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Dear Emmanouela, Dear Brice,

### **Cap and floor regime for regulation of project NEMO and future subsea interconnectors**

Thank you for the opportunity to respond to the above consultation. This response represents the views of companies within the Centrica group excluding Centrica Storage, it is non-confidential and may be placed on the Ofgem website and in the Ofgem library.

The annexe to this letter provides detailed answers to the questions set out in the consultation, and we would like to draw your attention to the following points.

- **We think that there is a need for additional interconnection capacity between GB and other European markets.** Additional cross-border capacity could improve security of supply and facilitate new entry in the GB market. We also believe that it would improve liquidity in the wholesale market and go some way towards addressing Ofgem's concerns in this area.
- **We continue to believe that the merchant model could be appropriate for the development of new interconnectors.** Regulated TSOs have failed to develop interconnectors at the pace required to meet market needs and achieve policy goals. We think that interconnectors are potentially competitive facilities, and that there is scope for harnessing market forces to stimulate the efficient and timely expansion of cross-border capacity. While we recognise that there have been institutional and regulatory issues with exemption requests, we are not convinced that these concerns should necessarily preclude the application of the merchant model to future projects. As such, we urge Ofgem to continue to assess future exemption requests fairly.
- **However, we accept that the cap and floor regime may be a necessary compromise for NEMO and other projects facing similar issues.** We recognise that the application of the merchant model may be difficult due to differences in regulatory approaches. Where this is the case, we agree that the proposed regime could be an

acceptable compromise to overcome regulatory barriers and facilitate interconnector investment. However, we do not think that the cap and floor model can be a generic solution for all interconnectors, and we believe that both the merchant model and, in certain cases, the regulated model could continue to play a role.

- **Where the cap and floor regime is applied, we think that Ofgem should calibrate it so as to leave the bulk of the risk with project sponsors.** If transmission users are required to underwrite a large share of the investments, then Ofgem and other regulators will need to play a greater role in evaluating the projects proposed by developers and there will inevitably be a larger element of ‘central planning’ in the development of the network. Furthermore, there might a greater impact on both the level and the volatility of transmission charges. As such, we propose that any financial transfers to and from transmission users should be designed to deal primarily with ‘tail risk’ (ie the risk of very low or very high returns).
- **We believe that this approach to risk sharing can be applied in a way that remains supportive of new investment.** More specifically, two conditions must be met for the system to remain attractive to new investment. Firstly, the risk-sharing arrangement must be symmetrical and allow project sponsors to enjoy some potential upside on their projects as well as some downside. This is necessary to ensure that project sponsors face a reasonable prospect of earning a fair return on their investment. Secondly, the arrangement must be accessible to a range of potential developers and not just TSOs.

Overall, it is critical that Ofgem and CREG manage to rebuild investor confidence and regulatory certainty following recent issues with exemption requests. The focus of this review should be to ensure that a diverse mix of developers can enter the market and compete with TSOs to capture the congestion rent between GB and adjacent markets.

We hope that these comments are useful. Do not hesitate to contact me if you have any questions.

Yours sincerely,

*By e-mail*

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## Annexe – detailed answers to consultation questions

### Question 3.1: Do you agree with principles of the regulated regime we have identified?

We have some reservations about the formulation of principles 1 and 2, and some comments on principles 4 and 5.

#### ***Principle 1: ‘Developers should be exposed to the market’s valuation of interconnector capacity’***

In general we agree with this principle, but we believe that Ofgem should think carefully about its applicability in an environment where there will necessarily be a degree of 'central planning' in the development of cross-border capacity.

As explained in the consultation document, this principle largely reflects a ‘decentralised’ approach to network development, where developers identify profitable opportunities and then apply for a regulatory settlement with the NRAs. While we support this approach, we note that the third package encourages European TSOs and regulators to play a more proactive role in network development. More specifically, ENTSO-E and ACER will need to agree on a Ten-Year Network Development Plan (TYNDP) identifying transmission bottlenecks and priority projects, and it is conceivable that not all the projects put forward in the TYNDP will be taken up by developers on a commercial basis (indeed, that is the reason for having the TYNDP in the first place). Such ‘gaps’ could arise for example if the TYNDP incorporates non-commercial considerations (such as the improvement of security of supply, the integration of renewable energy, or the strengthening of competition), or if there are non-financial barriers to project development (such as issues with planning or connection agreements).<sup>1</sup> Under such circumstances, NRAs might need to take a more proactive role in the development of cross-border capacity, and it is not clear whether the proposed set of principles could accommodate this role.

We understand that the purpose of this first principle is to encourage developers to meet market needs in a timely and efficient manner. However, if there is a policy consensus around the need for a particular project, but not much commercial interest in developing it, there does not seem to be much point in seeking to expose developers to the market value of the capacity. In such cases, it might make more sense to revert to a regulated approach (that is, option 4 in Ofgem’s spectrum of regulatory treatments). This option could incorporate the more ‘conventional’ regulatory tools for dealing with transmission investment, for example the clauses in RIIO concerning the tendering of large CAPEX projects (where the benefits of such an approach outweigh the costs).

To be clear, we do *not* support the subsidisation of regulated interconnectors with a weak business case, and we think that the development of cross-border capacity should remain primarily market-driven. We think that the reversion to a more conventional regulated approach should only be considered as a last resort option for priority projects identified in the TYNDP which have failed to attract commercial interest. However, we do recognise that the new regulatory environment might require regulators to take a more active role in certain

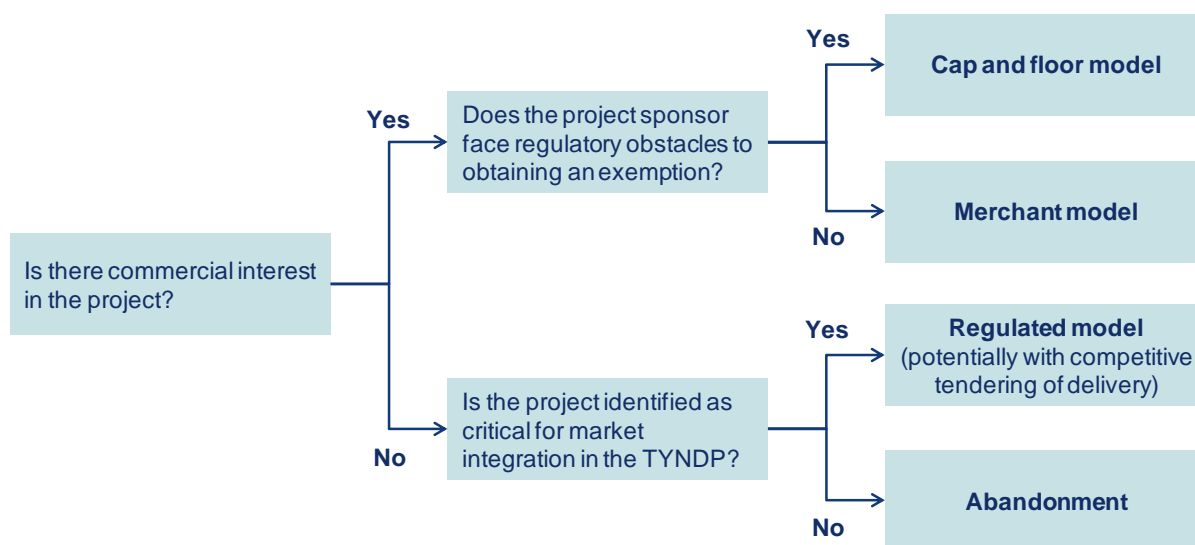
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<sup>1</sup> Although interconnectors might mitigate some of the issues associated with wind intermittency, a number of studies have showed that weather fronts frequently span large regional areas, in which case interconnection capacity might only be of limited value. See for example Poyry (2009), ‘Implications of intermittency’ May 1<sup>st</sup>.

cases, and we think that Ofgem’s interconnector policy should accommodate this possibility, if necessary by retaining the option to use a regulated model for certain projects.

As we explained in our response to Ofgem’s last consultation, we suspect that there may not be a generic solution for all interconnectors, and we accept the need for a degree of pragmatism in this area. The diagram below summarises our current thinking on the suitability of different regulatory treatments for different projects.

### Project characteristics and regulatory models



Note: the ‘regulated model’ in this diagram refers to option 4 in the spectrum of options presented by Ofgem in appendix 3 of the consultation, while ‘merchant model’ refers to option 1.

Source: Centrica.

For these reasons, we would suggest a more qualified formulation for this principle, for example ‘Where practicable, developers should be exposed to the market’s valuation of interconnector capacity’

***Principle 2: ‘consumers should be protected from the cost implications of excessive returns or market power that might accrue to interconnectors’ owners.’***

Our main concern with this principle is that it implies a focus on high returns, whereas we believe that a key success factor in the proposed regime will be the symmetrical treatment of downside and upside risk.

This is best explained by an example. Suppose that a project sponsor is contemplating investment in a new interconnector with a cost of capital of 10%, and that market forecasts indicate that the project has a 50% chance of yielding a return of 15% (eg, if the price spread between the two markets interconnected turns out to be large), and a 50% chance of yielding a return of 5% (eg, if the spread turns out to be narrow). The project sponsor therefore faces a mean expected return of 10%, which covers its cost of capital. If, however, there is a cap and floor regime that allows the regulator to intervene and tighten price regulation when profits turn out to be ‘excessive’ (for example, above 11%) without any equivalent safeguard when profits turn out to be low, the mean expected return on the project falls to 8%. The prospect of asymmetric intervention therefore leads to underinvestment or abandonment of the project.

Furthermore, the term ‘excessive returns’ seems to imply that high profits necessarily reflect the exercise of market power. This is not always the case. In the simplified example above, the probability of high profits is the legitimate counterpart to the risk of losses. If the price differential turns out to be large, the project owner *will* earn a return above its cost of capital, but this is not indicative of barriers to entry or market power; it is simply a consequence of the risk profile of the investment, and a legitimate reward for the risk taken by the developer. High profits *may* be indicative of barriers to entry only if they are widespread, significant and persistent. And even if this is the case, the most appropriate course of action may be to address such barriers to entry (bearing in mind the possibility that some of them might be of a regulatory nature) instead of capping returns. We think that market power *may* be an issue for the design of the regime (and we explain how it could be taken into account in our answer to question 5.1) but there should not be a presumption that this will always be the case.

For these reasons, we would suggest a more neutral formulation for this principle, for example: ‘Where necessary, the risk of new projects may be shared in an equitable manner between developers and transmission users’.

To be clear, we think that such risk-sharing arrangements are primarily needed for legal and regulatory purposes (ie, to ensure that the project can be classified as ‘regulated’ and does not require an exemption). In general, we do not expect that they would reflect an economic or business need (we discuss exceptions in our answer to question 4.2). We would expect such arrangements to be necessary where there are institutional issues or regulatory concerns preventing developers from obtaining an exemption (as illustrated in the diagram above). Where this is the case, we would urge Ofgem to investigate the nature of these difficulties and consider whether they can be addressed rather than immediately revert to the cap and floor model. We are conscious that the decision on exemptions may eventually rest with the European Commission, but NRAs could play a greater role in supporting applications where this is desirable.

Finally, Ofgem suggests that developers may have a perverse incentive to inflate congestion revenues by under-investing in new capacity (paragraph 3.3 in the consultation document). In theory, this might be the case if developers are remunerated solely on the basis of congestion revenues. However, DECC is currently contemplating the introduction of a capacity mechanism as part of the Electricity Market Reform, and there is a possibility that this mechanism will cover interconnectors as well as generation (similar debates are ongoing in France). If this concept is implemented, interconnector owners could potentially receive additional capacity payments in addition to congestion revenues, which would mean that they would internalise the societal benefits of interconnection capacity when sizing their projects.

***Principle 3: ‘Developers should be able to earn returns that are commensurate with the levels of risk they are exposed to under the regulatory framework’***

We agree with this principle. To apply this concept to project NEMO and other interconnectors, Ofgem and CREG will need to reach a view on the risk profile of these projects. This assessment will need to take account of both the ‘intrinsic’ business risk of the projects and the way this risk is shared between projects sponsors and consumers through the regulatory regime.

As part of this assessment, the NRAs might need to estimate the cost of capital of these projects (although this might not be necessary in all cases, see our answer to question 5.1). This estimation would need to reflect the specific characteristics of these projects compared to generation investment and conventional transmission assets. The value of interconnectors essentially depends on the price spread between the two markets that are interconnected.

This is a very uncertain parameter, but it is not evident that this risk is correlated with wider market risks. In the jargon of the Capital Asset Pricing Model, this risk might be idiosyncratic rather than systematic. This, in turn, might imply that the beta of these projects and their cost of equity might be lower than implied by the mere variance of their returns (even though their gearing might also be lower).

Clearly, there is a need for further analysis to quantify these impacts. It is also debatable whether the CAPM framework would effectively capture all the relevant risk factors for interconnectors projects. Nevertheless, as a rule we would urge Ofgem and CREG to assess carefully any 'generic' claim that interconnectors are risky and therefore need to attract a higher WACC.

***Principle 4: 'Regulatory treatment of developers should be coordinated between NRAs at either end of the shared asset'***

We think that the proposed model creates a need for regulatory coordination that is both broader and more complex than suggested by this principle. As explained above, there is possibility that NRAs and TSOs will need to play a more proactive role in the development of cross-border capacity, and there might be merit in developing a coordinated approach to such initiatives. This implies that NRAs should seek to coordinate their approach not just for individual projects but also more broadly for market interfaces (for example between GB and Centre-West Region). Otherwise there might be a risk that regulated projects 'crowd out' more market-based initiatives. The regional market initiatives might be the appropriate forum for this.

***Principle 5. '(For GB and new interconnector developments) Regulatory treatment should allow third party developers and should be impartial and unbiased between TSOs and non-TSO developers, existing and future developers'***

We strongly agree with this principle. We think that TSOs have a relatively poor track record in developing cross-border capacity in Europe and that they should be subject to strong competitive pressures from other market participants. This is particularly critical in GB, where National Grid operates the two existing links with continental Europe on a merchant basis and earns substantial scarcity rents on at least one of them. The table below shows that National Grid Interconnector Limited (the subsidiary operating the IFA and Britned) has been earning returns consistently above 22% since 2006. We believe that such returns are only legitimate if they truly reflect the risk of the investment and if other parties can effectively enter this market and 'compete away' this rent, and it is not obvious that this is the case at the moment.

**National Grid Interconnector Limited summary financial 2006-2010**

	2006	2007	2008	2009	2010
EBITDA	37.1	37.1	37.2	74.4	50.8
Capital employed (including goodwill)	169.0	169.1	146.8	139.4	173.4
<b>Return on Capital Employed (ROCE)</b>	<b>22%</b>	<b>22%</b>	<b>25%</b>	<b>53%</b>	<b>29%</b>

Source: National Grid Interconnector Ltd statutory accounts.

As such, it is critical that the regulatory regime create a level-playing field between TSOs and non-TSO developers. The profit-sharing arrangements that are envisaged should be accessible to independent infrastructure developers and to TSOs from other jurisdictions. Moreover, there would be merit in facilitating the involvement of wholesale market participants (ie, generators and suppliers) since these companies have the necessary

market knowledge (and, in certain cases, the necessary incentives), to develop such projects.

For this reason, we think that Ofgem and CREG should ensure that the unbundling provisions introduced by the third package do not prevent generators or suppliers from participating in the market. For example, a generator could request an exemption for unbundling provisions while accepting to be subject to use-of-revenue provisions under the cap-and-floor regime as well as congestion management rules. This approach would seem consistent with article 17 of Regulation 714/2009, which allows project developers to request an exemption from unbundling requirements.<sup>2</sup> Ofgem and CREG could (and should) support such requests with a view of making this market more contestable.

We also think that Ofgem and CREG needs to ensure that the TSOs are not in the position to discriminate against third party projects in awarding connection agreements or deciding on connection points. We understand that National Grid has a degree of discretion on whether to accept or reject proposals on the landing points for interconnectors, and there is a risk that this discretion could be misused.

Finally, we note that a study for the European Commission published this week reports that TSOs face financing constraints for the development of priority infrastructure projects.<sup>3</sup> Against this backdrop it seems all the more important to ensure that the regulatory regime can harness the financing capability of other market participants.

### **Question 3.2: Are there any other principles that should underpin the new regime?**

We continue to believe that interconnectors are potentially competitive facilities, and that the merchant model could be a suitable approach for new projects. In essence, the business logic of an interconnector (trying to capture the price differential between two electricity markets) is not dissimilar to that of a power plant (trying to capture the price differential between a fuel market and the electricity market). As such, there might be more potential for harnessing market forces to drive investment in cross-border capacity.

This notion is implicit in principles 1 and 5, but it might be worth spelling it out more clearly as the starting point for any reflexion on the regulatory treatment of particular projects. The merchant model could remain the 'default option' for new projects, with other models used where necessary to address regulatory concerns (as explained in our answer to question 3.1).

### **Question 4.1: Is the cap and floor model the right approach to meet the principles of the new regulated investment regime for sub-sea interconnection? Are there any alternative approaches that we should be considering?**

As explained in our answer to questions 3.1 and 3.2, we do not believe that there is a generic solution for all projects. The cap and floor model might be appropriate for projects that have a strong business case but that are unlikely to secure an exemption. While this might be the most common configuration, Ofgem might also have to deal with different situations. For example, a project put forward in the TYNDP might fail to attract commercial interest, or a particular developer might want to request an exemption irrespective of the difficulties.

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<sup>2</sup> We note that the French regulator CRE is currently consulting on its approach to such requests with a view of improving regulatory certainty in this area.

<sup>3</sup> Roland Berger (2011), 'The structuring and financing of energy infrastructure projects, financing gaps and recommendations regarding the new TEN-E financial instrument', July 31st.

While we think that the cap and floor model might be a necessary compromise in many cases, we think that Ofgem should not discard the other approaches (namely the merchant model and the regulated model with competitive tendering of delivery). We think that different models might be suited to different projects, and our answer to question 3.1 articulates our views of these linkages.

**Question 4.2: Do you see benefits in introducing a cap and floor regime with profit sharing arrangements? Do you have views on how a profit sharing approach could work?**

In general, we do not think that a profit-sharing agreement would be desirable. We think that the purpose of the cap and floor regime is essentially to remove *regulatory obstacles* to the development of new projects that are underpinned by a strong business case. The model should be designed so as to secure a regulated status for new projects *while leaving the bulk of the business risk with project sponsors*. As such, we think that the amount of risk transferred to consumers under this model should not go beyond what is strictly necessary to comply with use-of-revenue regulation. Ideally, the risk transfer would only concern ‘tail risk’ (ie the risk of very low or very high profits).

However, we recognise that Ofgem and CREG could potentially depart from this approach if it is necessary to attract new investors into the market. If electricity generators and suppliers cannot develop interconnectors (for example due to unbundling requirements), then Ofgem might want to facilitate participation by independent infrastructure investors. If such investors require a greater degree of risk transfer (for example because this is necessary to project finance the investment) then there might be a case for relaxing this approach in a limited and proportionate manner.

**Question 4.3: Do you agree with the potential risks of the new regime identified? Are there any other risks or issues we should be taking into account?**

We think that Ofgem has identified the main risks. With respect to the first risk (the lack of incentives to optimise availability when the cap is reached), we think that it would be all the more problematic since capacity will by definition be more valuable when the cap is reached.

With respect to the second risk (incentives to allocate costs inconsistently), we note that this is only an issue if the cap and floor apply to a measure of profitability (EBITDA, IRR, NPV, etc). We are not convinced that this is necessary, given the business risks associated with CAPEX and OPEX will almost always be best borne by the developer.

**Question 5.1: Do you agree with the proposed design parameters of the cap and floor mechanism? Are there any other parameters we should be taking into account when designing the cap and floor mechanism?**

We think that Table 5.1 in the consultation document captures the main design parameters, but we would point out three other issues for consideration.

- Firstly, there might be merit in considering the arrangements for dealing with financial distress (eg whether interconnectors should be subject to a special administration regime). It is not worth setting a floor at a profit level of 4% if the NRAs are forced to ‘bail out’ the project when returns fall under 6% and the interconnector operator approaches bankruptcy.
- Secondly, Ofgem and CREG might need to decide whether the cap and floor should be ‘centred’ around the expected value of the project or around its breakeven point. Suppose that the agreed ‘spread’ between the cap and the floor is 4%, and that the NRAs are



considering a project with a cost of capital of 10% and a mean expected return of 12%. The question is whether the cap and the floor should be 8-12% or 10-14%.<sup>4</sup> We think that the choice between these two options essentially depends on how contestable the market is. The latter option would imply that the developer will, on average, over-recover its costs (ie earn a return above its cost of capital). This would be appropriate if the NRAs are confident that other developers can enter the market and compete away any excess profit.<sup>5</sup> If this is not the case and there are residual barriers to entry, then there might be a case for using the former option (or some intermediate value).

As far as project NEMO is concerned, we think that it might be more appropriate to 'center' the cap and floor around some intermediate value between its cost of capital and its mean expected return. This is because the ability of other developers to enter the market is largely untested, and we cannot therefore be confident that there will be sufficient competitive pressures to compete away any potential returns above the cost of capital.

- Thirdly, Ofgem and CREG need to set out very precisely how the potential payments to and from transmission system users would be split between GB and Belgium users. In principle, this split could reflect the relative allocation of the societal costs and benefits of the project, although this might be difficult to implement.

**Question 5.2: Do you have a preference for the options presented under each parameter? Do you have a preferred combination or straw man proposal for a cap and floor design?**

The table below summarises our preferences.

Parameter	Preference
How long does the cap and floor regime persist for?	<b>Lifetime of financing.</b> We think that the cap and floor regime should be valid for a limited duration (say 15 or 20 years), after which the asset could be transferred to the RAB of the TOs at pre-specified conditions. If there is an expectation that the project will not have reached its breakeven point at the end of this period, the regulatory settlement could specify a transfer value (but as a rule we would not expect this to be necessary). The settlement would also need to specify penalties if the asset is not in a suitable state of repair at the end of the period. The advantage of using a relatively short duration is that the settlement could be kept relatively simple and would not need to incorporate complex provisions for dealing with unforeseen circumstances.
What is the cap and floor levied on?	<b>Revenues.</b> We think that the project sponsor is best placed to bear the cost risks of the project (especially if the settlement is only valid for the duration of the financing agreement).
How often is performance assessed against the cap and floor?	<b>Periodic (i.e. &gt;1 year).</b> We think that a periodic assessment would strike an appropriate balance between the different options. From our point of view a key consideration is that the frequency of the transfers to and from the TSOs should minimise the impact on charging volatility.
How is the assessment for each period treated?	<b>Discrete.</b>
Are the caps and floors	<b>No, set one-off.</b> With a relatively short duration it would not be necessary to

<sup>4</sup> In this example we are assuming that the cap and floor are set by reference to the IRR of the project purely for presentational purposes – this is not the option that we are suggesting.

<sup>5</sup> Although the NRAs would need to consider whether this approach would be compliant with use-of-revenues regulations.

re-set?	reset the caps and floors.
Does the cap and floor level change over time or remains constant?	<b>Constant.</b>
If the IRR approach is used, how is the project value determined?	<b>Depreciated asset.</b> We do not think that it is necessary to incorporate future returns expectations in the assessment Note that this question is relevant under all approaches, not just with the IRR (for example if the cap was defined by reference to revenues, then Ofgem and CREG could decide to increase or decrease the transfer at each assessment point to take account of expected revenues over the next period)
Distance between the cap and floor?	<b>Wide.</b> We think that this model should be designed to deal with ‘tail risk’ (see our answer to question 4.2)
Approach to symmetry for the cap and floor?	<b>Symmetric.</b> We think that the approach to risk sharing should be symmetrical to ensure that project sponsors face a reasonable prospect of cost recovery (see our answer to question 3.1)
<b>Treatment of revenues within the cap and floor?</b>	<b>Returned to interconnector owner.</b> (See our answer to question 4.1)
<b>Any additional incentives?</b>	<b>Yes, availability incentives.</b> Additional availability incentives might be needed, especially if the cap is low.

**Question 5.3: Do you think additional incentives should be introduced to encourage desirable outcomes under the regime?**

No (except for availability incentives).

**Question 6.1: Do you agree with Ofgem’s intention to use the cap and floor regime for future sub-sea DC interconnection in GB?**

We think that there may not be a generic solution for all projects, and that Ofgem should not discard the other models (the merchant model and the regulated model). Please see our answers to questions 3.1 to 4.1.

**Question 6.2: Are there any key issues we should be taking into account when developing the process for evaluating new projects?**

We think that Ofgem might need to articulate its interconnector policy with European initiatives such as the TYNDP. Please see our answer to question 3.1.

Ofgem might also need to think about the potential interactions between its interconnector policy and the OFTO regime, as there might be an overlap between the two regimes for projects in the North Sea. There is a possibility that interconnectors and offshore wind connections might eventually be ramified into the proposed ‘supergrid’, and for this reason it would be good if their regulatory treatment enabled such convergence.

Ofgem is suggesting that the list of requirements for an application under the cap and floor regime would be similar to the list used for exemption requests. It is not clear to us that the requirements should be similar in these two contexts. In an exemption procedure, the applicant must demonstrate that a series of criteria are met, including: (i) that its project requires protection against the risk of asymmetrical regulatory intervention (the ‘risk is such’ condition); and (ii) that the terms of the exemption will not have an adverse impact on

competition. None of these criteria are directly relevant under the cap and floor approach, since the projects are regulated and subject to normal access regulation.

The cap and floor regime exposes GB consumers to the business risk of interconnectors, so the main focus of the evaluation should be to ensure that these projects have a robust business case and represent value for money. Essentially, Ofgem and developers will need to come to a shared view on the value and the risk of different projects. This is bound to be a complex and technical negotiation, and prone to information asymmetries. We think that this is a further reason why Ofgem should preserve the merchant option.