

Answer to “Issues Paper No. 1: Initiative for Global Leadership in Offshore wind”.

*This document is intended to provide comments/feedback on Issues Paper No.1 according to the instructions stated in the document “Set Plan Actions: Implementation process and expected outcomes”.*

*For the Main Expected outcome, the following questions have been considered and answered:*

a) Do you agree with the targets set in the issue paper?

*First of all, it is worth to note that in the document, 2 key issues have been indicated to be tackled:*

- 1. “Offshore wind costs must be reduced and performance and reliability increased to meet its full contribution to the European energy mix”**
- 2. “There is a need to develop (floating) substructures or integrated floating wind energy systems for deeper waters and for use in other climate conditions.**

*Iberdrola considers the first target as the key one to be tackled as offshore wind energy has to reduce its costs to be competitive with other renewable technologies. Based on this assumption, floating wind energy has to be aligned with this objective and the need to develop floating substructures should be justified only when commercial competitiveness has been demonstrated.*

b) Do you think that the level of ambition is correct?

*Regarding proposed targets in offshore wind energy, Iberdrola considers, generally speaking, that it is difficult to establish a general target for all geographic regions and markets, as this could be very dependent on each region/country conditions. In any case, the appropriate level of ambition could be considered the UK level considering current projected position. Additionally, it is important to remark, that despite it is common practice to indicate levels of ambition for specific periods, these figures will be achievable not only with time but mainly with number of installed MWs, as this will provide the learning curves and economies of scale required.*

*Entering into details, the specific proposed targets comments are as follows:*

- 1. Reduce the levelised cost of energy for fixed offshore wind by improvement of the performances of the entire value chain to:**
  - a. Less than 10ct€/kWh by 2020 and**
  - b. Less than 7ct€/kWh by 2030.**

*Industry widely accepted value for UK considers £100/MWh (~135-140€/MWh) by 2020. This value is considered achievable although it is a challenge. Based on this figure, the above indicated target of 10ct€/kWh seems to be very ambitious. Even considering the target indicated in the introduction for Netherlands (108€/MWh in 2023), the target stated seems to be difficult to be achieved. The value for 2030 seems to be very ambitious (our estimated figure is around 100 ct€/kWh) as well. (Note:*

considering above indicated figures for projects with FID in 2020 and 2030 respectively).

**2. Increase the reliability of offshore wind turbines to 99% and the capacity factor to 55% by 2020.**

*Current average CF is around 40%, and even, the Annex I of the document “Towards an integrated roadmap: Research & Innovation challenges and needs of the EU Energy System”, stated a target of 50%. The value of 55% seems quite ambitious compared to the current average.*

**3. Develop cost competitive integrated wind energy systems including substructures which can be used in deeper waters (>50m) at any distance from shore and for use in different climate conditions with LCoE of:**

- a. Less than 14 ct€/kWh by 2020 and**
- b. Less than 9 ct€/kWh by 2030**

*Currently there are only few floating offshore wind demonstration projects, and so then real costs for floating technologies are unknown, making difficult to establish realistic targets for 2020. For 2030, as commented previously, offshore wind has to be competitive against other renewable energies, and so then efforts to reduce cost of energy are to be performed not only for <50m, but for >50m projects. Keeping this in mind, the level of ambition for the targets should be similar for both water depths in the long term.*

c) Are there any standing issue(s) in the way to reaching the proposed targets/priorities?

*In order to achieve the targets, the document considers the possible involvement of some elements (Production value chain performance/cost competitiveness, supply chain, better system integration, wind conditions, non-technological aspects, environmental and societal issues).*

*However, there are some other aspects that could be reflected. Firstly, regarding the platforms design, it is necessary to challenge the standards by providing real information to check possible under or over dimensioning affecting to CAPEX. This should be a common industry challenge. Availability of new (or improved) fixed foundations (including demonstration) aiming to reduce construction and installation costs is also a requirement to achieve reduced LCoE. For turbines, there are some objectives associated to 15MW turbines, what could be considered quite ambitious in the short-medium term.*

*Additionally, it is important to indicate the necessity of improving the O&M aiming to reduce OPEX. In addition to this, better understanding of actual loads and their impact on fatigue and design life, both in terms of possible reduction in Capex and Opex, and interaction with turbine control is to be analysed.*

*In addition, decommissioning requirements and costs are uncertain and may be considered as this could guide to a reduction on the estimated project costs.*

*Regarding integration, it is necessary to further develop HVDC systems, as well as facilitating the provision of ancillary services to the system.*

*Moving on to environment barriers, alignment of Development & Consenting phase of the projects would be welcomed, trying to make the process simpler. A more streamlined consistent European development framework would allow projects to be more efficient.*

*As a last point, market barriers are to be overcome, trying to maximize the number of technologies, suppliers, and facilitating the development of new solutions. Additionally, it is important to reduce and minimize regulatory uncertainties in order to keep the required level of investments in the offshore wind sector.*

*Finally, it is worth to note that in Annex "Relevant actions of the "Towards an integrated roadmap" document of the SET Plan", despite it is indicated that Action 2 of the Advanced Research Programme is one of the key drivers for reducing the cost of energy, it is not considered in the first paragraph as one of the most relevant for realising the targets. This Action 2 should be included in the relevant ones.*

d) What are your specific recommendations on prioritising R&I activities on these issues?

*In the short to medium term it is necessary to reduce offshore wind costs (and risks) and efforts may be mainly focused on fixed foundations costs. There is room to achieve ambitious levels but R&D activities are required. For the medium to long term, R&I activities could add activities focused on demonstrating the commercial applicability of solutions for >50m.*

e) What are the best placed actors to implement the targets/priorities (industry, EU, Member States, regions, groups of countries/organizations/etc.)

*Generally speaking, Industry (with appropriate public investment coming from Institutions), is the best actor to implement the targets. The public support may come mainly from EU and Member States as the required level of involvement makes them more appropriate to contribute.*

f) Identify possible barriers related to regulation, cooperation issues, standardisation/industrialization/manufacturing, socio-economics, etc.

*As indicated previously, stable regulation is required to guarantee the necessary level of investments required to achieve economies of scale, and reduce risks and uncertainties (therefore reducing financial risks and costs).*

*Regarding cooperation issues, there are some cases in which collaboration between several companies from different countries is a requirement within the call for proposals. As this is mandatory, sometimes it is difficult to achieve good results as interests are not always the same for all companies/institutions.*

*As a last point, acceptance from groups of interest (local communities, fishermen,...) should be enhanced in order to avoid consenting problems.*

- g) Identify possible gaps or duplication of efforts in the R&I priorities.
- h) Identify priorities where there is scope for and benefit in more coordination and/or cooperation accross EU, Member States, regions, Research Institutions and/or Industry;
- i) Identify best practices of past or present coordination and/or cooperation that can be used as an example or as a starting point.

*Some initiatives (such as Offshore Wind Accelerator in UK or specific ORE Catapult leaded proposals) have shown a good level of cooperation between developers and public organisms, as well as including research organizations and specialized companies (when required).*

- j) Outcome to identify groups of stakeholders and areas of cooperation.

*Possible partners from other sectors that could be engaged with could be DG-MARE as the maritime industry is obviously closely aligned with offshore energy. Therefore vessels, aquaculture, fisheries, maritime supply chain (including offshore telecoms industry) can start to deliver the Integrated Roadmap vision of a more rounded societal benefit of this industry, rather than opposing.*