

# bp response to Ofgem consultation on changes intended to bring about greater coordination in the development of offshore energy networks

## Introduction

bp is a leading global energy company – we provide heat, light, and mobility solutions for customers all over the world. Our purpose is to reimagine energy for people and the planet. bp has been based in the UK for more than 100 years and operates in over 70 countries around the world.

In 2019, bp supported an estimated £9.7 billion gross value-added contribution to the UK's gross domestic product (GDP) and 90,100 UK jobs, meaning that an estimated 0.5% of UK GDP in 2019 was in some way reliant on bp's activities. Of this total, bp's direct UK operations – such as oil and gas fields, petrochemical plants, fuels retailing facilities and major offices – created a £4.2 billion gross value-added contribution to UK GDP and employed 15,780 people across the UK.

bp spent £7.1 billion with 3,100 UK suppliers: £5.2 billion on non-capital goods and services, supporting an estimated £3.9 billion indirect contribution to GDP and around 56,000 jobs; and £1.9 billion on capital goods, supporting an estimated £1.6 billion gross value-added contribution to GDP and around 18,000 jobs. In addition, bp spent £1.2 billion on contracts with UK-registered businesses operating overseas.

bp supports a rapid transition to a lower carbon future because we believe it is in society's and bp's best interests. We agree on the need for the world to move to net zero emissions and support the climate goals of the Paris Agreement.

In 2020 we set our ambition to become a net zero company by 2050 or sooner, and to help the world get to net zero. In 2020 we also set out a new strategy to become an integrated energy company focused on delivering solutions for customers. By implementing this strategy bp expects to be a very different company by 2030.

## Key points

North Sea electrification and offshore wind are the two areas of focus for us in responding to the consultation. For more details on our activities please see below.

- We are supportive of the move towards greater coordination in the development of offshore energy networks
- We believe that there should be opportunity for projects to move into the different workstreams dependant on meeting the criteria as set out in the consultation document
- Specifically, bp believes that its UK Round 4 projects with partner EnBW do meet that criteria and should be considered as an Early Opportunities project
- We feel the decarbonisation of the North Sea basin through electrification of offshore oil and gas assets is missing in the areas this consultation considers

## North Sea electrification

As part of the North Sea Transition Deal (NSTD), the oil & gas sector has committed to reducing emissions by 10%, 25%, 50% and 90% in 2025, 2027, 2030 and 2040 respectively from a 2018 baseline. Across the UKCS basin, at least two electrification projects need to be delivered in the 2020's to achieve these interim targets on the pathway to net zero. Electrification projects will replace onboard power generation with lower-carbon sources (grid and offshore wind).

bp is delivering sustainable emissions reduction (SER) projects across its portfolio, however, electrification can potentially provide a step-change in abatement for certain assets. Specific bp-operated assets in the Central North Sea (CNS) and West of Shetland (WOS) have been identified which based on their maturity, remaining life and physical characteristics can contribute significantly to these decarbonisation targets through electrification.

Electrification of the Central North Sea is likely to be achieved through two separate electrification schemes– one located in the Central Graben area and another in the Outer Moray Firth area. Within the CNSE (CNSE Electrification) collaboration, bp along with other operators will focus on the development of the Central Graben hub electrification scheme. Currently, a Norway interconnector is the base case for electrification of assets in the Central Graben hub. However, we continue to identify and assess alternative UK options recognising the UK government’s desire to develop a competitive alternative.

We agree that a robust regulatory framework is a positive move forward, but favour one which considers the power transmission needs associated with electrifying offshore oil and gas assets. We continue to examine what is required on the technical elements of the project and to seek to develop a viable business case for electrification.

## Offshore wind

### UK Round 4 offshore wind – Irish Sea leases

We welcome the Early Opportunity Pathfinder workstream as it creates opportunity for early demonstration of successes from coordination of offshore wind development in the Irish Sea.

The Early Opportunities workstream is especially relevant to Leasing Round 4 (LR4) developers in the East Irish Sea given the small number of players and limited remaining seabed available.

Developer-led coordination through a shared offshore transmission system<sup>1</sup> can deliver the benefits anticipated by the Offshore Transmission Network Review (OTNR) process in a more timely and efficient manner than the alternatives<sup>2</sup>.

We believe that there should be opportunity to move into the different workstreams dependant on meeting the criteria as set out in the consultation document. Specifically, EnBW and bp believe our UK LR4 projects do meet that criteria and should be considered through the Early Opportunities workstream.

There is a risk of the UK not meeting its 2030 targets by reliance on the Pathway to 2030 workstream and not sufficiently prioritising and enabling Early Opportunity Pathfinders. The supply chain has finite capacity, which will restrict concurrent delivery of multiple LR4 and ScotWind projects connecting in 2030. Early connection of Irish Sea LR4 projects prior to 2030 allows phasing of grid resilience works, reduces pressure around logistics and infrastructure in the offshore industry, and maximises the UK supply chain participation opportunity.

## ScotWind

As part of the ScotWind application process, the bp/EnBW partnership undertook several steps to establish and demonstrate the preparedness of the application, including technical feasibility studies, early environmental monitoring, preliminary engineering, and securing of initial Bilateral Connection Agreements (BCA) offers. If awarded to the bp/EnBW partnership these steps allow the project to target the CfD allocation Round 6 and to support the UK and Scottish governments 2030 offshore wind capacity targets.

We believe there is likely to be a significant delivery gap around 2029 to meet the 2030 offshore wind targets which we think some of the UK Round 4 and ScotWind projects can help to fill. To enable this, we believe all UK projects that can be commissioned up to 2030 should be considered

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<sup>1</sup> Ofgem OTNR consultation paragraph 2.14

<sup>2</sup> Ofgem OTNR consultation Table 4 delivery model 1

as being Early Opportunities. It is our view that If they are treated as Pathway to 2030 their grid connection would be delayed such that these projects would not be able to fill the delivery gap.

Therefore, we propose the “TCE R4 & Scotwind Accelerated” scenario, as we believe the timing of the grid connection is a major, if not the only decisive factor for timely delivery of most of the R4 projects by the end of this decade.

In such scenario, a grid connection will be offered to more than 60% of R4 projects as well as individual Scotwind projects earlier than/until 2030.

The earlier a pre-2030 grid connection will be confirmed, the sooner both UK Round 4 and ScotWind project developers can start working towards an ambitious but feasible pre-2030 target for commissioning projects.

It is the view of bp/EnBW that, if awarded our ScotWind projects could be in scope for inclusion as Early Opportunities due to work undertaken prior to submission and since including a significant amount of preparatory design, development, planning, and consenting work. As with Round 4 projects, enabling early connections for ScotWind projects, i.e., prior to 2030 allows phasing of the required grid reinforcement works, reduces pressure for simultaneous connections delivery in 2030, reduces pressure around construction vessels, logistics and infrastructure in the offshore industry, and maximises the timely participation opportunity for the UK supply chain. Furthermore, we believe ScotWind projects are likely to require more fundamental grid reinforcements to deal with the substantial generation capacity increase in Scotland and the demand in the south. Therefore, early Anticipatory Investment (AI) to commence the grid works in parallel with the HND review(s) is advantageous to ensure the project specific grid works following the HND review remains feasible for completion 2028/29 and 2029/30.

## Norwegian offshore wind

In June 2021 we announced our intention to participate in the Norwegian offshore wind round in a consortium with Statkraft and Aker Offshore Wind.

## Consultation questions

Please note, EnBW/bp have submitted a separate response to this consultation which focuses specifically on the UK Round 4 Irish sea leases. We reference this response throughout.

## Early Opportunities questions

**Question 1: Are there any concepts we have not identified developers (as defined in this chapter) may wish to progress?**

Yes, the outlined concepts do not provide for offshore demand and one concept which has not been identified is North Sea electrification.

Electrification of offshore oil and gas assets can reduce emissions offshore by around 70% and formed a key part of the UK Governments North Sea Transition Deal (NSTD). The NSTD supported the electrification of offshore assets which is needed to rapidly reduce emissions associated with the continued production of oil and gas required to meet the UK’s energy needs.

The shared offshore transmission concept can be extended beyond offshore generators to include offshore consumers like oil and gas platforms. For example, a radial point-to-point connection from shore to our oil and gas facilities and similarly, the multipurpose interconnector model can be amended to provide for offshore consumers oil and gas demand.

Timing is crucial in terms of emissions reduction, particularly in relation to electrification, as benefits decline significantly with delays to start up. We believe additional or modified concepts which also

coordinate offshore demand should be considered and would need to be progressed at pace and ahead of a holistic offshore and onshore network design to support oil and gas decarbonisation.

A Central Graben hub electrification scheme will require 200-300 MW peak annual demand which represents a relatively small portion of proximate future offshore wind generation via Round 4 and/or the Sectoral Marine Plan for Offshore Wind for Innovation and Targeted Oil and Gas Decarbonisation (INTOG). The development of a transmission network in the Central Graben area will need to better incentivize wind developers to collaborate on oil and gas electrification.

Further comment on offshore wind can be found in the EnBW/bp response.

**Question 2: Should anticipatory investment risk be shared with consumers? If it should, what level of risk is it appropriate for consumers to bear?**

A coordinated approach to the development of an offshore transmission network can serve the dual purpose of supporting delivery of the UK Government's target of 40GW of offshore wind by 2030 and deliver oil and gas decarbonisation.

Although wind development timelines are misaligned with North Sea electrification schedule, particularly for mid-life assets in the Central North Sea, phased integration with wind may deliver infrastructure cost-sharing opportunities. Delivering increased coordination while ensuring an appropriate balance between cost and schedule will help provide the reliable and affordable power needed to support any offshore electrification solution.

We believe that pre-investment in transmission infrastructure that would be put to immediate use by oil and gas facilities, with ullage appearing as field production gradually declines, could support a faster rate of offshore wind development. Regulatory amendments to incentivise such Anticipatory Investment (AI) may reduce the long lead times related to offshore wind farms and their associated infrastructure.

The ability to realise cost synergies between offshore wind development and platform electrification depends on the efficiency of investment and how this transmission investment is treated.

Ofgem's assessment as to whether AI is economic or efficient and the method for allocating costs to parties liable for transmission charges will need to be applied to this novel investment scenario. This will support the determination of if, and how much, AI should be shared with customers.

Further comment on offshore wind can be found in the EnBW/bp response.

**Question 3: For concepts that intended to provide a wider system benefit, e.g. by mitigating an onshore constraint, how should the need for investment be demonstrated by the developer?**

We believe the need for investment should be demonstrated through an approach which sets out broader socioeconomic benefits.

The comprehensive OTNR Policy Assessment Criteria can address key themes around how benefits of oil and gas decarbonisation accrue including domestic energy security and affordability. Reviewing the four themes identified in the consultation document will demonstrate the wider system benefits and provide insight into the appropriate sharing of costs. It is understood that the risks associated with platform electrification will be largely borne by the oil and gas companies.

bp is seeking business models that minimise risk and protect value. Costs should be shared based on how benefits accumulate to avoid competition distortion and ensure fair allocation of risk-reward.

If investors can be better incentivised to use the wider network benefit investment (WNBI) this could potentially better support platform electrification. The emissions reduction and other benefits derived from electrification can be demonstrated at a sector, industry, government, and consumer levels.

Assessment of the wider system benefits associated with investment in transmission infrastructure to support platform electrification can enable more efficient investment and support the rapid deployment that is needed.

Further comment on offshore wind can be found in the EnBW/bp response.

**Question 4: What options are available to developers in demonstrating a reasonable expectation they intend to connect to the system?**

Please see the EnBW/bp response to the consultation to find our views on this question.

**Question 5: To what extent do you agree with our proposals to remove barriers to the Early Opportunity concepts? Please explain your answer.**

Please see the EnBW/bp response to the consultation to find our views on this question.

**Question 6: Do you believe a Significant Code Review is required to give effect to a potential decision to 'share' AI risk between consumers and developers?**

Please see the EnBW/bp response to the consultation to find our views on this question.

**Question 7: Do you agree with Ofgem's proposed approach to deliver the objectives of Early Opportunities workstream?**

We welcome the Early Opportunities pathfinder workstream as it creates an opportunity for early demonstration of successes from coordination of offshore wind development in the Irish Sea. Given the small number of Round 4 developers in the Irish Sea and the very limited remaining seabed available, we believe that a coordinated Early Opportunity developer-led solution is most appropriate to connect Round 4 offshore wind in the Irish Sea to meet the government's 2030 target of 40GW offshore wind power generation.

Developer-led coordination through a shared offshore transmission system<sup>3</sup> in the Irish Sea can deliver the benefits anticipated by the Offshore Transmission Network Review (OTNR) process in a more timely and efficient manner than the alternatives delivery models<sup>4</sup>.

The EnBW/bp Morgan and Mona projects are targeting CfD Allocation Round 6, so should be in scope for inclusion as Early Opportunities as referenced in the consultation document paragraph 2.3.

We believe enabling early connections of Round 4 projects prior to 2030 allows phasing of grid reinforcement works, reduces pressure on grid for simultaneous connections in 2030, reduced pressure around construction resources, logistics and infrastructure in the offshore industry and maximises enduring UK supply chain opportunities.

As such, EnBW/bp plan to submit a proposal to National Grid ESO, Ofgem and BEIS to be considered as an Early Opportunities project.

Further comment on offshore wind can be found in the EnBW/bp response.

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<sup>3</sup> Ofgem OTNR consultation paragraph 2.14

<sup>4</sup> Ofgem OTNR consultation Table 4 delivery model 1

## Pathway to 2030 questions

**Question 8: We consider that a holistic design will result in a more coordinated, economic and efficient network. Do you agree? Please give reasons for your answer.**

Please see the EnBW/bp response to the consultation to find our views on this question.

**Question 9: Do you agree with the planned work for a detailed network design offshore?**

Please see the EnBW/bp response to the consultation to find our views on this question.

**Question 10: Who do you believe is best placed to undertake the detailed design for assets that are in offshore waters?**

Please see the EnBW/bp response to the consultation to find our views on this question.

**Question 11: Do you agree that the existing developer led model should be retained and applied where the HND indicates a radial solution should be used? Please explain your answer.**

In terms of electrification, a radial connection to a national grid may be better economically in the short term with the potential to be upgraded to a multi-purpose interconnector (MPI) post oil and gas asset life. MPI concepts as part of the North Sea electrification provide additional benefits which include improving viability and longevity of the infrastructure, and improving the overall system efficiency and stability in support of emissions reduction in the UK.

**Question 12: Please provide your views on each of the delivery options we have described in this document. In providing your views, please comment on the issues we have raised. Please also give your views on the implementation issues we have raised.**

In terms of offshore electrification, we believe that delivery options 3-6 which require the OFTO or Generator to bear the construction risk may result in directionally higher prices due to the increased project risk and increased cost of borrowing.

Across the various delivery options, there is uncertainty around the licence requirements for the transmission and distribution of power to oil and gas platforms. Under the Electricity Act, an offshore transmission licence will be required if oil and gas owners build, own and operate the transmission infrastructure. Electricity transmission is generally understood to be >132kV and may require a distribution licence. Therefore, we feel exemption from transmission and distribution licences will support faster execution of platform electrification.

**Question 13: Please describe any feasible delivery options that we have not set out in this document.**

Please see the EnBW/bp response to the consultation to find our views on this question.

## MPI questions

**Question 14: Do you think we are focusing on the right models at this stage, or are there other models we should be considering? Is it also necessary to consider the evolution of such MPIs from pre-existing assets? Ultimately, should Ofgem accommodate multiple MPI models (eg IC-led and OFTO-led) or just one? What factors influence your answer?**



From a North Sea electrification point of view, the concepts currently identified do not provide for offshore demand from oil and gas platforms. We believe the shared offshore transmission concept can be extended beyond offshore generators to include offshore consumers like oil and gas platforms. In addition, the MPI model can be amended to provide for offshore consumers to an onshore system within the jurisdiction of another country.

From an offshore wind perspective, we believe the MPI objectives are largely aligned with our projects.

**Question 15: Do you agree with this position with regard to ownership structures of MPIs under the current framework?**

We believe the ownership structure of MPIs should consider protecting the rights of users of the infrastructure such as offshore demand consumers like oil and gas facilities. Considerations should ensure provisions for access are granted, and fair and equitable economically justified tariffs are applied. You may wish to look at examples set in the UK Oil and Gas sector (infrastructure Code of Practice).

**Question 16: What are the commercial, operational and regulatory factors that would drive a developers preference for either the OFTO-led or IC-led MPI model? and do you envisage a different usage of the component assets of an MPI depending on the MPI model?**

We would be grateful for clarity on who bears the cost surrounding some of the models, for example, of design and installation of cable connections. We believe it would make economic sense to provide for early access for North Sea electrification to provide financial security for MPI. As oil and gas demand falls in the North Sea there will need to be a back-up solution to export power into a UK onshore network.

**Question 17: How would the line to shore (L1) be used in practice and what would you consider to be the primary and secondary activities from a practical perspective? Please provide views for both the IC-led and OFTO-led models, highlighting any differences between L1 usages across the two models.**

We do not have a view on this question at this stage that we believe would be helpful to share but remain open to discussing it in more detail as the consultation develops.

**Question 18: Are there any barriers within the current frameworks, such as definitions within the CUSC, SQSS or other industry codes, that might prevent the line to shore (L1) being classified as either an OFTO or an interconnector while undertaking other secondary activities?**

We do not have a view on this question at this stage that we believe would be helpful to share but remain open to discussing it in more detail as the consultation develops.

**Question 19: What are your views on the feasibility of adopting a regime that requires developers to submit evidence to support their licence application (for assets that form part of an MPI) and commit to regular performance reports? Would this be practicable, proportionate, and effective? Are there other options that work well for industry that we could explore further?**

We do not have a view on this question at this stage that we believe would be helpful to share but remain open to discussing it in more detail as the consultation develops.

**Question 20: What are your views on the practicality of transposing obligations from one licence into another, which obligations would be the most important to incorporate into a remaining licence?**

We do not have a view on this question at this stage that we believe would be helpful to share but remain open to discussing it in more detail as the consultation develops.

**Question 21: Do you think the exemption provision with the Act offers any solutions to licencing MPIs within the current framework, even if only a temporary solution until a potential enduring solution is implemented?**

We do not have a view on this question at this stage that we believe would be helpful to share but remain open to discussing it in more detail as the consultation develops.

**Question 22: Are there any aspects of the priority dispatch and curtailment arrangements, the TCA, or the cross-border trading arrangements that are adopted in UK that might influence the choice of MPI models?**

We do not have a view on this question at this stage that we believe would be helpful to share but remain open to discussing it in more detail as the consultation develops.

**BEIS Question 1: What do you consider to be the key challenges to the establishment and operation of MPIs in the UK presented by current and proposed regulatory requirements applicable in EU Member States or other countries which MPI projects may connect with, or by the TCA? (eg regarding the efficient operation of MPIs under both the Home Market and Offshore Bidding Zone approaches). Are there further domestic challenges to these possible market design options**

We do not have a view on this question at this stage that we believe would be helpful to share but remain open to discussing it in more detail as the consultation develops.