WS1A P7 Baseline Methodologies Webinar

26 February 2021

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Our Approach - 2020

Varying DNO approaches to baselining

Stakeholder feedback supporting standardisation

Ambition to adopt existing approaches where possible – 'don't re-invent the wheel'

Research of existing UK and international baseline methodologies

Principles and priorities defined and agreed through DNO and stakeholder engagement.

Recommendations for common DNO approach presented and published

2019

2020

Benefits
- Comprehensive assessment avoids duplication
- View to align methodology supports stakeholder concerns
- Stakeholder opportunity to provide to input at an early stage
- Aligned methodology would considerably increase provider confidence in D-flex.

Consultant appointment
- Formal tender conducted
- DNV GL appointed;
  - Global subject thought leader
  - Understanding of UK DNO Market
 - Inc. FUSION project

Overview of work - 2020

- Over 2020 the Open Networks P7 team, with the support of appointed consultants DNV GL, undertook research to understand and compare existing UK and international baseline practices.

- DNV GL assessed 90 different products from 9 countries: GB, France, Switzerland, Finland, Netherlands, Belgium, USA, Canada and Australia.

- Consideration was then given as to whether any of these existing baseline practices could be adopted, in full or in part, by UK DNOs to support their own operation of flexibility services.

- Since DSO constraint management is quite a novel service, the vast majority of the services that were included in the analysis were balancing, adequacy or wholesale services.

- Applicability to DNO products was then assessed and scored against the DNO established baseline principles and given a weighting factor.

- DNV GL produced a detailed report of their assessment which can be viewed here

Stakeholder Engagement

- We undertook significant engagement via the ENA annual flexibility consultation and through further bilateral engagement with identified stakeholders.

- All stakeholders welcomed a move towards a standardised approach for distribution flexibility baselining.

- Most stakeholders believe that a range of different baselining methodologies should be used for differing technology and provider types. Although some support a one-size fits all approach for simplicity.

- Stakeholders supported our assessment of baseline principles and their priorities, with simplicity and inclusivity being identified as the most important factors.

Principles	Criteria	Description	Priority
Simplicity	DNO implementation costs	Are the costs for implementing and operating the administrative processes proportionate for the DNO?	High
Simplicity	FSP implementation costs	Are the costs for implementing and operating the administrative processes proportionate for the FSP?	Very High
Replicability	Replicability	Is the baseline reproducible by the DNO, FSP, and third-party validator for settlement (verification) purposes?	Medium
Design fit	Robustness to data	Are there high requirements on data to calculate the baseline? Do data quality issues undermine the baseline quality?	Low
Accuracy	Variance	Does the Baseline Methodology provide an accurate estimate of the flexibility load impact at a level expected by DNO and FSPs, or does it show a relatively high variance?	Medium
Accuracy	Bias	Does the Baseline Methodology provide an unbiased estimate of the flexibility load impact at a level expected, or does it show a relatively high bias?	Medium
Integrity	Integrity	Does the Baseline Methodology avoid or minimize the risk of gaming and strategic behaviour?	Medium
Inclusivity	Technology agnostic	Is the Baseline Methodology technology agnostic and not biased to a particular type of solution, technology and provider?	Very High
Design fit	Design fit – parameters	Can specific parameters of the service design be met?	Low
Stackability	Stackability	Does the Balancing Methodology allow the FSP to combine the delivery (Availability and/or Utilisation) of DNO products with other markets?	Medium

Market assessment
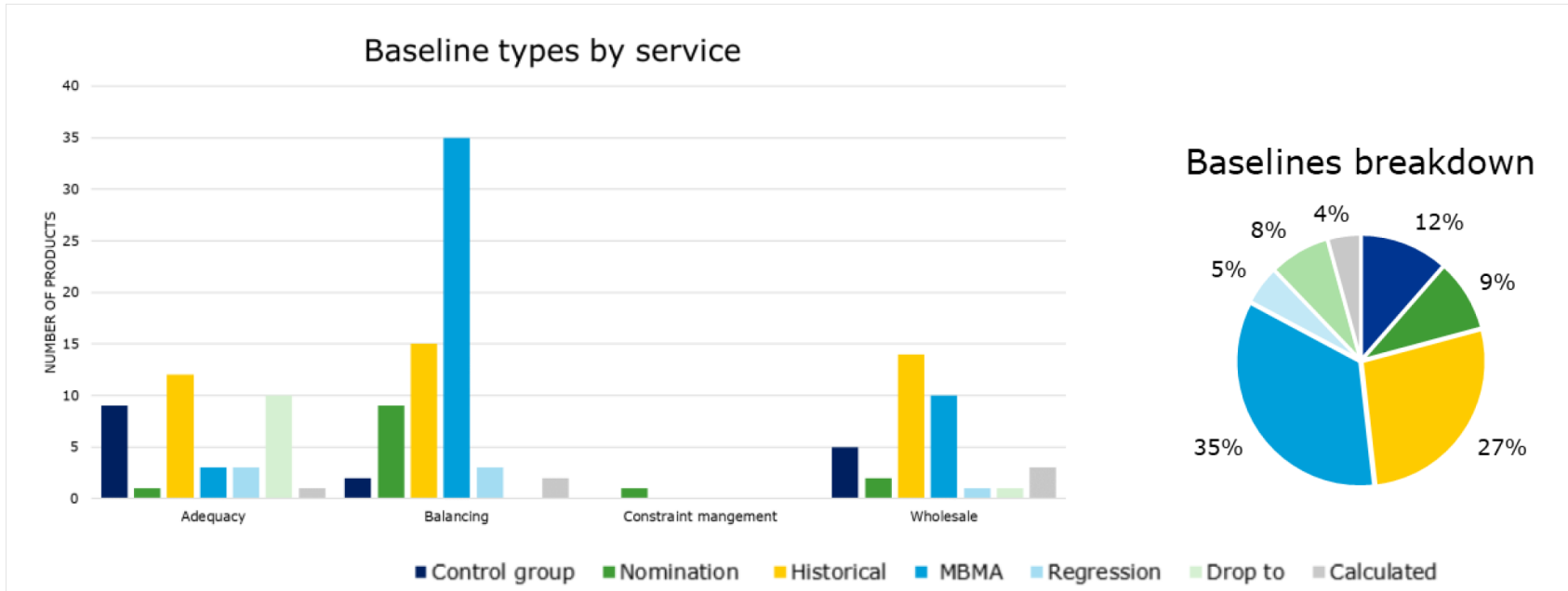
- Only one example of existing constraint management service evident.

- Meter Before Meter After (MBMA) most used, followed by Historical.

Market Assessment

Baseline types by utilisation instruction notification period
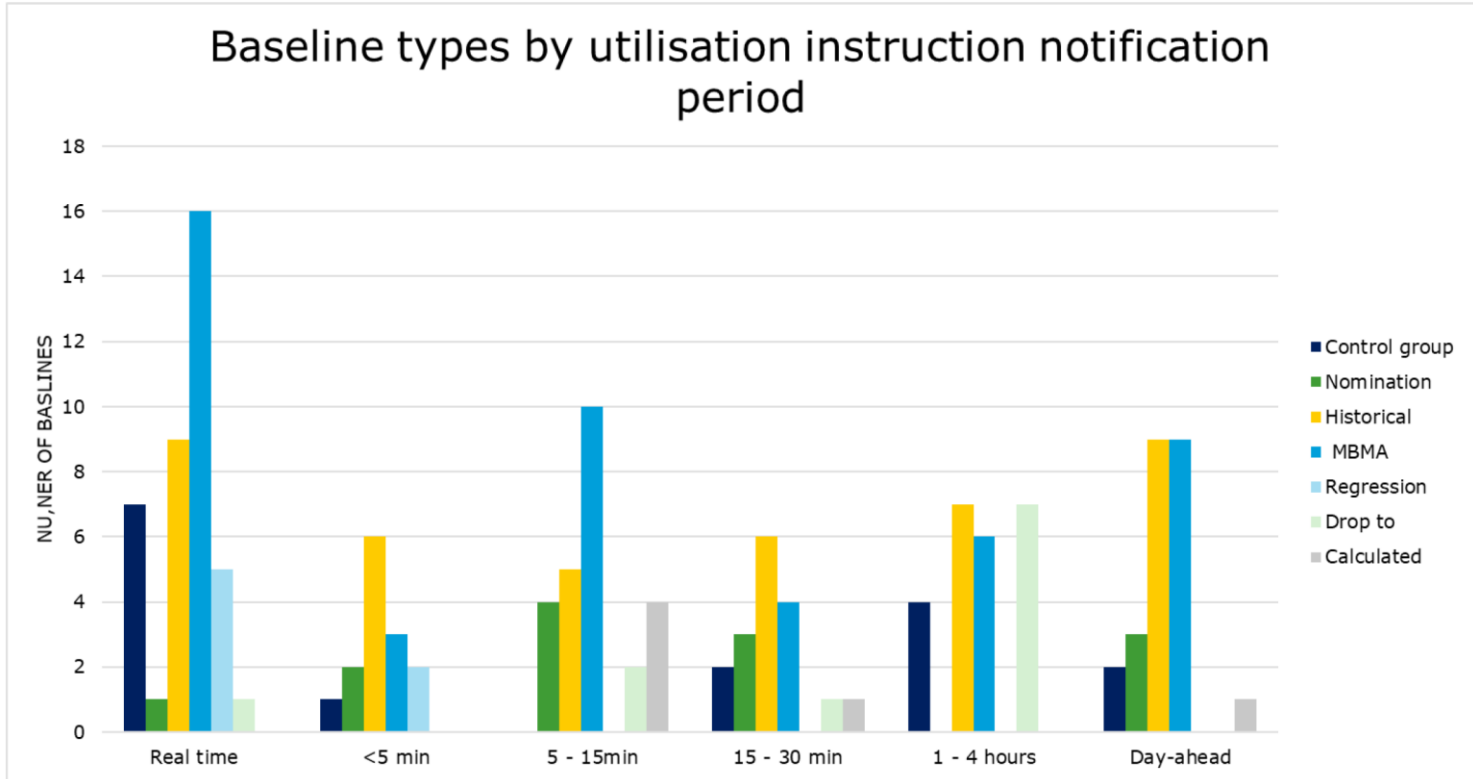
- Similarities in utilisation instruction notification period considered.

- No examples of services operating longer than day ahead.

- UK DNO constraint management services can have long utilisation instruction notification periods, usually hours or days but in some cases up to a year.

Assessment Findings

- MBMA is the most common baseline and mainly used in Balancing Services. Common for short and fast reacting balancing service with utilisation instruction periods less that 15 minutes.

- MBMA was excluded from consideration due to the length of UK DNO products utilisation instruction periods.

- If UK DNO product move to shorter utilisation instruction periods in the future MBMA could be reconsidered.

- Historical baselines second most common, most popular with products with longer utilisation instruction periods such as wholesale and adequacy.

- Nomination baselines were second most popular in balancing products, however nomination was used by the only example of DSO constraint management.

- A key observation was that a large number of the services provide a choice of baselines to the FSPs. Driven by the fact the most common baselines aren't always suitable to certain customer and technology types.

Considerations for comparison to UK DNO market

- In most examples of UK and International best practice, only a limited set of technology types have been participating. Mostly limited to industrial load.

- To accommodated future technologies we want to ensure that the standardisation of baseline methodologies allows current and future technologies to participate.

- This should be done by considering how inclusivity for all technologies can be achieved, without making any methodologies too overly complex at this time.

- All DSO products are technology agnostic and do not favour certain technologies for participation.

- With many new technologies yet to enter the market in large numbers, its not yet clear which technologies have sufficient economic fit with UK DNO products.

- The comparison assessment covered the following technology groups; Generation, Storage, demand flexibility and mixed aggregation.

- Industrial, Commercial and Residential customer segments were also considered.
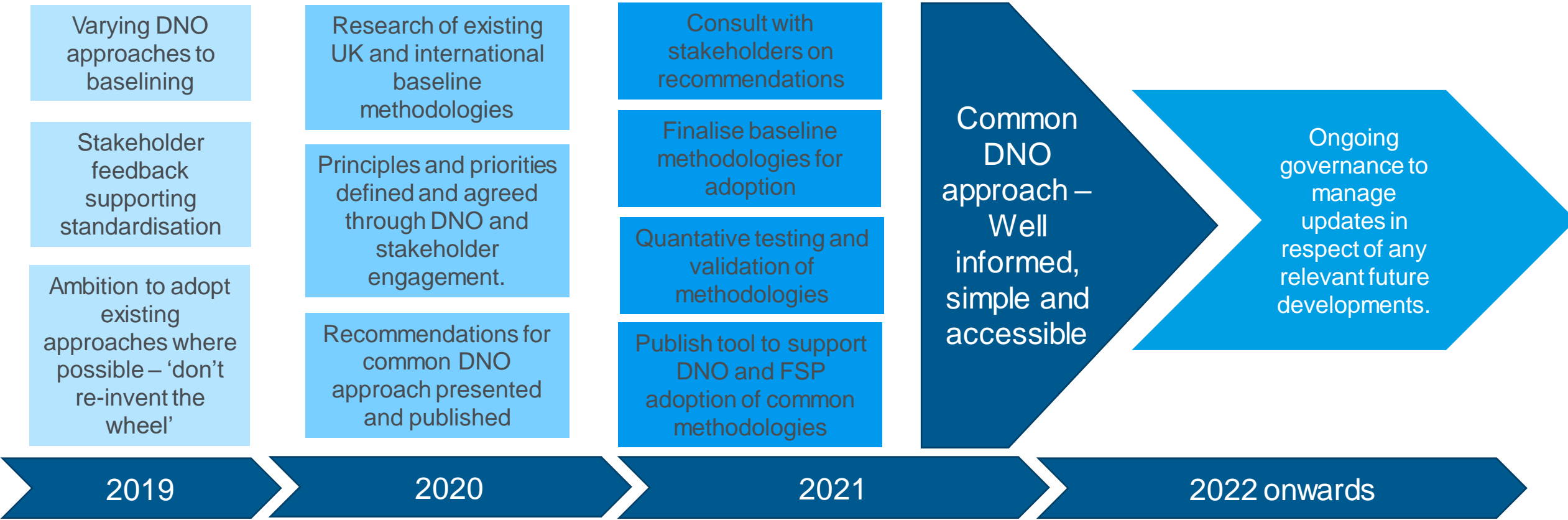
Assessment Conclusions

- GB DNO Flexibility Products involve some specific parameters that are not widely seen internationally, most notably long utilisation instruction periods due to requirement predictability.

- As such, DNO constraint management products do not suitably compare against existing GB and international practices. Nevertheless, examples have been taken into account for the recommendations.

- Recommendations focus on three types of baselining methodologies that are relatively simple, are known in GB markets, and which are currently in use by DNOs and/or in ESO balancing services and/or in the Balancing Mechanism.

- Recommendations also give consideration to the inclusivity and simplicity values which FSPs rated most important.

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Summary of DNV Recommendations

Product	Main recommendations
Sustain and Secure Scheduled	More experience needs to be gained by all DNOs before moving to the standardisation of the validation process (including baselines, if applicable). **Interim technology-specific validation mechanisms** have been recommended, these should be agreed between FSP and DNO at contract stage.
Secure Dispatched (week-ahead)	**Default - Historical baseline without SDA** Mid 8 of 10 for weekdays, mid 2 of 4 for weekends. Excludes prior event days and outliers. **Alternative – Nomination**. To be used for • dispatchable generation • connections with dominant dispatchable generation • if accuracy levels of historical baselines are (too) low • in case historical data is not available.
Secure Dispatched (real-time), Dynamic and Restore	**Default - Historical baseline with SDA** Mid 8 of 10 for weekdays, mid 2 of 4 for weekends. Excludes prior event days and outliers. **Alternative – Nomination.** To be used for • dispatchable generation • connections with dominant dispatchable generation • if accuracy levels of historical baselines are (too) low

Baseline	Description	Product Applicability	Technology Applicability
Historic - Week ahead Utilisation Instruction Period	Calculated every week, using asset data from the most recent 'non active days'. Separate calculation for Weekdays and Weekends. Excludes Outliers - highest and lowest day is excluded. Mid 8 of 10 (weekdays), mid 2 of 4 (weekends). Likely DNO will calculate and communicate to FSP ahead of operational week. *Non active days are days where no DNO event delivery has occurred.	Sustain	Flexible Demand
		Secure	Dispatchable Generation / Flexible Demand / Non-dispatchable Generation
		Dynamic	Dispatchable Generation / Flexible Demand / Non-dispatchable Generation
		Restore	Dispatchable Generation / Flexible Demand / Non-dispatchable Generation
Historic with SDAs - Closer to real time Utilisation Instruction Period	Calculated every week, using asset data from the most recent 'non active days'. Allows for FSP to make Same Day Adjustments. Separate calculation for Weekdays and Weekends. Excludes Outliers - highest and lowest day is excluded. Mid 8 of 10 (weekdays), mid 2 of 4 (weekends). Likely DNO will calculate and communicate to FSP ahead of operational week. *Non active days are days where no DNO event delivery has occurred.	Sustain	Flexible Demand
		Secure	Dispatchable Generation / Flexible Demand / Non-dispatchable Generation
		Dynamic	Dispatchable Generation / Flexible Demand / Non-dispatchable Generation
		Restore	Dispatchable Generation / Flexible Demand / Non-dispatchable Generation
Nomination - Alternative for Secure, Dynamic & Restore	For accuracy, most suitable where sub-metering is available. Must be submitted by the FSP in advance of operation, fixed time to be prescribed by the DNO.	Secure	All technology types where accuracy levels of historical baselines are (too) low & All technology types where historical data is not available
		Dynamic	
		Restore	
Zero - Alternative for Sustain services	Most applicable where assets are not intended to stack. Or in the short term, where no historic data is available. Short term use will be replaced by appropriate method when data is available.	Sustain (where applicable, some scheduled secure services)	Dispatchable Generation
Zero with capacity de-rating - Alternative for Sustain services		Sustain (where applicable, some scheduled secure services)	Non-Dispatchable Generation

Our Approach – roadmap

2019
- Varying DNO approaches to baselining
- Stakeholder feedback supporting standardisation
- Ambition to adopt existing approaches where possible – 'don't re-invent the wheel'

2020
- Research of existing UK and international baseline methodologies
- Principles and priorities defined and agreed through DNO and stakeholder engagement.
- Recommendations for common DNO approach presented and published

2021
- Consult with stakeholders on recommendations
- Finalise baseline methodologies for adoption
- Quantative testing and validation of methodologies
- Publish tool to support DNO and FSP adoption of common methodologies

Common DNO approach – Well informed, simple and accessible

2022 onwards
- Ongoing governance to manage updates in respect of any relevant future developments.

Next Steps – 2021 Activity

Activity	Outputs
Stakeholder Feedback	Consult with DNOs and relevant stakeholders to share baseline recommendations and gather feedback.
Refine and finalise baseline(s)	Consider stakeholder feedback to refine and finalise the baseline matrix. Agree DNO implementation strategy and agree ongoing governance arrangements for baseline control and evolution.
Quantative Analysis	Commission a tool to undertake testing and analysis to ensure results meet baseline objectives. Develop tool to allow ongoing verification of baselines by DNOs, FSPs and Platforms – could be an online application, still to be explored.
Disseminate and implement	Publication and marketing of product outputs; • Final report. • Implementation strategy/timeline. • Governance strategy. • Baseline verification tool and supporting documentation.

Slido Responses

1. Do you agree with the approach DNOs have taken to researching the applicability of common UK DNO baseline methodologies?

    o   Yes 65% No 35%

2. Do you agree the research undertaken was well informed and sufficiently considered?

    o   Yes 76% No 24%

3. Do you agree with the prioritisation of Simplicity and Inclusivity as identified through stakeholder engagement?

    o   Yes 80% No 20%

4. Do you agree that the range of baselines proposed will support participation for all technology and provider types?

    o   Yes 29% No 71%

5. Do you feel that the proposed baseline could prevent or discourage you from participating in DNO flexibility, or do you consider the proposal workable?

    o   Yes (prevent/discourage) 77% No (workable) 23%

6. Do you agree that the baselines proposed have been matched suitably to DNO flexibility products?

    o   Yes 33% No 67%

7. Do you think that the publication of a baseline tool will support FSPs and 3rd Parties with their understanding and application of DNO baselines?

    o   Yes 92% No 8%

8. Do you agree with the proposed roadmap for baseline standardisation?
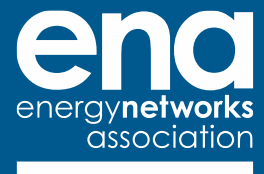
    o   Yes 83% No 17%

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Further Engagement

While the responses to our Slido survey were in general positive, particularly in respect of our approach to date and plans for 2021, there were some responses that demonstrate further engagement is needed around the suitability of the recommendations.

We would like to invite stakeholders to provide further feedback in respect of questions 4, 5 & 6. We are particularly interested to know;

- What technologies could the recommendations present a barrier to and why? And are these technologies established or emerging?

- How could the recommendations present a barrier your participation? Is it due to technology type, data provision requirements, impact on revenues etc…?

- Which products do you feel have not been matched to a suitable methodology and why?

Please submit your responses to hsawdon@westernpower.co.uk by **26th March**.

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