ambitions, and ensuring appropriate standards are in place to protect consumers. In the development of a regulatory regime for such hubs care would be required to ensure that appropriate safety standards are applied, with an approach modelled on the existing process for contestable connections possibly applied.

2. DETAILED RESPONSES TO QUESTIONS 1-54

Category of LEU to which this policy applies.

1. Comments are invited from interested parties on the categories of LEU in electricity and gas to which this policy should apply (e.g., for electricity is DG10, DTS-T is appropriate, should DG6-DG9 be included, should the definition focus on capacity or usage, should a combination of criteria be applied?).

We think that it would be appropriate for this policy to apply to TCON and DG10 customers in the first instance. Whilst TCON will probably make up a significant proportion of LEUs, DG10 consumers are generally still large users and to not include them in this policy we think would limit its impact. We don't, however, think that for now it would be worthwhile extending the policy down below DG10.

2. Please provide views on whether this proposed policy should apply to capture smaller LEUs in due course, and if so which categories of LEU and on what timeline should this occur. Please provide rationale for any views shared.

No Comment

Transition Period

3. Comments are invited from interested parties on the proposed use of a transition period/glide path in relation to (i) the changing requirements at time of connection on the transition to zero real time emissions, and (ii) once connected, the changing requirements as the project transitions closer to real time zero e.g., from non-firm connection to firm connection linked to milestones.

We support the adoption of an appropriate transition period for LEUs under this policy. For many LEUs, achieving instantaneous zero real-time emissions at connection would be unachievable whereas achieving this over a considered transition period would be. Rather than placing barriers in the way of LEUs, policy should create an environment where LEUs are able to adapt to the end goal of zero real-time emissions.

4. Please provide views on the proposed timing of different options.

No Comment

5. Should optionality be maintained in allowing a menu of different options to prospective LEUs with end net-zero emissions target becoming more binding as the glide-path advances?

LEUs will have different constraints on their ability to adapt and these should be considered when setting a transition period. Presenting LEUs with optionality will be desirable in enabling a smooth transition to zero real-time emissions. As part of this optionality, it will be important to ensure that the system is tight to prevent misuse of the policy.

6. Comments are invited on how compliance and enforcement with required provisions can be effectively implemented in the operation of a transition period/glide path approach.

Having a rigorous and fair process to ensure compliance will be important. We welcome the CRU introducing a compliance and enforcement mechanism which minimises the requirement for supplier involvement in this process.

Measuring Performance

7. Comments are invited on the approaches used to account for net zero emissions. This could include timestamped GOs or renewable certificates. Please provide reasons and rationale for any views provided.

No comment

8. Should the end target/goal be real time zero emissions? Do respondents have other suggestions as to how this can be demonstrated? Please provide reasons and rationale for any views provided.

No comment

9. Comments are invited on the use of a glide path to implement the basis on which net zero emissions are determined. This could entail starting with measuring net zero performance on an annual basis and moving closer to more real time arrangements in incremental steps.

The use of a glide path to establish the basis on which net zero emissions are determined will be essential, as many LEUs will be unable to comply in the beginning but will be able to adapt over time to meet the final goal of net zero emissions. A glide path would make it fairer across the board, and more accommodating to those LEUs which will find the transition inherently more challenging.

10. Comments are invited on the use of self-reporting based on best available data/methodology and transitioning to a more robust formal framework over time when it becomes available.

No comment

11. Comments are invited on the requirement for indigenous sources of renewable energy e.g., renewable electricity feeding into the Irish system and for gas secure sufficient renewable gas credits feeding into Irish system.

No comment

12. Comments are invited on how the storage of renewable energy is captured by any measurement system when this stored renewable energy is used.

No comment

13. Comments are invited on whether the electricity and gas measuring and tracking systems should be integrated to help avoid double counting? If so, how might this be achieved?

No comment

14. Comments are invited on who should have responsibility for measuring LEUs emissions and emissions abatement performance?

No comment

Location of LEUs

15. Should new LEUs be located close to areas of renewable generation and/or storage or within energy parks? Please provide reasons and rationale for any views provided.

ESB GT believes that the safe and efficient development and operation of Ireland's electricity system is paramount, and this should be done in the interest of all customers and in the national interest of achieving full decarbonisation. ESB GT recognises the potential benefit of providing appropriate signals to new LEUs to locate close to areas of renewable generation, including the reduction in the need for network reinforcement and a reduction in the level of constraints for renewable generation. There is potential benefit to a review of the use of system charging methodology to structure an incentive encouraging LEUs to locate close to renewable generation.

Energy parks or 'Hubs' are potential measures to facilitate the connection of LEUs closer to renewable generation and offer the opportunity of a clustered approach to development i.e., renewable generation, hydrogen production/storage, renewable dispatchable generation and demand. If energy hubs are to be developed it is important that the standards of infrastructure are appropriate and meet current international transmission and distribution standards, whilst also taking a flexible approach which would enable the potential benefits to be realised. The related regulatory framework would need to create the appropriate balance between facilitating competition, reaching climate ambitions, and ensuring appropriate standards are in place to protect consumers. In the development of a regulatory regime for such hubs, care would be required to ensure that appropriate safety standards are applied, with an approach modelled on the existing process for contestable connections possibly applied.

In a recent response to the Future Framework consultation, ESB GT have advocated that these 'hubs' be located in proximity to Offshore Designated Maritime Area Plans (DMAPs). This will allow project developers to underpin a route to market for the significant offshore renewable opportunity that Ireland is planning to develop by 2040/2050. Hubs could be considered for industrial maritime areas such as Cork Harbour or Shannon Estuary. This would remove pressure on Dublin as a key location for LEUs.

Given that these proposed hubs will likely be connected to offshore wind farms, a recommendation on proximity between LEUs and renewable generation should be considered on a case-by-case bases rather than set as a definitive requirement. Furthermore, in order, to facilitate efficient development of hubs in the long-term, a holistic planning approach for offshore and onshore development should be considered as well as opportunities to facilitate Renewable Accelerated Areas as per RED III (Renewable Energy Directive as amended (EU) 2023/2413).

16. What type of measures to facilitate this approach could be introduced to encourage new LEUs to locate close to renewable generation.

Please see response to question 15.

17. Should there be any exemptions to locational requirements for certain LEUs? How could this be assessed? If so what type of connection conditions/requirements might these require?

Please see response to question 15.

18. Comments are invited from interested parties on the level of proximity between LEUs and renewable generation? How should this be measured? Should this value apply across the board or be determined on a case-by-case basis?

Please see response to question 15.

19. If locational requirements are introduced, there is a need for better integrated planning of the network, generation, and demand. What are the roles of the System Operators and enterprise agencies in supporting/facilitating this?

No comment

20. If introduced on a mandatory basis should locational requirements be implemented using a glide path?

ESB GT believes that the approach to connection policy should emphasise optionality and choice and be steered by incentives. This would be favourable to both the market participants and the network, as such, the application of mandatory measure should be minimised.

Non-firm Demand Connections

21. Should non-firm LEU connections be introduced? If so, should these non-firm connections be made on an enduring basis? Please provide reasons and rationale for any views provided.

Non-firm demand connections have the potential to unlock significant flexibility on both the gas and electricity system from new and existing connections. Whilst flexibility will be an important feature of the future energy system, non-firm connections may not be appropriate for all LEUs depending on their underlying process or economics. Making the use of a non-firm connections voluntary and utilising incentives to encourage adoption would be the preferred method for this.

22. If non-firm LEU connections are implemented on a temporary/non-enduring basis what should trigger these connections being made firm? e.g., date(s) specified upfront, linked to certain requirements. Please provide reasons and rationale for any views provided.

Requiring an LEU to commit to their connection being non-firm for an uncertain period of time will risk exposing the LEU to significant uncertainty. Where non-firm connections are used, LEUs should be given clear guidance on how the status of their connection will change over time to promote certainty for LEUs.

23. If non-firm LEU connections are mandatory in certain parts of the system, should there be any exemptions for certain LEUs? If so what type of connection conditions/requirements might these require?

See response to question 21.

24. Comments are invited regarding the proportion of the LEU demand that would be connected on a non-firm basis. For example, would a non-firm connection apply to 100% of the connection, or would it apply to smaller portion than this?

No comment

25. Comments are invited regarding what incentives could be applied to facilitate non-firm LEU connections. Should these incentives recognise the potential locational value of these?

Lower connection costs and faster connection timelines could be used to incentivise uptake of non-firm connections. Beyond this, potentially reductions in UoS charges to reflect the LEUs reduced impact on the network could be considered. Careful consideration would be required to the parameterisation of the non-firmness of a LEU, e.g., the maximum duration which a LEU would be instructed by a system operator to reduce their load.

26. How should the SOs deploy this flexibility provided by non-firm demand?

No comment

27. Should non-firm/flexible electrical connections be provided to islanded LEUs in order to facilitate flexibility between the electrical and gas systems?

ESB GT believes that careful consideration of the interactions between the electricity and gas system in any changes to LEU connection policy must be taken to avoid the potential for unintended or spillover effects.

On-site Generation and Storage

28. Comments are invited on the use of renewable generation and storage on-site. Should this be used to match LEUs demand on-site or to provide flexibility services to the system? Please provide reasons and rationale for any views provided.

The use of on-site renewable generation and storage should remain a commercial decision for the individual LEU as not all LEUs will have the potential to develop generation and storage on-site and it may not even be economically responsible for them to do so. In these instances, appropriate commercial structures could be applied to allow new LEUs to contract with renewable generation and storage providers.

Renewable energy in this context as it relates to LEUs would best be used to reduce demand on the electricity system, rather than be required to match demand.

29. Should the use of on-site dispatchable generation using only renewable fuels have limited run hours, to reflect limited availability of an indigenous renewable fuel? Please provide reasons for any views provided.

ESB GT believes that if the use of on-site dispatchable generation using only renewable fuels were to be proposed to be an aspect of the LEU connection policy, consideration would need to be given to the

environmental impact of transporting these fuels. It is also important to consider the impact on local air quality.

30. Do LEUs require back-up generation for operational reasons? If so, what is the typical annual running hours of this back-up generation?

No comment

Demand Flexibility

31. What should demand flexibility services provided by new LEUs be used for, system support, decarbonisation, or both? Please provide reasons and rationale for any views provided.

ESB GT believes that the framework for procurement of any system support should reveal the value of the flexibility being provided to allow the market to efficiently allocate capacity between system support and decarbonisation. This should not result in increased pressure on the network and where there are network constraints, careful consideration is required to ensure appropriate integration into the procurement of flexibility service. We see both system support and decarbonisation as valid flexibility services for LEUs to provide. It is important, however, to consider that certain LEUs might be better suited to one or the other and that the system should be sympathetic to this to avoid deterring investment.

32. Should demand flexibility services be mandatory or voluntary for new LEUs? Please provide reasons and rationale for any views provided.

Whilst enabling demand side flexibility will likely be a key feature of the future grid, we would not like to see this made to be a mandatory service for LEUs to provide. LEUs with a firm connection should not be mandated to provide flexibility as this would be a significant distortion of the market for flexibility services, rather efforts should centre on ensuring there are no barriers limiting the ability of LEUs to participate in the market on an equal footing to other market participants. LEUs should be given the option to volunteer to provide demand side flexibility and be incentivised to do so.

33. Should LEU connections in certain parts of the network be required to provide demand flexibility services? Is this measure justified?

LEUs should be incentivised to locate in areas that can accommodate their demand. Where LEUs choose to locate out with these areas, it might be suitable to require flexibility services. However, there is a need to balance the requirement for flexibility from LEUs with the principal of third-party access to the system. ESB GT is concerned that if mandatory flexibility were to be required from LEUs it may act as a de-facto moratorium on connection of some types of LEUs in parts of the system with negative implications for the economic development of those areas. On this basis ESB GT believes that mandatory demand flexibility should only be on an exceptional and time limited basis.

34. If demand flexibility is voluntary for new LEUs, what type of incentives could be introduced to encourage the adoption of these services?

As noted in out answer to question 25, incentives which reflect the LEUs reduced impact on the network should be used to incentivise the adoption of flexibility services. This would principally be through the

renumeration received for the provision of the flexibility service but could also potentially take the form of a reduction in UoS charging.

35. If demand flexibility is mandatory for new LEUs, should there be any exemptions for certain LEUs to having to provide these services? How could this be assessed? On what basis could these exemptions be applied?

See our response to question 32.

36. Should timed/profiled connections be introduced? Please provide reasons and rationale for any views provided.

No comment.

Energy Efficiency

37. Comments are invited from interested parties on the use of waste heat from LEU sites.

No comment.

38. Comments are invited on the use of waste heat from LEUs to feed district heating networks or other processes.

No comment.

39. Should provisions to use waste heat from new LEUs in suitable locations to feed district heating or other processes be mandatory or voluntary? Please provide reasons and rationale for any views provided.

No comment.

Gas

40. Comments are invited from interested parties on the use of biomethane towards decarbonisation of LEU demand. Do respondents have a view on the volume of indigenous biomethane that can be produced annually? Do respondents have a view on the scalability of using biomethane towards the decarbonisation of LEU demand?

ESB GT think that biomethane can play an important role in the decarbonisation of LEU demand and the wider Irish economy.

41. Comments are invited on what running profile should be adopted by onsite gas generation which is being run on a limited supply fuel like biomethane e.g., should it be limited running for back-up and/or flexibility purposes, or baseload (islanded LEU). If for flexibility services what would be a typical capacity factor.

No comment.

42. Comments are invited from interested parties on the use of green hydrogen towards decarbonisation of LEU demand and the timelines in which this might be viable. Please provide reasons and rationale for any views provided.

We think that green hydrogen will play an important role in the decarbonisation of LEU demand and the wider Irish economy. Green hydrogen will be particularly important in enabling the achievement of net-zero in the

electricity system through absorbing excess renewable energy generated by intermittent renewable energy sources, minimising curtailment, reducing grid constraints, and avoiding wasting capturable energy.

43. Comments are invited from interested parties on the renewable gas certification scheme.

ESB GT welcomes the development of the renewable gas certification scheme and looks forward to the requirements and processes for the certification of green hydrogen to be added to the scheme.

44. Are there other options for decarbonisation of gas demand that should be considered?

No comment.

45. Comments are invited on the introduction of non-firm/interruptible gas connections for LEUs (at exit point). Do respondents have a view on whether these non-firm/interruptible connections can help alleviate emissions? Please provide reasons and rationale for any views provided.

The introduction of non-firm/interruptible gas connections for LEUs has the potential to accelerate connection timelines and reduce costs by enabling the accelerated rollout of renewable gasses to the market ahead of a time where the supply of renewable gas can sustain firm connections. This should increase the ability of renewable gasses to alleviate emissions by increasing their share of total consumed gas.

46. How can demand flexibility services on the gas system provide a benefit for both system support and decarbonisation?

As noted in our answer to question 45, having renewable gas flexibility on the gas system will enable the accelerated rollout of renewable gasses to the market ahead of a time where the supply of renewable gasses can sustain firm connections. This will have a positive impact on decarbonisation through reducing demand for natural gas.

Assessment Criteria - No comment

47. Comments are invited from interested parties on maintaining optionality in what provisions an LEU must meet as part of its net zero emissions requirements.

48. Comments are invited on how a new LEUs location may inform what criteria it may need to meet.

49. Comments are invited on how a transition period may inform an evolving net zero target and demand flexibility services that could be provided.

50. Respondents are welcome to suggest alternative approaches in how criteria is selected.

51. Respondents are welcome to suggest any additional approaches for LEUs to help meet net zero requirements not considered in sections above.

Roles of other Organisations - No comment

52. Comments are invited from interested parties on the roles of other organisations in the different approaches considered in this paper.

53. Comments are invited on what functions should be carried out by who, in the context of potentially real time net zero emissions for LEUs going forward.

54. Feedback is requested from stakeholders on other mechanisms that may need to be considered for the implementation of SECs and who should be responsible for delivering them.
