



Energy for
generations

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ESB Generation and Trading Response:

Greenlink Interconnector “Cap and Floor Request” (CRU20042)

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1. INTRODUCTION

ESB Generation and Trading (ESB GT) welcomes the opportunity to respond to the Greenlink Interconnector “Cap and Floor Request” (CRU20042). The purpose of this Consultation Paper is consult with stakeholders on the economic and technical assessment carried out by Greenlink’s project promoters and to assess the appropriateness of the Cap and Floor revenue regime.

ESB GT would like to take this opportunity to readdress some concerns raised in previous responses with regards to the cost benefit analysis of Greenlink. In addition, ESB GT has provided comments on the proposed regime features for CRU to consider.

ESB GT’s response is broken into three sections; the first is an executive summary of ESB GT’s response to the Consultation Paper, ESB GT’s comments on the CBA and the third section lists ESB GT’s response to the consultation question.

2. EXECUTIVE SUMMARY

Like the CRU, ESB GT has concerns that some of the proposed Cap and Floor regime features “*have unclear or negative impacts on the regime’s efficiency or incentives...which could result in Greenlink retaining a large share of revenues above the cap*”. In addition to the Cap and Floor regimes’ features that the CRU has raised issues about in the Consultation Paper, ESB GT has concerns for consumer welfare and market competition due to the proposed link to inflation. ESB GT does not believe that the Cap and Floor should be inflation linked, as neither the Capacity market nor the RESS schemes are inflation linked. Given that interconnectors and generators will be competing in the energy, capacity and DS3 (ancillary services markets) markets, it would be consistent to align this aspect of the regime with other ‘support’ schemes so that each can compete on a level playing field. Considering the lack of clarity on the final regime features, ESB GT requests that the CRU provide participants with another opportunity to comment on the final proposed features prior to making a decision.

The Consultation Paper does highlight that if subsequent information is given to the CRU that would lead the CRU to reconsider that the basis of the public interest test decision to have materially changed, then the CRU could revisit its determination. ESB GT believes that several material changes have occurred in key drivers of the previous (Cost Benefit Analysis) CBA, which may now warrant a review by the CRU. These are discussed in greater detail in section 3 but two of the main concerns ESB GT has are (1) technical issues that impact indigenous generators have not yet been fully assessed or findings made public and (2) The need to identify the costs and benefits to the Irish consumer specifically and not the SEM consumer as the basis for the CBA.

ESB GT understands that CRU is looking at interconnectors on a case by case basis which it outlined in its paper CRU/18/221¹. ESB GT considers that this is a sub-optimal approach when trying to assess best value for money as there are no comparisons being made, nor is there any competitive means to allocate funds to the most effective projects. The funding mechanism for the Celtic interconnector (regulated asset) is a different one to the process that CRU has taken with Greenlink (Cap and Floor) which makes it difficult to compare the two projects and assess if the return the consumer gets is maximised for the assurance it is providing by underpinning certain investment costs. ESB GT believes the CRU needs to review their policy of assessing the interconnectors on a case by case basis as it could lead to sub-optimal use of consumer monies.

In summary, ESB GT has concerns with the regime features proposed. Even though ESB GT believes that the floor rates applied are in line with prevailing market conditions there are some items listed in Greenlink’s application that go above and beyond what is necessary for project finance. Therefore there is a risk that the Irish

¹<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=2ahUKEwjomva2lqHpAhUxpHEKHVLLBQoQFjABegQIAxAB&url=https%3A%2F%2Fwww.cru.ie%2Fwp-content%2Fuploads%2F2018%2F09%2FCRU18221-Policy-for-Electricity-Interconnectors-Assessment-Criteria-for-Electricity-Interconnection-Applications-Decision-Paper.pdf&usq=AOvVaw2mbxYhK0ev1p6Av22E2m5Y>

consumer is underwriting a disproportionate amount of the investment relative to the benefit they will experience. Under these uncertainties and given the long term nature of the proposed underwriting of the proposed project ESB GT believes that there is sufficient concern for the CRU to undertake a renewed cost benefits assessment.

3. COMMENTS ON 2018 COST BENEFIT ANALYSIS

3.1 Introduction

ESB GT understands that the Cost Benefit Analysis was conducted in 2018 and that if subsequent information is to be given to the CRU that would lead the CRU to consider that the basis for the public interest test decision had materially changed then the CRU could revisit its determination. ESB believes that changes to some of the key drivers in the CBA may be warranted given the introduction of the new SEM since 2018. ESB GT would like to reiterate the issues it raised in its previous response on Greenlink (CRU/18/119), in advance of the Cost Benefit Analysis (CBA), that were not addressed which may have material changes on the CBA that could impact the outcome of that determination. Lastly ESB GT considers it to be good regulatory practice to continually update the cost benefit assumptions, particularly when there still exists an opportunity to do so ahead of such a significant investment as the Greenlink interconnector.

3.2 Evolving CBA methodology

The ENTSO-E has just recently developed its 3rd iteration in an effort to improve its approach and to ensure that all cost and benefits are adequately addressed, reflecting best current thinking. Unfortunately the detail provided in the CBA determination makes it difficult to establish if the recent ACER Opinion on the “3rd draft guideline for cost benefit analysis (CBA guideline) of grid development projects, including Projects of Common Interest for trans-European energy infrastructure”² could have a material impact on the 2018 Greenlink CBA determination. ESB GT raises the question whether the changes to the guidelines could have an impact, for example;

- the improvement of the calculation of Expected Energy Not Supplied by introducing Monte Carlo simulations, and the provision for a sanity check of the obtained results;
- the inclusion of a methodology to quantify the frequency quality relating to System stability;
- the inclusion of the new benefit “Reduction of necessary reserve for re-dispatch power plants”

3.3 Whole of system impact

ESB GT believes that the whole-system impact of the interconnector, specifically the impact that the interconnector will have on system operability, has not fully been considered in the CBA. ESB GT highlighted in its response to CRU/18/119 that there were costs associated with further interconnection, specifically in terms of “the operation and manageability of the entire electricity and gas system changes as we add further interconnector capacity” that could be related to system stability. However, the CRU seemed only to consider “shallow connection costs; ongoing maintenance costs; network reinforcement costs; and Greenlink capital and operational expenditure”, when considering “other costs”. In order to ensure the consumer is getting a meaningful benefit from supporting any interconnector it is necessary to identify the full impact and subsequent costs that will be additionally borne by the end consumer.

It would be reasonable to assume that the cost of balancing and ancillary service requirements increase steadily with increasing interconnection. The primary reason for this is that the majority of system services require thermal synchronous generation in some form to provide flexibility. This includes:

- Systems balancing actions

²https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Opinions/Opinions/ACER%20Opinion%2003-2020%20on%20ENTSO-E%20Guideline%20for%20cost%20benefit%20analysis.pdf

- Frequency response
- Headroom and footroom³
- System inertia

The increased interconnection capacity leads to both loss of domestic capacity and, in particular, lower levels of thermal generation. The result of this is increased system services costs that are necessary to accommodate the intermittent and non-synchronous capacity on the system, of which interconnections are a significant component.⁴ For example, if connecting the interconnector leads to voltage issues in the locality that it is connecting, then the system operator will have to procure contracts with assets able to provide voltage services; these contracts will have a cost.

The costs of managing the system as a result of increased interconnection need to be identified as they could have a material impact. In GB, the System Operability Framework Trends Document that National Grid publishes specifically identifies the needs for ‘more flexible resources and dynamic voltage support’ as a result of ‘increasing volume of interconnectors in future [that] would increase the volatility of regional flows’.⁵ In addition, National Grid have produced system incidents reports whereby they would record significant ROCOF events; the majority of incidents are caused by unplanned interconnector trips/outages⁶ which would have led to balancing actions being taken by National Grid and have been an additional cost to the consumer. ESB GT does not believe that the CRU has adequately addressed concerns raised regarding the impact that Greenlink may have to system operability and that its impact is magnified in a system defined by greater unit indivisibility. ESB GT believes that the CRU should look to the GB experience of increasing system management costs when looking at the impact that Greenlink may have.

3.4 Optimal level of interconnection

An independent report⁷ undertaken by LCP assessed what the optimal level would be for GB when you considered the knock-on impacts of increased interconnection. The analysis concluded that when you consider the whole system costs, that the optimal level of GB interconnection is far lower than what is being planned; in fact at 7GW, higher penetrations costs begin to increase, making the system more expensive⁷. ESB GT believes the optimal level of interconnection needs to be assessed for the SEM in order to identify the optimum solution for the consumer rather than a first come first served approach,

ESB GT believes due to the build out of the Celtic Interconnector, which the Irish consumer is already committed to supporting at a (70:30) split, there is the possibility of diminishing marginal returns from further investment of other interconnectors. Unlike the CRM or future RESS auctions there has been no price discovery for determining the most suitable interconnector projects. This lack of a competition requires greater assessment to ensure the consumer is receiving the maximum benefit across all existing and future interconnectors required to provide the optimal level of interconnection rather than progressing on a potentially unsuccessful first come first serve basis. The options of alternatives have not been considered to determine the best return for the consumers monies.

ESB GT notes that although the CBA was positive for a range of scenarios, benefits were severely reduced when the Celtic interconnector was also included in the assessment. The Celtic Interconnector project has gained considerable momentum in recent months⁸, and its impact on the Greenlink CBA needs to be more deeply considered. It is not unreasonable to expect that the Greenlink would no longer deliver the same reduction in wholesale electricity costs, and considering the Irish electricity system could see curtailment of up to 8-12% by

³ Providing “headroom” is to provide extra energy when the system requires and footroom is the opposite: it’s used when renewable sources are producing more than the system can cope with and the system requires more demand. For example ‘Demand Turn up service’ in GB would be providing footroom.

⁴ Assessing the Value of interconnection in GB power Market, 2018. LCP did a report on behalf of the Independent Generators Group in GB in 2018 (<https://www.lcp.uk.com/energy/case-studies/assessing-the-value-of-interconnection-to-the-gb-power-system/>)

⁵ <https://www.nationalgrideso.com/research-publications/system-operability-framework-sof>

⁶ <https://www.nationalgrideso.com/industry-information/codes/grid-code/modifications/gc0105-system-incidents-reporting>

⁷ Assessing the Value of interconnection in GB power Market, 2018. LCP

⁸ <https://www.dccae.gov.ie/en-ie/news-and-media/press-releases/Pages/Press-Release-Government-Secures-%E2%82%AC530m-EU-grant-for-Celtic-Interconnector.aspx>

2030⁹. the Greenlink impact on increasing market revenues for renewable generation and reducing curtailment would appear to be relatively minimal, with the Greenlink only enabling an average reduction of 0.8% (with Celtic included) of curtailment annually.

The significant levels of curtailment will see the growth of DSR, and indeed the growth of electrolyzers to utilise this surplus energy, and enable wider decarbonisation of the economy through green hydrogen. These assets will also be located across the country and would be capable of providing more efficient market integration of low carbon generators. Given that greater remaining benefits of Greenlink are seen post 2033, the impact of these market shifts that will likely occur need to be considered. Furthermore, the impact of Brexit on Greenlink's ability to continue to enable greater market integration of low carbon generators needs to be explored.

3.5 Technical issues

ESB GT also provided comments on technical aspects of the Greenlink submission such as possible issues arising for generators near the proposed connection point, in relation to sub-synchronous resonance (SSR), and the impact of Greenlink on the ramp rate functionality of existing interconnectors and the consequential impact on the market and system efficiency. ¹⁰The CRU responded that "In the next stage of the assessment, the CRU will require Greenlink developers to submit details on the seabed surveys and additional technical & cost details." Considering the impact this could have on incumbent generators and interconnectors, ESB GT believes the CRU needs to ensure that this concern is addressed and to confirm that the technical aspects of Greenlink's submission address the issues accordingly. Any impact on the consumers welfare or incumbent generators/interconnectors must be published to ensure full transparency of assessment.

3.6 Benefits to Irish Consumers

ESB GT has some concerns that the Irish consumer may be underwriting the Interconnector for other consumers. Firstly, it would appear that the benefits and costs of the Greenlink Interconnector have been determined on a SEM (Ireland and Northern Ireland) basis, whereas, the increase in network tariffs to fund the Greenlink Interconnector will only be applied to the Irish consumers not the Northern Irish consumers. Greater clarity on the breakdown of the CBA may help to ensure that the Irish consumer is benefiting and not subsidising other consumers. Secondly, ESB GT understands that it is up to the proposer to identify the breakdown of the cost sharing when applying for a Cap and Floor Regime Mechanism with Ofgem. However, the proposed 50:50 will see the costs attributed across the Irish market with ~2.8million consumers (2million in ROI and 0.8million in NI) versus the GB market with ~28million consumers. For the Irish consumer to receive the same cost/benefit ratio as the GB consumer it would require the Irish consumer to receive 10 times the benefit of the GB consumer. Unfortunately, the detail in the CRU's CBA determination isn't sufficient to identify if the Irish consumer is receiving the desired relative quantity of benefits for the risk it is taking on for underpinning the floor of the proposed mechanism.

There remains a lack of clarity on Greenlink's ongoing PCI status in light of Brexit, and as a result its ability to benefit from funds through the Connecting Europe Facility. This further emphasises the need to ensure Irish consumers are receiving sufficient benefit for the level of risk underwritten for 50% of the full costs.

4. RESPONSE TO CONSULTATION QUESTIONS

In this section ESB GT has listed its response to the questions in the Consultation Paper.

Question 1 Do you agree with the CRU's minded to position that a Cap and Floor regime is the appropriate regulatory revenue model for Greenlink in Ireland?

⁹ Tomorrow's Energy Scenario 2019 Ireland: Planning Our Energy Future, Eirgrid, 2019.

¹⁰ "An update of historical derating factors for GB Interconnectors", Poyry, April 2018

"Interim Cross Zonal TSO Arrangements for GB-ISEM go-live", SEM-GB Joint Implementation Group, September 2017

ESB GT understands that CRU is looking at interconnectors on a case by case basis which it outlined in its paper CRU/18/221¹¹. ESB GT considers that this is a sub-optimal approach when trying to assess best value for money as there are no comparisons being made, nor is there any competitive means to allocate funds to the most effective projects. The funding mechanism for the Celtic interconnector (regulated asset) is a different one to the process that CRU has taken with Greenlink (Cap and Floor) which makes it difficult to compare the two projects and assess if the return the consumer gets is maximised for the assurance it is providing by underpinning certain investment costs.

Question 2 Do you agree with Greenlink's requested regime features?

Please see answer to question 4.

Question 3 Are there other features the CRU should consider?

Please see answer to question 4.

Question 4 What are your views on the CRU's initial assessment of the requested features?

ESB GT believes that the CRU has made a good initial assessment of the requested features. ESB GT believes that the principle here should be whether or not the regime features that are requested by Greenlink are necessary for project finance and still encourage good performance. Anything above and beyond this may seem to put Greenlink at an advantage against its competitors (generators and existing interconnectors) in the market and mean that consumers will be underwriting too much of the project's risk. Fundamentally if Greenlink will be competing with domestic generation and existing interconnectors, the support scheme needs to ensure that competition to the market remains in place by applying consistent principles. In addition there are some items in the regime features list that should not be passed through to consumers, but should be carried by the developer who is better placed to manage those risks.

At a high level, ESB GT believes that the features outlined in setting the floor should be consistent with prevailing market conditions. The proposal in the consultation paper is that this Cap and Floor is linked to inflation. ESB GT does not believe that the Cap and Floor should be inflation linked, as neither the Capacity market nor the RESS schemes are inflation linked. Given that interconnectors and generators will be competing in the energy, capacity and DS3 (ancillary services markets) markets, it would be consistent to align this aspect of the regime up with other 'support' schemes so that each can be competing on a level playing field. If it is to be inflation linked, it is not clear from the proposal whether the inflation rate would be fixed or floating. If it is fixed, it should be consistent with the current levels. Considering the lack of clarity on the final regime features, ESB GT requests the CRU provide participants with another opportunity to comment on the final proposed features prior to deciding.

The Risk Free Rate(1.90%) and the Market Risk Premium (4.75%) are based on a CRU determination (CRU/20/029). It is important that the information used is the most up to date so as to ensure that the assessments are accurate and efficient. ESB GT is of the view that the methodology for determining the values used in calculating the Cap and Floor should be consistent with other projects¹² (not just interconnectors) and in the interest of transparency and clarity the decision for any deviation should be published.

The paper proposes that any re-financing gains from the changing cost of debt between construction and operation will be shared with Irish consumers using a 30% sharing factor. ESB GT believes that a more proportional sharing factor should be identified as the current value of 30% may be moving too much risk onto the consumer without improving the consumer benefit just to further increase the financeability of the project. The

¹¹<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=2ahUKEwjomva2lqHpAhUxpHEKHVLLBQoQFjABegQIAxB&url=https%3A%2F%2Fwww.cru.ie%2Fwp-content%2Fuploads%2F2018%2F09%2FCRU18221-Policy-for-Electricity-Interconnectors-Assessment-Criteria-for-Electricity-Interconnection-Applications-Decision-Paper.pdf&usq=AOvVaw2mbxYhK0ev1p6Av22E2m5Y>

¹² Cost of Capital – CRU Approach (CRU/20/029)

applicant has not provided rationale for the 30% figure, and ESB GT believes some justification is required prior to the consumer taking on more risk. ESB GT welcomes clarity on the basis of this figure.

ESB GT agrees with CRU on its assessment of the inclusion of tax, policy and regulation risk in the floor. Nowhere in the final project assessments for Interconnectors that have a cap and floor regime in GB are policy and regulation costs passed through to the consumer. ESB GT understands that schemes such as the Offshore Transmission Owner scheme allows some degree of passing on of risk specific to pieces of law/regulation however this hasn't been fully detailed in the consultation. In addition, assets that would be competing with Greenlink in markets will not have the ability to pass on tax, policy and regulation risk to the consumer and therefore will not be on a level playing field. Economic theory tells us that competition is better for driving overall costs down however in its current form, this cap and floor will be putting Greenlink at an advantage above its competitors because of regulation and therefore does not best represent a competitive market outcome, in stepping in to mimic this outcome the RA has a high hurdle to justify its decisions and values.

ESB GT acknowledges the financeability benefit to have a similar Cap and Floor mechanisms on both sides of the interconnector, however, this should be provided while ensuring the benefit to the consumer. ESB GT questions if a review of the contract length has been considered. For example, the IFA2 project that connects GB to France has a 25 year cap and floor on the GB side and a 10 year regime length on the French side¹³. Any interconnector will be competing with generation that will only ever have the opportunity to receive a ten year long term contract through the Capacity Remuneration Mechanism or a 15 year contract through RESS. Therefore, competing assets will, as a result of the regulatory regime, have different risk profiles which could lead to regulatory biases in project financeability. ESB GT is of the view that any regulatory intervention in the market should create a level playing field for all participants looking to enter the market. In light of this is there a justification for reviewing the length of the Cap and Floor mechanism.

ESB GT agrees with the CRU's assessment of the availability incentive proposals. Unlike other interconnector projects that are being built under cap and floor regimes in GB, Greenlink is asking for a further incentive¹⁴¹⁵. Allowing Greenlink to collect above and beyond the cap goes against the principle of the cap itself. This is unnecessary, and the percentage allowed for performance should be sufficient for the project. If it isn't, perhaps the project itself is not a viable one.

With regards to expanding the definition of force majeure, ESB GT agrees that more detail is required and suggests that the CRU look to Ofgem's decision to include (i) strike, (ii) lockout, and (iii) other industrial disturbance in its definition. Examples of what could be included should also be provided as guidance.

In addition, ESB GT supports the move to one year assessment periods which is also in line with Ofgem's recent decision¹⁶. Developers had requested an annual assessment process to ensure that they are able to access any payments due from consumers annually, moreover, if consumers are owed any payments these too will be fed through charges annually. Given that charges are reviewed annually anyway, this makes sense and shouldn't cause so much of an impact on charges (any income adjusting events should be reviewed individually to ensure that they do not shock charges).

Question 5 Should the CRU consider any other specific factors or elements in its initial assessment of the requested features?

The consultation paper does not touch on the Capacity Market and how this interconnector will interact with the Capacity Market. ESB GT wants to highlight a few items that the CRU may want to consider. The CEP says that

¹³ <https://www.cre.fr/content/download/15600/182913>

¹⁴ <https://www.ofgem.gov.uk/publications-and-updates/final-project-assessment-ifa2-interconnector-france>

¹⁵ <https://www.ofgem.gov.uk/publications-and-updates/decision-final-project-assessment-nsi-interconnector-norway>

¹⁶ https://www.ofgem.gov.uk/publications-and-updates/decision-proposed-changes-our-electricity-interconnector-cap-and-floor-regime-enable-project-finance-solutions?utm_medium=email&utm_source=dotMailer&utm_campaign=Daily-Alert_06-05-2020&utm_content=Decision+on+proposed+changes+to+our+electricity+interconnector+cap+and+floor+regime+to+enable+project+finance+solutions&dm_i=1QCB,6V2YJ,F31BJE,RJCCA,1

the CRM has a deadline of including direct foreign participation by latest July 2023. Nowhere in the consultation does the CRU address this and what that might mean for this interconnector project. ESB GT would like clarification on whether a new interconnector participating in the upcoming auctions, prior to the implementation of the CEP in the CMC, will be allowed to secure a long term contract.