

Report

Targeting Analysis for the Third Cap and Floor Application Window and MPI Pilot Regulatory Framework

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This document provides the results of our engagement with National Grid ESO and European national regulatory authorities to inform the approach to locational targeting for the third interconnector investment round. Targeting interconnector windows by location can help to ensure that future interconnector development aligns with strategic network planning goals in GB and policy goals in potential connecting countries. This targeting analysis highlights the relationship between interconnector onshore landing points in GB and grid constraints, highlights the benefits of interconnectors as system balancing tools that can provide ancillary services, and also provides a high-level overview of the regulatory landscape in connecting countries.

We are not restricting applications based on this targeting analysis for the third cap and floor application window or our MPI pilot framework, however connection location and NRA support will be considered through the eligibility criteria and needs case assessment stages of the application process. This additional analysis rather provides important context for developer submissions and an indication of the direction of travel for targeting the assessment of future windows. Both the third application window and the MPI pilot regulatory framework will be open for applications from **1st September to 31st October 2022.**

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Executive Summary

The Interconnector Policy Review (ICPR) and implementation

In August 2020, Ofgem launched a review of its regulatory policy and approach to new electricity interconnectors - our Interconnector Policy Review.¹ The ICPR and subsequent implementation support our continued ambition to enable investment in low-carbon infrastructure at a fair cost to GB energy consumers through our Low Carbon Infrastructure Strategic Change Programme.²

As a result of the review, we detailed in our ICPR decision that we will run a third cap and floor application window for interconnectors alongside a pilot cap and floor regulatory framework for Multi-Purpose Interconnectors (MPIs).³ These investment rounds have the potential to contribute to the delivery of Government policy, such as the ambitions of achieving at least 18GW of interconnection,⁴ and delivering 50GW of offshore wind by 2030.⁵ Following external stakeholder workshops to develop specific aspects with industry, the cap and floor regime has been updated for the third application window to reflect the evolving interconnector investment landscape and build upon lessons learnt in previous windows.

Targeting approach for the third investment round

The ICPR recognised that future cap and floor application windows would require targeting (either by location, timing, or capacity) to meet the evolving needs of the transmission network, ensure more strategic investment to meet Government ambitions, and to recognise the potentially diminishing returns of each additional interconnector to the system.

As part of the implementation of the ICPR, we asked NGENSO to conduct future-facing analysis on the potential impacts of future interconnection from a system operability perspective. Their supporting report is published alongside this update. Their modelling analysis highlights that additional interconnection may have a significant impact on nationwide constraint costs, however this is highly dependent upon location and

¹ [Open letter: Notification to interested stakeholders of our interconnector policy review | Ofgem](#)

² [2022/23 Ofgem Forward Work Programme | Ofgem](#)

³ [Interconnector Policy Review - Decision | Ofgem](#)

⁴ [Energy white paper: Powering our net zero future - GOV.UK \(www.gov.uk\)](#)

⁵ [British energy security strategy - GOV.UK \(www.gov.uk\)](#)

import/export status of the interconnector. With the current configuration of the network, constraint costs from increased network flows due to importing interconnectors are highest in Scotland and North Wales, and lowest in the South of England. The report also highlights the potential benefits of interconnectors contributing to ancillary services and system balancing, and outlines ongoing work by NGENSO to fully capture these benefits.

Additionally, in recognition of the need for regulatory approval in connecting countries, and impact this can have on project deliverability, we have engaged in a series of bilateral discussions with the National Regulatory Authorities (NRAs) from neighbouring European countries to discuss the processes and policies for interconnector regulation in their states. Many neighbouring European countries do not have specific regulatory processes or legislation on interconnection, and the relevant authorities tend to assess projects on a case-by-case basis. Further key messages from this engagement are outlined in this report.

Next steps

We will be accepting applications for the third cap and floor window and the MPI pilot regulatory framework between **1st September and 31st October 2022**.

We are targeting the third investment round through the inclusion of additional system operability indicators to the needs case framework, and through the inclusion of NRA engagement evidence as part of IPA application documentation. These will ensure that in comparison to previous windows, there is greater consideration of interconnector deliverability and whole-systems impacts. However, we will not implement further targeting measures or screen out projects based on the results and conclusions of this additional analysis. In future application windows, following the strategic network planning functions of the future system operator and the results of ongoing network planning policy, we intend to apply early locational targeting to specify optimal GB connection locations, should this be required, and to ensure that project applications are better targeted. NGENSO will be providing input directly for the flexibility and system operability indicators of the cost-benefit analysis to be undertaken at IPA stage.

Finally, we also highlight that applicants should contact the relevant authorities in their planned connecting country, in advance of their application, so that the project is considered eligible for the third investment round. Our overview presented in this report should be viewed only as a starting point, describing the general policy surrounding interconnection and countries' past experiences of interconnector regulation.

1. Introduction

1.1. The cap and floor regime, which has been in place since 2014, is the regulated route for interconnector development in GB.⁶ The regime incentivises interconnector development by limiting developers' exposure to electricity market price risk. Interconnectors can offer significant benefits to existing and future customers - they can lower consumer bills by importing cheaper electricity from abroad, they can reduce renewable curtailment, and they can support decarbonisation goals by using surplus intermittent renewable electricity from across jurisdictions. By opening further interconnector investment windows, Ofgem is enabling progress towards the Government's ambition to achieve at least 18 GW of interconnection by 2030.

The Interconnector Policy Review (ICPR)

1.2. In 2020, Ofgem began a review of its regulatory policy and approach to new electricity interconnectors - our Interconnector Policy Review (ICPR). Following public consultation on the proposals of the four ICPR workstreams, we published our decision in December 2021.⁷

1.3. In that decision, we concluded that further interconnection would be beneficial, but that we would explore adjustments to the cap and floor framework, to provide a simpler, more consistent and more flexible regime. We also decided to open an MPI Pilot application window to trial the suitability of the cap and floor framework to this nascent asset class and to understand how best to build an enduring regime.

1.4. The decision recognised that future windows would require targeting (either by location, timing, or capacity) to meet the evolving needs of the transmission network, ensure more strategic and timely investment to meet Government ambitions, and to recognise the potential diminishing returns of each additional interconnector to the system. As interconnector capacity increases, structural market prices converge, and the incremental welfare benefits become more marginal, or new interconnectors may constrain the system in locations where network capacity is already limited. This means that at some point we will reach an optimal level of interconnection in terms of

⁶ [Cap and Floor Regime Handbook | Ofgem](#)

⁷ [Interconnector Policy Review - Decision | Ofgem](#)

consumer impact. In the long term we expect future windows to be increasingly targeted to ensure that the right projects come forward at the right time and in the right locations to meet strategic goals. This strategic development path aims to maximise consumer benefit and deliverability, meet system needs and ensure a secure path to meet wider interconnector policy and net zero ambitions. See Section 2.10 of the ICPR decision for a more thorough discussion on the benefits of targeting.

Implementation of the ICPR - Targeting Approach

- 1.5. Since January 2022, Ofgem has refined and implemented the principles outlined in our ICPR decision. We held five interactive stakeholder workshops throughout spring 2022 on the details of the regime applicable to both the third window and the MPI pilot (hereafter 'third investment round' when referred to in tandem). Stakeholders fed back to us through the needs case assessment workshop and our ICPR consultations that they welcome the consideration of system operability impacts in addition to the socioeconomic cost-benefit analysis.
- 1.6. During ICPR implementation, we asked NGENSO to provide forward-facing analysis on the impacts of future interconnection on the transmission network. NGENSO has provided insight on how interconnectors may increase or decrease nationwide constraint costs and how they can offer system operability benefits. We have also engaged with NRAs to gather information on regulatory processes for interconnectors in their respective states, and considered their most recent and relevant publications⁸ on future interconnection strategy.
- 1.7. Finally, longer term we expect our targeting approach to differ to align with the increased measures to coordinate major investments in the transmission network strategically and holistically. We continue to work with the relevant teams coordinating projects such as the Offshore Transmission Network Review (OTNR), Future System Operator (FSO) and Review of Electricity Market Arrangements (REMA) to ensure that interconnector regulatory needs are considered.

⁸ Here we mean the most recent and most relevant publications on the date of this document.

1.8. More detail on the ICPR and its implementation can be found in our Application Guidance for the Third Cap and Floor Window for Electricity Interconnectors and the Multi-Purpose Interconnectors Pilot Regulatory Framework publications.

Your feedback

1.9. Should you have any questions or comments regarding the content of this publication, please email Cap.Floor@ofgem.gov.uk.

Related Publications

[Application Guidance for the Third Cap and Floor Window for Electricity Interconnectors | Ofgem](#)

[Multi-purpose Interconnectors Pilot Regulatory Framework | Ofgem](#)

[Cap and Floor Third Application Window and MPI Pilot Regulatory Framework- Guidance on our Needs Case Assessment Framework | Ofgem](#)

[Interconnector Policy Review - Decision | Ofgem](#)

[Window 2 IPA Decision](#) (see NGET report attachments for previous analysis on system operability impacts and benefits)

2. NGESO analysis on the system operability impacts of interconnectors

Purpose

- 2.1. In preparation for the third investment round, we asked National Grid ESO (NGESO) to prepare analysis on the system operability impacts of future interconnection from a GB perspective, in addition to their project-specific system operability inputs which will be part of the updated needs case assessment. In the ICPR it was recognised that future interconnector development would require more strategic, targeted planning and alignment with wider network needs. The ICPR stated that if it were deemed necessary based on analysis to target the third window on system operability or deliverability grounds, we would consider asking applicants, who wish to connect in certain regions, to further justify the needs case of their project. In future windows, we may take this further by only inviting applications on certain parts of the system and/or restricting applications that would connect in certain areas. The NGESO targeting report produced to inform this investment round is separate to the regular Network Options Assessment (NOA) for Interconnectors, which is due to be updated in 2023.
- 2.2. The regional modelling conducted for this report only considers the system impacts of interconnector locations on the GB side. Connection locations and system implications in connecting countries are beyond the scope of this update.
- 2.3. We also recognise that making conclusive statements on interconnectors in the context of the wider network, and realising the full opportunities of interconnectors as tools to balance the network, is contingent on ongoing work such as the Offshore Transmission Network Review (OTNR), Holistic Network Design (HND), Electricity Transmission Network Planning Review (ETNPR) and the Review of Electricity Market Arrangements (REMA). The OTNR, HND and ETNPR explore a more strategic coordinated approach to future network planning. The BEIS REMA programme⁹ is currently consulting on a broad range of options for updating electricity market arrangements. This includes options for improving the accuracy of locational signals, which could have a significant impact on the magnitude and volatility of price differentials between interconnected countries and the relevant GB locations. This

⁹ [Review of electricity market arrangements](#)

targeting report aims to give to an early indication of the direction of travel for interconnector strategic network planning in the future.

Locational Modelling

2.4. NGENSO modelled the impact of 1GW of additional interconnector capacity in each of the 37 network regions of GB. This should be interpreted as the impact on total nationwide constraint costs of an interconnector connecting in that particular zone. Constraints were modelled against the four Future Energy Scenarios (FES 2021), which all assume differing levels of network investment to meet net zero. The 'Leading the Way' and 'System Transformation' scenarios assume the greatest level of network changes to accommodate the increasing levels of intermittent renewable electricity on the system.¹⁰ The key findings are:

- (1) The addition of an interconnector to the GB network may have a strong impact on constraint costs, however this impact varies greatly depending on import/export status of the interconnector and the location of its onshore landing point in GB.
- (2)
 - i.) Interconnectors that connect to the Midlands and South of England and are mostly importing (except export levels greater than 80%) lead to reduced constraint costs relative to the counterfactual as they supply additional electricity to areas of high demand, and reduce the need for electricity to flow from North to South.
 - ii.) Interconnectors that connect to Scotland and North Wales increase constraint costs unless they are exporting more than 80% of the time. This is due to additional flows driving more balancing actions in regions of the network with limited capacity and lower demand.
 - iii.) Interconnectors connecting in the Midlands and Northern England are likely to have the lowest impacts on constraints, they are unlikely to cause significant increases or decreases in constraints.

2.5. FES 2021 and 2022 show a significant increase in interconnector exports up to 2050. All scenarios indicate that by 2030 interconnectors attached to GB will be primarily exporting rather than importing (see Figure 10 in the NGENSO report). Flows on interconnectors are dictated by wholesale market prices, which change significantly

¹⁰ For more detail on the underlying assumptions of the FES, please consult this link: [Future Energy Scenarios 2022 | National Grid ESO](#)

depending on scenarios of generation mix. Increasing levels of offshore wind and solar in GB are forecast to reduce wholesale electricity prices and therefore drive an increase in interconnector exports.

- 2.6. The highest available onshore network capacity for HVDC interconnection is at substations in Northwest England, North Wales and Southeast England.

Operational challenges and benefits of interconnectors

- 2.7. Currently, interconnector participation in ancillary services markets is voluntary, and over the last decade, the increasing number of interconnectors on the GB system have contributed to an overall increase in balancing costs. NGENSO state that it might be desirable for future interconnectors to participate in ancillary markets and provide intra-day trading capacity. These initiatives can help to unlock the system flexibility that interconnectors can potentially provide in future. The FES 2022 also list interconnectors as being one of the key tools to increase system flexibility.

Summary and implications of report

- 2.8. We recognise that the results of the NGENSO targeting analysis for the third window do not exclude connecting to certain zones of GB. However, in future application windows we expect the targeting approach to input earlier into the decision to award a cap and floor regime, by only inviting applications for projects to connect in certain areas, or restricting applications from projects connecting to those areas. We expect greater interactions with ongoing strategic network planning workstreams and wholesale market changes.
- 2.9. The impact of an interconnector on network constraints is dependent not only on its location in GB, but also on supply and demand assumptions, wholesale price dynamics, import/export flows and the number and location of other interconnectors in the scenarios. Given that the constraint cost impact is highly dependent on these variable factors, we cannot make a statement on optimal interconnector locations for the third investment round.
- 2.10. On the basis of the results of this NGENSO analysis, we will not add targeting measures in the third investment round beyond the system operability indicators that are being included in the needs case cost-benefit analysis by NGENSO. This means that projects will be assessed upon the benefits their design can bring to the transmission

network, however project applications will not be screened out or deterred in the application process from connecting in particular areas. In forming an IPA decision Ofgem will be considering a range of deliverability factors and needs case indicators including system operability as detailed in our previously published Application Guidance and Needs Case Assessment Guidance.

3. National Regulatory Authority (NRA) Engagement

Purpose

- 3.1. In preparation for the third investment round, we have conducted a series of bilateral discussions with NRAs¹¹ in several neighbouring European states, and we monitored the most recent policy commitments and publications on interconnector development in these countries. We have also amended the IPA assessment criteria to encourage sufficiently mature projects to apply for the third investment round and to ensure connecting country approval is fully considered in the context of deliverability earlier in the development process. For further detail please see our previous third window and MPI pilot guidance documents.
- 3.2. By introducing these changes we recognise that, from previous windows, securing regulatory approval in connecting countries is a key determinant of project delivery and can lead to delays in project development. Therefore, while we continue to regulate interconnector projects only in the GB jurisdiction, for the purposes of the third investment round, we decided to give more consideration to project development as a whole. This is to ensure that only viable projects, with real prospects of obtaining relevant regulatory approvals in the connecting states within the timeframe required to meet our expected timelines, may progress within the third investment round. It is important that projects applying to the third investment round are deliverable over the timeframes required, and this means having a clear pathway to development and positive engagement with relevant authorities in both - GB and the relevant connecting countries.
- 3.3. Throughout our engagement we asked NRAs about their country's strategy for future interconnection. Should a strategy exist, we asked whether there were any policy initiatives or strategic network planning for standard interconnection and/or multi-

¹¹ NRAs contacted include the French Energy Regulatory Commission (CRE), Norwegian Water and Energy Directorate (NVE), the Danish Energy Agency, the German Federal Network Agency (Bundesnetzagentur), Netherlands Authority for Consumers and Markets (ACM), Commission for Regulation of Utilities Ireland (CRU), Utilities Regulator Northern Ireland (UREGNI), and the Belgian Commission for Electricity and Gas Regulation (CREG).

purpose interconnection projects, and we asked for details on any national regulatory pathway for new interconnection projects.

- 3.4. We note that for the purposes of satisfying the IPA submission material requirements, we do not expect all projects to have obtained full regulatory approval in the connecting country before applying for the third investment round. However, the refined criteria are designed to assure Ofgem that developers have begun to engage directly with connecting NRAs and are aware of the processes necessary to ensure timely project completion.

Overview of our engagement with NRAs

- 3.5. This section summarises the key messages from our NRA engagement. While we endeavoured to outline most relevant regulatory requirements for the connecting states discussed below, this section does not constitute any legal or regulatory advice from us. We expect third window applicants to engage with connecting states' NRAs directly, rather than to rely on the below, and also to ensure that they have an appropriate level of knowledge of the connecting state's legal and regulatory requirements either via their in-house expertise and/or with external advisers' assistance.

Belgium

- 3.6. In 2022, the UK and Belgian governments signed a memorandum of understanding on energy cooperation, including multi-purpose interconnection.¹² From our engagement with the Belgian NRA CREG, we understand that there has been public opposition to interconnection on the basis of planning and environmental grounds while building substations, however the appetite for further interconnection in Belgium remains positive. Interconnector development in Belgium is led by the transmission system operator Elia, and all projects must obtain Belgian ministerial approval and enter into partnership with Elia before construction. Every four years, Elia submits a network development plan to the Belgian Directorate-General for Energy, that outlines the investment necessary to meet the needs of the Belgian electricity system for the

¹² [UK and Belgium sign memorandum of understanding \(MoU\) on energy cooperation \(www.gov.uk\)](https://www.gov.uk/government/news/uk-and-belgium-sign-memorandum-of-understanding-on-energy-cooperation)
Also see Elia's white paper on multi-purpose 'hybrid' interconnection [Studies and reports \(elia.be\)](https://www.elia.be/en/studies-and-reports)

following ten years.¹³ Any potential interconnector project would be part of this submission and would be justified by a cost-benefit analysis.

Denmark

3.7. We understand that there is no political commitment in Denmark to build further point-to-point interconnectors in the near-term. The Danish government is focusing primarily on the development of two offshore wind 'energy islands' to be completed by 2030, and are exploring MPI development to support the realisation of the islands.¹⁴

3.8. New interconnector proposals are reviewed on a case-by-case basis. To obtain approval, interconnector projects must be part of a national development plan to demonstrate the need for the connection. Further the project promoter must have TSO status and enter into partnership with the Danish transmission system operator Energinet.¹⁵ Additionally in Denmark, developers would need to demonstrate to the authorities that they follow EU unbundling rules. It will require approval from the Danish authorities for Energinet to confirm an interconnector agreement with another jurisdiction.

France

3.9. The French Commission for Energy Regulation (CRE) assess interconnector projects based on their costs and benefits. Our understanding is that CRE is unlikely to approve new projects, apart from those currently under development, within the GB third investment round timelines (ie projects connecting before 2032). This is due to the high number of existing interconnectors between GB and France, therefore further connections to GB are unlikely to create added value for the French energy system and French consumers. Additionally, the uncertainties arising from the UK's departure from the EU have impacted CRE's needs case for future interconnection, halting some projects currently under development from previous windows.¹⁶ CRE recognises, however, that needs may change in the future and it may later approve requests for

¹³ The most recent development plan (2020-2030) is available here in French and Dutch language [Federal Development Plan 2020 - 2030 \(elia.be\)](https://www.elia.be/en/federal-development-plan-2020-2030)

¹⁴ [Energy Islands in Denmark | Energinet](#)

¹⁵ For further detail on existing Danish interconnectors and the needs case of previous projects, please visit [International infrastructure projects | Energinet](#)

¹⁶ See CRE's deliberation on the GridLink proposed interconnector [CRE GridLink Deliberation](#)

interconnectors connecting prior to 2032. The implementation of the Trade and Cooperation Agreement between the UK and the EU may also provide the certainty required to alleviate existing concerns on future interconnection. Any project wishing to connect to France must first have a commercial partnership agreement with the transmission system operator RTE to obtain approval from CRE.

Germany

3.10. We note that to meet the German government's ambition of 80% of electricity derived from renewable sources by 2030, the government is focusing on offshore wind development and achieving an additional 5GW of interconnection, including MPIs. Interconnection efforts are currently focused on connecting Germany to the Danish Energy Islands and further connections to GB are not being actively pursued.

3.11. In terms of approvals, we understand that Bundesnetzagentur (BNetzA), the German NRA, requires that projects wishing to connect to Germany contact them first to apply for inclusion in the national network development plan, the EU 10-Year Network Development Plan¹⁷ and for Project of Mutual Interest (PMI) status.¹⁸ It is also essential to demonstrate to BNetzA through inclusion in a national strategic network plan that further interconnection is efficient and necessary.

Ireland

3.12. In a 2018 policy statement, the Irish government committed to the development of further interconnection to enhance security of supply, encourage price competition and integrate renewable electricity.¹⁹ Additionally, as part of the government's objective to develop 5GW of offshore wind generation by 2030, an offshore transmission framework has been developed.²⁰ The Irish government is currently updating their National Policy Statement on Electricity Interconnection. We understand that this policy update is scheduled to be completed by the end of 2022 and it will take into

¹⁷ [Planning the future grid - TYNDP \(entsoe.eu\)](https://entsoe.eu/Planning-the-future-grid-TYNDP)

¹⁸ The PMI status was created under the recast TEN-E Regulation to accommodate projects between the EU Member States and third countries. This status could apply to a project between GB and the EU state(s) provided it meets PMI criteria set out in the recast TEN-E Regulation. Projects connecting to GB are no longer eligible for the PCI status under the TEN-E Regulation.

¹⁹ [National Policy Statement on Electricity Interconnection \(www.gov.ie\)](https://www.gov.ie/National-Policy-Statement-on-Electricity-Interconnection)

²⁰ [Policy Statement on the Framework for Ireland's Offshore Electricity Transmission System \(www.gov.ie\)](https://www.gov.ie/Policy-Statement-on-the-Framework-for-Ireland's-Offshore-Electricity-Transmission-System)

account updated technologies such as MPIs among other developments, including the increased renewable energy ambition. New interconnectors must apply to the Commission for the Regulation of Utilities (CRU) for relevant consents and authorisations. CRU as the National Regulatory Authority assesses electricity interconnection applications on the basis of a set of technical, economic and regulatory criteria. CRU strongly recommends that only sufficiently mature projects should apply for the relevant determinations.

Northern Ireland

3.13. The Utility Regulator of Northern Ireland (UREGNI) is open to engagement with interconnector projects, who wish to connect to Northern Ireland (NI) within the GB third investment round. We understand that as part of the Northern Ireland Energy Strategy, the Department for Economy (DfE) will undertake policy consideration into the benefits of further interconnection to NI. The planned new arrangements for Single Market-GB trading post EU exit may also impact the legislative programme necessary to introduce any new regulatory framework for interconnectors in NI. Currently there is no specific legislative or regulatory pathway for interconnector development. At present, there is no specific licence template but there are licensing arrangements, which would apply to interconnectors in NI as it has been previously done for another interconnector project. Any licence applications are assessed on a case-by-case basis. Developers should note that the transmission licence application process may take time and involve several approvals, therefore the developers should allow sufficient time for this process in their project development plans.

Norway

3.14. The Norwegian government has committed not to approve any new international connections during the current (2021-2025) parliamentary term.²¹ This policy has been implemented to protect domestic energy prices for Norwegian consumers.

3.15. We understand that the Norwegian government is considering radial offshore wind connections, which may develop into MPIs in the North Sea-*Sørlige Nordsjø* area. However, whether and how this is taken forward is contingent on an impact study,

²¹ [hurdalsplattformen.pdf \(regjeringen.no\)](#) (in Norwegian)
[Major initiative to promote offshore wind power - regjeringen.no](#) (in English)

which is being carried out by the Norwegian Water Resources and Energy Directorate (NVE). We recommend that developers interested in connecting to Norway engage with NVE and other relevant authorities and closely follow developments to ascertain whether they will be able to deliver their proposed projects connecting to Norway within the timelines of GB third investment round. In relation to regulatory approvals, we understand that interconnector licences are awarded by the central Norwegian government, and interconnectors are owned and operated by the transmission system operator Statnett.

The Netherlands

3.16. In the Netherlands, electricity interconnector projects are usually undertaken by the Dutch transmission system operator TenneT. There is a possibility for third parties to develop these projects, however, this has so far occurred only once in the Netherlands. The Netherlands may welcome projects applying to the GB third investment round. These projects need to adhere to the general EU and national legislative and regulatory frameworks for the development of interconnectors, such as unbundling requirements. We were made aware that the public is generally supportive and interconnection is perceived as beneficial for consumers.

3.17. We understand that a developer wishing to connect an interconnector to the Netherlands should contact TenneT about their project, to discuss inclusion in TenneT's national development plan. A developer should also seek to be included in the EU 10-Year Network Development Plan (TYNDP). Such inclusion suggests that additional interconnection is necessary from a socio-economic welfare and/or security of supply perspective, and inclusion in the TYNDP is also necessary for the status of Project of Mutual Interest. The Ministry for Economic Affairs and Climate provides final approval on the needs case of a new interconnector and permit development to go ahead. Before being allowed to operate an interconnector, the developer needs to be certified by the ACM and appointed by the Ministry for Economic Affairs and Climate.

4. Conclusion and next steps

- 4.1. In conclusion, we are targeting the third investment round through the inclusion of additional system operability indicators to the needs case framework, and through the inclusion of NRA engagement evidence as part of IPA application documentation. These will ensure that in comparison to previous windows, there is greater consideration of interconnector deliverability and whole-systems impacts. Following consideration of the conclusions of the NGESO analysis, we are not applying additional locational targeting measures for the third investment round to screen out or deter applicant projects connecting in constrained areas. Although the analysis found that interconnectors do significantly contribute to network constraints depending on location, these impacts differ based on wholesale market dynamics and interconnector flows, therefore it is not necessary to restrict interconnector development to certain locations in the third window.
- 4.2. Our engagement with NRAs of neighbouring European states indicates that many countries do not have set regulatory frameworks for interconnection and assess projects on a case-by-case basis, and many countries require projects to collaborate closely with the relevant transmission system operators. As Ofgem is only responsible for regulation within GB, this analysis cannot be interpreted as legal or regulatory advice, and we expect applicants to the third investment round to engage with the relevant authorities in their connecting country to fulfil the IPA assessment criteria of demonstrating NRA engagement and therefore deliverability within the expected timeframe. The analysis here should be read as a starting point in this endeavour and we recognise that any summary position stated in this document is subject to change.
- 4.3. Longer term, we can expect our approach to targeting windows to differ and become more stringent. We intend for application windows beyond the third window to be informed by regular outputs from strategic network planning to ensure that each window reflects the latest system needs when considering offshore and onshore developments. We continue to work closely with the OTNR, Holistic Network Design, ETNPR and REMA projects, and we can expect future windows to be increasingly targeted by characteristics such as location, timing or capacity, as we move towards our optimal level of interconnection.
- 4.4. Developers must submit their full application between the 1st September and 31st October 2022. We welcome potential applicants to engage with us prior to the opening of the window, any further questions can be sent to Cap.Floor@ofgem.gov.uk.