

Response to the Interconnector Policy Review: Workstream 2

1 INTRODUCTION AND SUMMARY

- 1.1 Copenhagen Infrastructure Partners (“CIP”) welcomes the opportunity to provide comments in response to Ofgem’s consultation on Working Paper 2 of the Interconnector Policy Review, which relates to the socio-economic modelling.¹ We previously responded to Ofgem’s consultation on Working Paper 1 of the Interconnector Policy Review, which related to the technical design of the cap and floor regime.
- 1.2 CIP is a fund management company specialising in energy infrastructure investment.² We currently manage funds with approximately €16bn of assets under management. We invest globally in assets across the energy supply chain. In the United Kingdom (“UK”), we have invested in a number of assets ranging from onshore wind (Borea portfolio) to offshore wind (Beatrice offshore wind farm) and from energy-from-waste (Lostock and Slough) to biomass power plants (Templeborough, Kent, Brigg and Snetterton). We have been investing in transmission assets (primarily connecting offshore wind farms located in the German North Sea) and continue to explore investment opportunities that will expand our footprint in transmission assets in Europe. In this context, we are actively evaluating potential interconnection opportunities between Great Britain (“GB”) and European markets.
- 1.3 As Ofgem is aware, electricity interconnectors are cross-border transmission links that enable electricity to flow between two regions. Interconnectors allow low-cost electricity to be exported to neighbouring markets with higher prices and help to reduce prices and customer bills in the importing market. Interconnectors also support the decarbonisation agenda by allowing for better and more efficient management of intermittent renewable generation, and boost security of supply by providing access to additional generation capacity located in neighbouring markets, which are usually characterised by a different generation mix and different resources, thus providing resilience and diversification.
- 1.4 Socio-economic modelling has, historically, been a key input into the assessment process used by Ofgem to determine whether to grant a licence to interconnector projects under the cap and floor regime.³ Socio-economic modelling can also be used to assess the need for further GB interconnection, as Ofgem has done as part of this workstream. This can help to understand

¹ Ofgem, Interconnector Policy Review: Working Paper 2 – Socio-economic modelling, 18 June 2021, ([link](#)).

² For more information on CIP, please see [our website](#) for more detail.

³ Ofgem, Cap and floor regime: Initial Project Assessment of the GridLink, NeuConnect and NorthConnect Interconnectors, 19 June 2017, ([link](#)).

whether there is a need for additional interconnection capacity beyond those projects already delivered and those with regulatory approval under the cap and floor regime.

1.5 We consider that the current review also presents an opportunity to consider the future design of any socio-economic modelling to be undertaken by Ofgem when assessing projects under future cap and floor windows. This includes the assumptions used, scenarios considered, and methodologies utilised for such socio-economic modelling. These factors are likely to be different to those used for Windows 1 and 2, given recent policy commitments to decarbonisation and the expected shift in the generation mix towards a greater share of renewable generation, both in GB and in most connecting countries.

1.6 It is in this context that we provide our comments in response to Ofgem's initial findings and proposed recommendations in Working Paper 2. Our main points are as follows:

- First, we agree with Ofgem that there is a likely need for further GB interconnection capacity going forward, and a need for a regulatory regime to incentivise further investment in a way which continues to be beneficial for consumers.
- Second, we consider that the current review presents an opportunity to ensure that the socio-economic modelling of interconnector projects (conducted by developers, regulators, and advisors alike) continues to capture all the relevant costs, benefits and avoided costs of further interconnection. This includes a consideration of wider benefits (not just the impact on consumer prices from greater interconnection) and all relevant revenue streams that accrue to interconnectors (including those arising from providing ancillary services and partaking in the capacity market).
- Third, we note that, as part of its December 2020 report, AFRY has filtered projects above a certain high-level IRR threshold. We recognise that Ofgem might wish to test the commercial viability of projects applying to the cap and floor regime, in part to reduce the risk of less viable projects applying for and being awarded the cap and floor regime; however, we consider that the main focus should remain on securing benefits for GB consumers. Developers being prepared to invest capital in the development of the projects they sponsor represents proof of their view that their projects can attract the necessary financing and funding for constructing and operating the asset.
- Fourth, we recognise that designing robust and enduring modelling assumptions and scenarios will continue to be a challenge going forward in the context of an evolving policy and market environment. We therefore consider that it would be prudent for Ofgem to provide guidance regarding the scenarios that market participants should consider ahead of future cap and floor application windows, and ensure that a suitably wide range of scenarios is considered.

- Finally, we believe Ofgem should reach and communicate a clear decision on its initial proposals as soon as practicable. This would allow developers to plan more effectively and respond appropriately if and when Ofgem was to open another window.

1.7 We provide further detail on the points above in the remainder of this response.

2 COMMENTS ON WORKING PAPER 2 – SOCIO-ECONOMIC MODELLING

The need for future interconnection

- 2.1 We agree with Ofgem’s assessment that there is a likely need for further GB interconnection capacity going forward to help meet GB’s national decarbonisation targets, and a need for a regulatory regime to incentivise further investment in a way which continues to be beneficial for consumers.⁴ In 2019, the UK Government introduced legislation to “*end its contribution to global warming*” and “*bring all greenhouse gas emissions to net zero by 2050*”.⁵ It is widely recognised that delivering on this commitment will require a fundamental transition in the electricity generation mix in GB towards intermittent renewable generation,⁶ and that additional sources of flexible supply (or, indeed, demand) will be needed to help maintain security of supply and balance the electricity system.
- 2.2 In the same context, an assessment should be conducted on the potential increase in demand as a result of the electrification of sectors such as transport and industry, further requiring sources of clean power in order to deliver on the UK Government’s decarbonisation targets.
- 2.3 Electricity interconnectors can help support the decarbonisation agenda and the transition to a renewable energy system by acting as a source of flexibility and contributing to security of supply by diversifying the electricity sources that the GB energy system relies upon. The 2020 Network Options Assessment (“**NOA**”) by National Grid Electricity System Operator (“**NGESO**”) found that additional interconnection capacity between GB and European markets of 18-23 GW “*would provide the maximum benefit for GB consumers*”.^{7, 8} This is consistent with the findings of other studies, including the UK Government’s Energy White Paper⁹ and the Ten Year Network Development Plan (“**TYNDP**”) published by the European Network of Transmission System Operators (“**ENTSO-E**”).¹⁰
- 2.4 In our view, it will be increasingly important for Ofgem to assess the future need for further interconnection in the context of the UK’s commitment to decarbonisation and expected shift in the generation mix, and the ability of interconnectors to contribute to a reduction in carbon emissions and security of supply in addition to enabling cost savings to consumers. We consider that the cap and floor regime continues to provide appropriate incentives to support the delivery

⁴ Ofgem, Interconnector Policy Review: Working Paper 2 – Socio-economic modelling, 18 June 2021, p.31, ([link](#)).

⁵ BEIS (2019), UK becomes first major economy to pass net zero emissions law ([link](#)).

⁶ For example, the UK Government’s ‘Ten Point Plan for a Green Industrial Revolution’ emphasized the need to increase renewable wind generation and set a target of 40GW of off-shore wind capacity in GB by 2030. See: HM Government (2020), The Ten Point Plan for a Green Industrial Revolution ([link](#)).

⁷ National Grid ESO, Network Options Assessment, January 2020 ([link](#)).

⁸ This estimate has since been revised upwards as part of the 2021 NOA, which found that up to 28GW of additional capacity may be needed to deliver net zero. See National Grid ESO, Network Options Assessment, January 2021 ([link](#)).

⁹ BEIS (2020), Energy White Paper: Powering our Net Zero Future ([link](#)).

¹⁰ ENTSO-E, TYNDP Datafile, ‘Distributed Energy’ and ‘Global Ambition’ Scenarios ([link](#)).

of increased interconnection capacity, and have suggested improvements to the regime in our response to Working Paper 1 to ensure that it remains fit for purpose in the future.

The scope of socio-economic modelling

- 2.5 We consider that the current review also presents an opportunity to ensure that the socio-economic modelling of interconnector projects (conducted by developers, regulators, and advisors alike) continues to capture all the relevant costs and benefits of interconnector projects, as well as the avoided costs which would otherwise be incurred in the absence of interconnection capacity, particularly in the context of the new ‘net zero’ policy agenda.
- 2.6 Ofgem has already recognised the need to consider the impact of further interconnection on so-called “wider benefits” – including decarbonisation, flexibility, security of supply and system operability – as part of workstream 3 of the current review.¹¹ We encourage Ofgem to also consider how these wider benefits will affect the need for further interconnection, and to provide clarity on how they will be incorporated into, and evaluated as part of, future needs case assessments to allow promoters time to respond appropriately. Ofgem has already indicated that it will “*explore methodologies for assessing wider impacts of interconnectors, including their quantification*”¹² – however, further clarity and transparency is needed on the specific approaches and methodologies that Ofgem is considering and how they will fit into future assessments.
- 2.7 Furthermore, Ofgem should ensure that socio-economic modelling captures all relevant sources of revenue earned by interconnectors. In this respect, we note that the socio-economic modelling undertaken by AFRY as part of workstream 2 did not consider interconnectors’ capacity market revenues or revenues earned from providing ancillary services. It thereby understated the likely benefits associated with potential future interconnectors. This should be addressed in future socio-economic modelling as there may be additional benefits to consumers from the provision of capacity to meet potential security of supply concerns in GB and in terms of lower system balancing costs from greater interconnection.
- 2.8 We also note that the socio-economic analysis undertaken by AFRY (also previously in the context of Window 1 and Window 2 of the cap and floor regime) was conducted based on the modelling of congestion rents generated from the allocation of capacity in the day-ahead market timeframe.^{13, 14} This will likely understate the benefits that potential future interconnectors could generate in terms of intraday price differentials, which are likely to increase as the energy

¹¹ Ofgem, Interconnector Policy Review: Working Paper 3 – Wider impacts of interconnection, 30 June 2021, ([link](#)).

¹² Ofgem, Interconnector Policy Review: Working Paper 3 – Wider impacts of interconnection, 30 June 2021, p.39, ([link](#)).

¹³ Ofgem, Interconnector Policy Review: Working Paper 2 – Socio-economic modelling, 18 June 2021, p.5, ([link](#)).

¹⁴ Pöyry, Near-Term interconnector cost-benefit analysis: independent report, December 2014, p.21, ([link](#)); Pöyry, Near-Term interconnector cost-benefit analysis: independent report (cap & floor window 2), January 2017, p.52, ([link](#)).

generation mix for GB and mainland Europe becomes increasingly dominated by intermittent renewables.

- 2.9 Another important consideration is the cost to GB consumers from a lack of interconnection capacity. If interconnection capacity is too low, then this could be problematic given GB's expected future reliance on offshore wind. For example, if offshore wind generation is high, the electricity system operator, NGESO, may need to offer curtailment payments to generators in order to manage supply. On the other hand, if offshore wind generation is low, NGESO may need to pay peaking plants incentive payments to be available for coming online (or, otherwise, prices may need to increase to incentivise these plants to come online). The costs associated with these interventions are potentially high and would need to be captured as part of the benefits analysis delivered by interconnectors. In our view, such *avoided* costs should be quantified and incorporated as part of any future socio-economic modelling of interconnector costs and benefits.

Considering commercial viability when awarding a cap and floor licence

- 2.10 We note that, as part of its modelling, AFRY applies a commercial filter (based on an internal rate of return or "IRR") to identify commercially viable projects.¹⁵ We note that, under a developer-led approach, project developers are best-placed to identify (and will naturally put forward) projects that they believe to be commercially viable based on their experience, analysis, investment criteria and processes.
- 2.11 However, we recognise that Ofgem may wish to test this position as part of its needs case assessment (in part to reduce the risk of less viable projects applying for and being awarded the cap and floor regime).
- 2.12 We note that, historically, the commercial viability of projects was considered indirectly as part of the socio-economic modelling undertaken by Ofgem and its advisors, in the form of the expected cap and floor payments.¹⁶ The more commercially viable the project is, the lower the expected floor payments from consumers and the higher the expected payments above the cap to consumers. This will result in a lower cost to consumers and a higher net benefit, all else equal.
- 2.13 We recognise that a more direct consideration of the commercial viability of a project could help to ensure that projects which are awarded a cap and floor licence are more likely to progress to completion – and, in turn, reduce the likelihood of less commercially viable projects hindering the ability of more commercially viable projects to obtain a licence. However, this will require careful consideration given that the commercial viability may change over the life of a project. It may therefore be prudent for Ofgem to consider this issue at both the Initial Project Assessment phase and at the Final Project Assessment phase.

¹⁵ AFRY, Ofgem interconnector policy review – independent report, December 2020, p.29, ([link](#)).

¹⁶ Pöyry, Near-Term interconnector cost-benefit analysis: independent report, December 2014, ([link](#)); Pöyry, Near-Term interconnector cost-benefit analysis: independent report (cap & floor window 2), January 2017, ([link](#)).

Way forward

- 2.14 We note that the scenarios and assumptions that formed the basis of the ARFY analysis in December 2020 have been overtaken by developments in both GB and connecting markets.¹⁷ Indeed, it is likely that designing robust and enduring scenarios will continue to present challenges, as government policy around net zero continues to evolve at pace, and the energy system continues to transition towards a greater deployment of renewables. It will therefore be important for Ofgem to consider how best to manage this ongoing change and uncertainty, and ensure that any future socio-economic analysis remains robust and reliable.
- 2.15 One potential approach may be for Ofgem to provide guidance regarding the specific scenarios and assumptions that participants should consider in advance of future cap and floor windows. Such scenarios should reflect a suitably wide range of potential market and policy outcomes, without precluding further scenarios designed by individual developers, if deemed appropriate. This type of approach is adopted in certain other jurisdictions such as Australia, where the scenarios to be considered as part of the investment process are set out by the regulator.¹⁸ Developers then have the opportunity to suggest bespoke scenarios, but these need to be justified.
- 2.16 The above approach would allow Ofgem to consider a wide range of evidence in respect of potential scenarios and to compare projects across a consistent set of scenarios. This should create a more streamlined and harmonised process for Ofgem.
- 2.17 Finally, Ofgem has set out a number of initial proposals as part of Working Paper 2 (and indeed Working Paper 3).¹⁹ We believe that further detail and clarity is needed, particularly regarding issues such as the integration of wider impacts into socio-economic modelling. It is in all participants' interest that Ofgem should reach a decision that is timely and clear, if such criteria should be part of the Initial Project Assessment for future windows. This would allow developers and other stakeholders to plan effectively and provide sufficient detail to Ofgem as part of the assessment process.

¹⁷ For example, earlier this year UK and Germany have each accelerated their national plans for decarbonising faster than previously announced. See HM Government, UK enshrines new target in law to slash emissions by 78% by 2035, 20 April 2021, ([link](#)) and German Federal Government, Climate Change Act 2021: Intergeneration contract for the climate, 25 June 2021, ([link](#)).

¹⁸ Australian Energy Regulator, Regulatory investment test for transmission, August 2020, ([link](#)).

¹⁹ Ofgem, Interconnector Policy Review: Working Paper 2 – Socio-economic modelling, 18 June 2021, p.31-32, ([link](#)).