



Bringing Energy
Together

Open Networks - Future Worlds Impact Assessment consultation | 1 May 2019

Introduction

The ADE welcomes the opportunity to respond to the consultation on the Open Networks' Impact Assessment.

The ADE is the UK's leading decentralised energy advocate, focussed on creating a more cost effective, efficient and user-led energy system. The ADE has more than 140 members active across a range of technologies, they include both the providers and the users of energy equipment and services. Our members have particular expertise in heat networks, combined heat and power, demand side energy services including demand response and storage, and energy efficiency.

Questions

1. Please confirm which stakeholder group you believe that you belong to.

For the purposes of this consultation, the ADE's members comprise primarily aggregators, distributed energy resources and supplier activities focused upon on-site heat and power generation and flexibility as well as the heat network sector.

2. Please provide your views on Baringa's interpretation of the Future Worlds, detailed in Section 2, for the purpose of this impact assessment and the overall approach, highlighting any key strengths or weaknesses, or areas which should be explored in more detail?

The interpretation of each World seems reasonable.

The role and evolution of the Flexibility Coordinator seem particularly uncertain – including the breadth of their functions and the establishment of several regional entities. Given this, it is not clear how far this can be relied upon in comparison with the others which are possibly understood more clearly.

3. Do you agree with the conclusions and insights within the Executive summary? If not, please explain your rationale. Please provide reference to more detailed comments against individual sections if this is appropriate.

We broadly agree with the conclusions and insights of the summary.

However, we would emphasise that the assessment of overall performance as well as the costs and benefits of each World is not comprehensive and pertains only the costs and benefits for network operations specifically. In order to fully assess the performance of these Future Worlds, it is important that further work is done to broaden this work's scope to take into account the costs and benefits for the broader market. Whilst we understand that this is outside of the scope of the current Future Worlds work, we consider that therefore a further impact assessment should

be undertaken that is able to look more broadly at total system costs and benefits. This should be undertaken jointly by BEIS and Ofgem.

Recognising that limited scope, we broadly agree with the findings that the different Worlds perform better against different criteria and that no one World markedly outperforms the others. In particular, whilst Worlds A and B do show some relative advantage in NPV to 2030 than the other Worlds, we consider that the difference is not that great, given the uncertainties involved. As aforementioned, the uncertainties surrounding the evolution of an independent flexibility co-ordinator make it difficult to judge its relative performance against the other Worlds.

4. Do you agree with the options set out as potential transition paths?

Broadly, we agree with the options set out as potential transition paths.

5. Do you believe there are any other viable transition paths? If so, please explain why.

We consider that it is too uncertain at present to say that the only viable transition path to an independent flexibility coordinator is through explicit policy change. The Piclo platform or Centrica's Local Energy Market, for example, have emerged ahead of policy and whilst a long way from operating as a flexibility coordinator, it is not inconceivable that further functions could develop from these initial trials.

6. Do you agree with the assumption that all transition paths start in Stage 1 of World B?

We agree to some extent. Stage 1 of World B does seem in most cases to reflect most the current situation; with marked differences across the different DNOs.

We would also note that if Ofgem were to accept the ESO's RIIO-2 ambitions and they are ultimately incorporated fully into the business plan, the ambition to become a one stop shop for connections and flexibility services and the activities set out regarding whole system thinking and processes seem to tend towards a much increased role for the ESO in a relatively short timeframe that is possibly closer to World D.

7. Do you agree with the areas identified for further work in the 2019 workplan and the further work ideas in the impact assessment or do you feel there are other areas of work that should be prioritised to progress in this area?

We agree broadly with the workplan for 2019 as set out.

8. What future work do you believe would enhance the debate and body of evidence around transitioning to the potential Future Worlds?

We consider that a further impact assessment should be undertaken that is able to look more broadly at total system costs and benefits. We would suggest this should be undertaken jointly by BEIS and Ofgem and that this should be done ideally before any major investment decisions are made.

9. Do you agree or disagree with the four categories of system operation benefits identified? Are there areas that should be excluded from the list and/or other areas that should be included?

We broadly agree with the four categories of system operation benefits.

- 10. Do you agree, disagree on the key benefits assumptions contained within Appendix B (eg all Worlds, apart from World C, achieve the same benefits by 2050 etc) and used in the impact assessment? If you disagree, please explain your reasoning. Do you have any other comments?**
- 11. Do you agree or disagree on the approach used to assess the overall potential benefits of improved system operation?**
- 12. Do you agree with the assessment of the proportion of benefits which each Future World is capable of delivering in Stage 1 and Stage 2?**
- 13. Do you agree or disagree on the approach taken to deal with the uncertainty/range of benefits? If you disagree please explain your reasoning.**

In response to Questions 10, 11, 12 and 13.

We broadly agree with the key benefits assumptions and methodology as laid out in Appendix B.

Overall, most of the assumptions are conservative. For example, the current National Grid figure for the AGIC does not include some equipment such as super-transformers and there are clear indirect and direct costs which are not included in the calculations for the benefits of generation to reducing network operation costs. As stated below, it is less clear whether this also pertains to the uncertainty ranges for the costs to network operations.

Further, there is a very strong focus on EVs and heat pumps in particular within this study. Whilst both these technologies are important, the development of a load demand-side response at different levels is also important and does not seem to be well-captured.

The following points relate to specific assumptions made.

Whilst we consider it reasonable that the principal value from DER against Transmission network investment will be avoided GSP reinforcement, we would also note that the NOA roadmap is specifically looking at whether DER flexibility could provide a greater range of value – including in reducing the need for Strategic Wider Works. As this roadmap develops, its learning should be included in further work in this programme.

It is not clear why it was necessary to assume that all flexibility providers on the demand-side are connected at HV. It would be useful to understand if a stronger focus on EHV-connected flexibility in the earlier years makes any significant difference to the analysis.

The use of only the My Electric Avenue study for what is the most important assumed benefit, avoided Distribution investment, seems unduly narrow and there is not sufficient justification for why this represents the best available proxy. Further developing this part of the analysis should be a key focus for further work.

We broadly agree with the qualitative assessment of each World against the criteria of dispatch control, certainty and level of participation. We would however note –

- In World C Stage 1, it seems uncertain whether joint dispatch of services would lead to much less certainty over response. It may be the case as stated that participants choose to incur non-delivery penalties when conflicts in dispatch arise. However, it may also be the case that there is a significant majority of services where the different nature of ESO and DSO services

means that conflicts do not arise or where they do, exclusivity clauses are put in place. This would seem to be a useful area where further work could be undertaken

- In World D Stage 1 –
 - It is not clear why primary control of avoided distribution investment is so low. It seems reasonable to argue that the ESO even in Stage 1 could have significant control of dispatch for at least EHV- and HV-connected assets
 - It is not clear why maximising participation in avoided distribution investment should be so low. Although it is reasonable that the ESO will not be able to facilitate participation from smaller LV participants, this would still leave some participation from EHV and HV voltages.

14. Do you agree or disagree with the areas identified for quantification of the implementation costs that will be faced by DSOs and ESO in Appendix C? If you disagree please explain your reasoning.

We agree with the areas identified for quantification.

15. Do you agree or disagree with the approach used to assess the costs of each world? If you disagree, please explain your reasoning.

We broadly agree with the approach used to assess the costs of each world; recognising the narrow scope on network operations.

As noted above, it seems that most of the assumptions regarding benefits tend to the conservative side. It is difficult to understand from the optimistic and pessimistic cost ranges given in Appendix C, particularly regarding technology, whether this also holds for the costs but it is important that the approach taken is consistent.

Further, the maturity gap between today and significant additional DSO functionality in World A seems understated – particularly in comparison to that assumed for World D. Flexibility tenders and the use of flexibility more generally remain at a relatively nascent level among the DNOs and differs considerably between them. Therefore, it would be useful to understand the justification for classifying the maturity gap between today and Stage 1 as medium for key areas such as system coordination and market facilitation.

16. Do you agree or disagree with the approach to dealing with the uncertainty/range of costs? If you disagree please explain your reasoning.

We broadly agree with the approach to dealing with uncertainty.

However, as aforementioned, it is much less clear from the assessment of costs to network operations how the pessimistic and optimistic views have been arrived at compared to the method used for the benefits. It would be useful to understand this in more detail and to be assured that the approach is similarly conservative across both.

17. Do you agree with the trade-offs of each of the Future Worlds identified against each of the high-level criteria in Table 1 of the Executive summary?

We broadly agree with the trade-offs as stated in Table 1.

The development of independent flexibility coordinators may take some time and that this is a clear trade-off. However, the inclusion of this regarding World D when it is not included in the development of World A seems to under-estimate the significant reform required to reform DNO systems.

We consider that conflicts of interest may arise in all worlds where the DSO plays a considerable part – not only World A as stated but also likely in World B.

18. Do you agree or disagree with the Appendix A approach of ranking of worlds to help identify the strengths and weaknesses of each World against each criteria? If you disagree please explain your reasoning.

We agree with the approach.

19. Do you agree or disagree with the rankings and whether they are suitably justified? If not, please comment on which ones and why?

We broadly agree with the rankings.

In line with our comments above, the significant difference between World D and World A in Stage 1 seems to under-estimate reform required to DNO systems. This is particularly the case where World A is ranked as 1 in some areas such as bringing more flexibility onto the system but is also seen in the sections regarding affordability and financial benefits.

Regarding confidence and trust, it is not clear why this would decline from Stage 1 to Stage 2 in World D as the status of the independent ESO would not have changed.

Regarding whole system processes and managing conflict, it is reasonable that a lack of co-ordination within World B would result in poor performance relative to other worlds. However, this seems a relatively pessimistic view when compared to the approach taken to other worlds. It also seems possible that a requirement to actively collaborate on joint procurement and dispatch would encourage greater information-sharing than would be possible in either World A or World D. The decision to consider the former more likely than the latter consequence should be justified further.

20. Do you agree or disagree with the list of potential unintended consequences identified in Section 4.5, and their prioritisation and potential mitigation as charted in Figure 20? If you disagree please explain your reasoning. Should the Open Network project progress further work on unintended consequences?

We agree with the list of potential unintended consequences and their prioritisation.

We consider that it would be useful for the Open Networks project to progress further work in this area.

For further information please contact:

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