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Generation & Trading

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01 May 2019

Open Networks Project: Consultation on Future Worlds Impact Assessment

We are pleased to respond to your consultation on Baringa's independent *Future Worlds Impact Assessment*.

Having reviewed the content of the Future Worlds Impact Assessment report and the associated suite of documents we have identified a number of specific recommendations and concerns summarised below:

- We acknowledge the extensive work and stakeholder engagement carried out by the Open Networks project to date. We believe that this report could have provided an advancement and progress on the significant findings already delivered by the project. However, we note that the broad and inconclusive findings of the Baringa report may not contribute a significant progression on the existing discussions around viability of Future Worlds if a more specific set of criteria and principles is not applied. As a result it may become difficult to assess feasibility of Future Worlds further and narrow down possible scenarios to the most optimal ones.
- We believe that there is sufficient evidence indicating that only three Future Worlds should proceed to the next more detailed stage of development. Continuing the analysis of all five scenarios may defer the progress of the project further and delay critical detailed work and next steps required to enable DSO transition.
- In relation to the assumptions used in outlining market interactions in Future Worlds, we would encourage these to be made more evidence-based and guided by a set of principles as per our argument above.
- More broadly, we note a lack of detail in the report on what technologies are considered to form DER, what are the key drivers for their uptake and what value they can deliver for system balancing and operation in the future.
- In addition, there is a lack of clarity around triggers for various Transition Paths summarised in the assessment, as well as their interaction with wider regulatory and policy changes and market developments outside the SCR on Access reform and Forward-Looking charges.
- As stated previously, we believe a set of key principles should be developed in order to progress this work further and identify specific areas for further comprehensive analysis.

More detailed observations on the Impact Assessment report are outlined below.

Stakeholder group:

ESB is an independent generator operating Carrington (910 MW) and Corby (401 MW) CCGTs in GB.

We are supporting Britain's transition to a low carbon future by investing in flexible and renewable generation assets, including combined cycle gas turbine, wind and biomass technologies. We own 125 MW of onshore wind generation capacity, with over 400 MW in the development pipeline in Britain and recently invested in the 353 MW Galloper offshore wind project. ESB also owns and operates a 40 MW waste wood-fired generation plant at Tilbury in Essex. ESB is a pioneer in electric mobility and is currently working in partnership with Transport for London to install, operate, maintain and commercialise charging infrastructure for the London taxi fleet. In 2017 we entered the GB energy supply market as ESB Energy.

Executive summary:



We agree that the Executive Summary provided at the beginning of the document summarises the content of the report and highlights key findings and conclusions of the Impact Assessment (IA).

In the context of structure of the Executive Summary section, we believe that findings could have been summarised in a more concise way for the reader to benefit from a snapshot overview presented in this section.

In relation to the content and nature of the overall findings, we would expect them to be more conclusive or narrow in order to present more meaningful results. While we acknowledge that the objective of the IA was to provide a high-level relative assessment of the worlds rather than an estimate of the absolute net benefit they can deliver, we believe that the overall assessment provided does not present any significant progress on the prior discussion around Future Worlds.

In line with our arguments above, the conclusion of the reports seems to indicate that all worlds are viable and should proceed to the next, more detailed stage of the assessment. However, neither the report itself nor the executive summary provide any indication of how further assessment can narrow down the choice and understanding of the feasibility of these worlds.

If the outcomes of the IA ultimately determine that all worlds are viable and transition pathways will depend on other market and policy factors, we would expect a clear summary of advantages and disadvantages of each world summarised against a set of basic criteria, such as compliance with domestic and EU legislation, cost of implementation, ease of access, cost to consumers and possibly a few additional elements. This would have helped identify the areas that would make certain scenarios less workable or non-compliant and allow narrowing down the list of worlds to the most optimal choices.

Future Worlds – assumptions

ESB agrees with Baringa's assumption that elements of price driven flexibility outlined in World C should be applied across all worlds. However, it is not clear why World C has been included as a standalone scenario for further assessment if it does not have any distinct features to be evaluated on its own.

We also agree that World B is the most closely aligned scenario to current market arrangements. Nonetheless, we disagree with the assumption used in the context of World B which indicates that DSO needs would always be prioritised ahead of ESO requirements. We do not believe this is the case today, neither should it be the case in the future. Firstly, market participants must have autonomy to select which market they want to provide services to and should be able to make their own commercial decisions. Secondly, response to any signal of system requirement, stress event or congestion, either on Distribution or Transmission, should be market-based and not mandated. Finally, ESO has a number of licence obligations to operate the system in the most efficient, secure and economic way; prioritising regional DSO needs where this may undermine safety of the grid may lead to a breach of its licence and jeopardise security of the network.

This leaves some uncertainty as to whether the outcomes of modelling would be different in relation to World B should this assumption have not been included.

Transition paths

We echo Baringa's view that future paths are extremely uncertain and difficult to model with a high degree of accuracy. While we largely agree with the triggers identified as part of the possible transition paths analysis, we would note that these triggers are of different materiality, scale and nature and are difficult to use in a like-for-like comparison.

We note that uptake of DER takes central role in determining outcomes in a number of scenarios and subsequently dictates direction of the most likely transition path. Therefore, we would, in the first instance, welcome a clear and workable framework and clarification of which technologies, both on demand and supply side, are considered to constitute a DER portfolio that is capable of providing transmission and distribution



network support services. As such, the range of technologies that could be included in the definition could be vast, from domestic DSR to V2G technology, or could simply consist of embedded generation.

At a more detailed level, it is not clear what variables are considered to be key determinants for the level of uptake of DERs. The overall analysis repeatedly refers to the SCR on Access reform and Forward-looking charges as the main policy determinant for the level of uptake of DER. It should be highlighted that there are other factors and pending policy decisions that would have equal or greater importance for certain DER investment decisions, such as the Targeted Charging Review SCR, BSUoS Task Force conclusions, policy decisions in electrification of heat and transport, as well as the emergence of new commercial models such as VPPs and hybrid technologies. In line with our argument above, these drivers would be different for various DER technologies.

In addition to the above, it is also not clear from the transition path 2 and 3 assumptions whether the uptake of DER, that drives viability of local flexible markets, needs to happen across all DNO regions simultaneously in order to generate sufficient signal that a move to the next stage/ next world is necessary. It should be acknowledged that DNOs are unlikely to experience the same level of DER penetration due to a number of factors, such as charging regime, locational signals, connection rules and other dependencies. In our view, there is little detail in the analysis on how the market would develop should the proliferation of DER be more noticeable in some DSO regions than others, or even within certain localised areas of the same DSO region.

Further work

As highlighted in our observations on the Executive Summary, we believe there is sufficient evidence and analysis to demonstrate that some Future Worlds included in the IA are not viable and should be excluded from further thorough assessment. It is our view that including all of the existing scenarios in the next stage of further detailed work is likely to delay progress on this project and create further confusion for decision-makers.

We broadly agree with the areas identified as in need of more work and evidence gathering. It is crucial to collect evidence and data in relation to costs of implementation, actual benefits of using DER for network reinforcement, congestion management and system balancing. However, we would encourage ENA to undertake this analysis only in respect of the three most viable pathways, i.e. transition to World B, World D and World E.

More importantly, we strongly believe that future work should concentrate on better defining market needs and contract requirements, categorising overlaps in existing arrangements, identifying any unintended consequences on charges and costs for systems and system users. Additionally, understanding practical commercial, implementation and regulatory frameworks required for facilitation of the optimal world(s) will be critical in order to move from theoretical concept to more rational and realistic assessments. This could be done by running a number of trial mechanisms to identify the functions that need to be enhanced.

Finally, on the basis of the findings and conclusions of the report it appears preliminary to be prescribing any preferred solution ahead of a detailed CBA. However, the key fundamental principles of what any future framework should strive to achieve must be identified and agreed.

At a high-level, it is our view that the following overarching principles need to be met by each world for it to be economically and technically feasible:

- The world must ensure that DER will have equal opportunities to realise value in both Transmission and Distribution level services
- There must be a route for proper coordination mechanisms to be agreed between ESO and DSOs
- Proposed design should be compliant with domestic and EU framework; if changes to GB legislation are required, what would they be, i.e. licence changes, code changes, legislation
- Proposed design must ensure there is an alternative route for DSOs to undertake congestion management and balancing



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- Transparency of market processes and rules is critical
- Market design must facilitate interoperability of solutions and products
- No distortions to competition and equal entry barriers for each technology to participate
- The preferred solution must provide a market-driven, fair, liquid and efficient framework for DER to unlock full value
- The design must facilitate a level-playing field and foster innovation and new operating models