

To distribution network operator regulatory managers,  
system operators, Flexibility providers,  
generators and other interested parties

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## **Operational data sharing commitments from network and system operators**

Dear colleagues,

The energy system requires significant improvements to digitalisation and data sharing to meet the needs of current and future energy consumers, users and stakeholders. Network data is required to enable the optimal use of the growing penetration of distributed energy resources across the distribution networks.

Ofgem requested that the Energy Networks Association's (ENA's) Open Networks Project (ONP) identify operational datasets for sharing to network users, and their minimum standards. The ONP have now completed and published this work and communicated to us that they intend to keep this record up to date.<sup>1,2</sup>

The purpose of this letter is to:

- 1) Respond to the commitments published by the ENA's ONP to share operational data;
- 2) Set out our expectations of the commitments made by the ONP; and,
- 3) Inform stakeholders of forthcoming data sharing based on the work completed by the ENA at Ofgem's request.

## **Background**

In November 2020, Ofgem requested the ENA's ONP to identify operational data that can be shared to network users, and the minimum standards for doing so.<sup>3</sup> Ofgem identified broad operational data types that would provide value to network users, and requested that the ENA

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<sup>1</sup> Report on operational data sharing: [https://www.energynetworks.org/industry-hub/resource-library/on22-ws1b-p7-proposal-for-operational-data-to-be-shared-by-dnos-\(23-feb-2022\).pdf](https://www.energynetworks.org/industry-hub/resource-library/on22-ws1b-p7-proposal-for-operational-data-to-be-shared-by-dnos-(23-feb-2022).pdf)

<sup>2</sup> Data tables for operational data sharing: [https://www.energynetworks.org/industry-hub/resource-library/on22-ws1b-p7-rag-status-\(17-feb-2022\).zip](https://www.energynetworks.org/industry-hub/resource-library/on22-ws1b-p7-rag-status-(17-feb-2022).zip)

<sup>3</sup> Energy Networks Association Open Networks Project Initiation Document 2021, page 48:  
[https://www.energynetworks.org/assets/images/Resource%20library/ON21-PRJ-PID%20Project%20Initiation%20Document%20\(post-consultation\)-v4.0.pdf](https://www.energynetworks.org/assets/images/Resource%20library/ON21-PRJ-PID%20Project%20Initiation%20Document%20(post-consultation)-v4.0.pdf)

ONP further investigate and specify minimum datasets across the DNOs and ESO that could be shared to meet users' needs.

Based on our instructions, the ONP have defined datasets under four categories that they have committed to sharing:

- Boundary flow data
- Outage data
- Operational forecasting data
- Curtailment data

### **Operational data**

Operational data is generally recognised as data on the characteristics of networks and systems within the time window of months to minutes ahead of real-time and is required to enable the operation of distribution flexibility markets. Whilst we have set up reforms to improve the availability of distribution network data on planning and investment timescales under the Long Term Development Statement reforms<sup>4, 5</sup> and the introduction of Network Development Plans,<sup>6</sup> we recognise the legitimate desire from network users and flexibility providers to receive data on shorter operability time horizons to enable integrated and coordinated operations.

### **DNO commitments and an agile approach to data sharing**

The ONP product group have identified datasets, and decided to share the datasets at the earliest opportunity, and to prioritise the datasets by their readiness for sharing.

#### Positive commitments

Datasets will be made available in an agile fashion, allowing stakeholders to provide feedback on where further improvements are most valuable, rather than DNOs and the ESO assuming where improvements should be made. We endorse this agile approach to opening relevant datasets to network users as soon as possible.

We accept this on the basis that:

- 1) Network users can take advantage of data and provide services as soon as possible;

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<sup>4</sup> <https://www.ofgem.gov.uk/publications/next-steps-visibility-distributed-generation-connected-gb-distribution-networks>

<sup>5</sup> <https://www.ofgem.gov.uk/publications/common-information-model-cim-regulatory-approach-and-long-term-development-statement>

<sup>6</sup> Distribution Standard Licence Condition 25B:  
<https://epr.ofgem.gov.uk/Content/Documents/Electricity%20Distribution%20Consolidated%20Standard%20Licence%20Conditions%20-%20Current%20Version.pdf>

- 2) Network users will be able to inform network licensees where future enhancements to data quality and format should be targeted; and,
- 3) We expect the release of data to stimulate competition between DNOs on data improvements.

### Limitations of the work

We accept that sharing operational data as soon as possible will result in varying data quality, format and timescales for delivery across the DNOs.

We are also aware that there are several datasets, particularly across curtailment and forecasting data, that are poorly specified, or with extended lead time, including unspecified dates in RIIO-ED2. These datasets are expected to be highly valuable for network users, and the absence of specific data is a significant shortcoming of the ONP's work.

We want to see the ENA members do more to specify and provide delivery dates for sharing these datasets.

We also note that historical utilisation is described as data not yet produced. We understand this to mean that network loading against dynamic asset and circuit ratings on operational timescales has not been captured. However, we don't want this statement to mislead network users, and note that network loading data is captured across EHV and parts of the HV network at half hourly intervals, and that this data can be shared and will be useful for network users.

### **Steps forward**

We support the commitments made by DNOs and the ESO to share data as set out in the annexes. We will continue to monitor this work and expect DNOs to ensure that they are meeting their projected timelines, or improving on them.

We expect DNOs and the ESO to improve the quality, completeness, and sharing mechanisms for shared datasets through continuous improvements as well as specific proposals in DNOs' RIIO-ED2 business plans and Digitalisation Strategies and Action Plans (DSAPs). We also understand the ENA's ONP intend to maintain an up to date record of operational data to share, allowing users to understand what to expect and when. We also expect the DNOs and the ESO to continue their work on data triage as developed by the ENA's Data and Digitalisation Steering Group to explain data requests and responses, and justify their position on sharing specific datasets.<sup>7</sup>

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<sup>7</sup> <https://www.energynetworks.org/assets/images/ENA%20Data%20Triage%20Playbook.pdf>

We acknowledge that DNOs and the ESO have legal obligations to uphold their commitments to data protection and data privacy throughout, and that they will consider these when deciding what data to share.

### **Other relevant datasets**

Other datasets are of course needed for optimal use of distribution networks. The scope of this letter is on operational data, however, for reference we have catalogued further reforms, commitments and datasets regarding distribution networks for sharing by the end of 2023 or earlier in annex 9.

- ANM/curtailment data
- Best view
- Distribution Future Energy Scenarios
- Distribution Network Options Assessment
- Embedded Capacity Register
- Flexibility procurement data
- Grid Code modification 0139: week24/48 data
- Heatmaps
- Long Term Development Statement
- Network Development Plans

Stakeholders interested in further information on the operational datasets listed in the annexes should reach out to the relevant DNO or the ESO using contact details found in annex 10. Stakeholders wishing to contact Ofgem should email [flexibility@ofgem.gov.uk](mailto:flexibility@ofgem.gov.uk).

Yours faithfully,



Steve McMahon

**Deputy Director, Electricity Distribution and Cross-Sector Policy**

## Annex 1: Operational data commitments – definitions

	<b>Data Set</b>	<b>Market Data Requirement</b>	<b>Current Status</b>	<b>GAP</b>	<b>Data Triage Playbook Classification</b>	<b>Granularity of data to be provided (interval of data points in minutes)</b>	<b>Refresh Rate of data set (interval between updates of entire dataset or additional of new data points to existing data set)</b>	<b>Data - Period of Historic Data Available</b>	<b>Timeframe to Implement</b>	<b>Notes</b>
Description	The overall data group, defined to help users locate relevant data.	The specific data to be shared.	Current treatment of the data covering if/ how it is sourced and shared.	Current challenges and issues with the data (either sharing the data or actually procuring the data)	Proposed sharing status following DDSG descriptions. Can be: public/ shared to specific users/ confidential	Time intervals on which data is aggregated/averaged.	How frequently data is updated on websites/ data portals.	Time over which data is available.	Date by when the DNO has committed to make the data available.	Relevant information on the data, including link to where data is shared.

## Annex 2: Operational data sharing commitments – ENWL

Boundary flow data and curtailment data									
Data Set	Market Data Requirement	Current Status	GAP	Data Triage Playbook Classification	Granularity of data to be provided (interval of data points in minutes)	Refresh Rate of data set (interval between updates of entire dataset or additional of new data points to existing data set)	Data - Period of Historic Data Available	Timeframe to Implement	Notes
Boundary Flow Data	GSP - MW	Collected on a circuit by circuit basis but not routinely aggregated as a boundary flow	Aggregate relevant signal into a publishable data product. Publish to externally available location	Public	Data is aggregated to half hourly averages	Daily extract from real-time system	Easily accessible data from the start of ED1	Feb-22	Available for download from within ENWL website: <a href="https://www.enwl.co.uk/get-connected/network-information/gsp-boundary-flows/">https://www.enwl.co.uk/get-connected/network-information/gsp-boundary-flows/</a> [enwl.co.uk]
Boundary Flow Data	GSP - MVar	Collected on a circuit by circuit basis but not routinely aggregated as a boundary flow	Aggregate relevant signal into a publishable data product. Publish to externally available location	Public	Data is aggregated to half hourly averages	Daily extract from real-time system	Easily accessible data from the start of ED1	Feb-22	Available for download from within ENWL website: <a href="https://www.enwl.co.uk/get-connected/network-information/gsp-boundary-flows/">https://www.enwl.co.uk/get-connected/network-information/gsp-boundary-flows/</a> [enwl.co.uk]
Boundary Flow Data	GSP - Current	Collected on a circuit by circuit basis but not routinely aggregated as a boundary flow	Aggregate relevant signal into a publishable data product. Publish to externally available location	Public	Data is aggregated to half hourly averages	Daily extract from real-time system	Easily accessible data from the start of ED1	Feb-22	Available for download from within ENWL website: <a href="https://www.enwl.co.uk/get-connected/network-information/gsp-boundary-flows/">https://www.enwl.co.uk/get-connected/network-information/gsp-boundary-flows/</a> [enwl.co.uk]
Boundary Flow Data	GSP - Voltage	Collected on a circuit by circuit basis but not routinely aggregated as a boundary flow	Aggregate relevant signal into a publishable data product. Publish to externally available location	Public	Data is aggregated to half hourly averages	Daily extract from real-time system	Easily accessible data from the start of ED1	Feb-22	Available for download from within ENWL website: <a href="https://www.enwl.co.uk/get-connected/network-information/gsp-boundary-flows/">https://www.enwl.co.uk/get-connected/network-information/gsp-boundary-flows/</a> [enwl.co.uk]

## Operational data sharing – network and system operator commitments

Boundary Flow Data	Expansion of dataset to include Grid and Primary	Collected on a circuit by circuit basis but not routinely aggregated as a publishable data product	Process for GSPs makes this data viable where there is a transformer with appropriate measurement. Sites with single significant customers to be excluded so individual customer data will not be shared	Public	Data is aggregated to half hourly averages	Daily extract from real-time system	Easily accessible data from the start of ED1	Q2 2022	
Boundary Flow Data	Embedded Generation cumulative MW flow	Collected on a site by site basis and data held to enable aggregation but not aggregated as a publishable data product	Only includes embedded generation with telemetered data	Public	Data is aggregated to half hourly averages	Daily extract from real-time system	Easily accessible data from the start of ED1	Feb-22	Will be available for download from within the following area of ENWL's website <a href="https://www.enwl.co.uk/get-connected/network-information/">https://www.enwl.co.uk/get-connected/network-information/</a>
Boundary Flow Data	Embedded generation split by ECR type data	Collected on a site by site basis and data held to enable aggregation but not aggregated as a publishable data product	Currently split by generation type but not aligned with ECR	Public	N/A	N/A	Easily accessible data from the start of ED1	Q2 2022	
Curtailment Data	Provide regional curtailment figures	Not provided	This data is not routinely generated at present.	Public / Shared dependent on contractual sensitivity	30mins	Monthly	N/A	ED2	ENWL does not routinely curtail customers at present. There are some generation customers with an N-0 connection who may be disconnected as part of an outage elsewhere on the network if they cannot be supported on a back-feed, but this is an absolute outage, rather than a reduction in load or generation.  This data will be available once our network-wide Active Network Management solution is live.
Curtailment Data	Split data to GSP level	Not provided	This data is not routinely generated at present.	Public / Shared dependent on contractual sensitivity	30mins	Monthly	N/A	ED2	ENWL does not routinely curtail customers at present. There are some generation customers with an N-0 connection who may be disconnected as part of an outage elsewhere on the network if they cannot be

## Operational data sharing – network and system operator commitments

									supported on a back-feed, but this is an absolute outage, rather than a reduction in load or generation.  This data will be available once our network-wide Active Network Management solution is live.
Curtailment Data	Split curtailment data by ECR type	Not provided	This data is not routinely generated at present.	Public / Shared dependent on contractual sensitivity	30mins	Monthly	N/A	ED2	ENWL does not routinely curtail customers at present. There are some generation customers with an N-0 connection who may be disconnected as part of an outage elsewhere on the network if they cannot be supported on a back-feed, but this is an absolute outage, rather than a reduction in load or generation.  This data will be available once our network-wide Active Network Management solution is live.
<b>Operational forecasting and outage data</b>									
Data Set	Market Data Requirement	Current Status	GAP	Data Triage Playbook Classification	Data - Period of Historic Data Available			Timeframe to Implement	Notes
Operational Forecasting	Provide a forecasted view of load and generation in near real time	Longer term forecasting is conducted and published in our Distribution Future Energy Scenarios (DFES).	Investigate code requirements to require customers to share data such that all DNOs can provide forecasting data where there is a system need  Short-term forecasting is being developed as part of our Active Network Management development, but this is currently internal to the control system and there is no mechanism to publish this at present.	Public / Shared / Closed - will be subject to granularity of the data	Data will be stored once forecasting is in place, historian will allow data created to be shared; period of history will be defined at time based on system used to hold historian data but would be no less than other historic data sets			ED2	Development of short-term forecasting to enable short-term purchasing and dispatch forms part of our DSO transition plan within our ED2 Business Plan. Kit is envisaged that provision of short term forecasting would form part of a new platform to enable purchasing and settlement.



## Operational data sharing – network and system operator commitments

Outage Data	Provide outage data to relevant customers for period of eight weeks ahead of real time (Programming Phase)	Capital programme work is published annually as part of the LTDS, but this only includes large projects and does not include all outages. Individual customers are informed individually about upcoming outages via our Planned Supply Interruption process. Individual liaison takes place with very large customers to provide a 12 month look ahead and to discuss aligning outages with customer planned downtime where possible	Currently provided to relevant customers, but not publicly.	Shared	N/A			TBC	Planned outages are necessarily fluid and may be re-scheduled as a result of other incidents on the network and are not confirmed until around 6 weeks ahead on the transmission network, and 2 weeks ahead on the HV network (depending on the types of customers affected).
Outage Data	Provide outage data to relevant customers for period of eight weeks ahead of real time (Operational Planning Phase)	Capital programme work is published annually as part of the LTDS, but this only includes large projects and does not include all outages. Individual customers are informed individually about upcoming outages via our Planned Supply Interruption process. Individual liaison takes place with very large customers to provide a 12 month look ahead and to discuss aligning outages with customer planned downtime where possible	Currently provided to relevant customers, but not publicly.	Shared	N/A			Q1 2023	
Outage Data	Outage data to show impact to individual DER	Capital programme work is published annually as part of the LTDS, but this only includes large projects and does not include all outages. Individual customers are informed individually about upcoming outages via our Planned Supply Interruption process. Individual liaison takes place with very large customers to provide a 12 month look ahead and to discuss aligning outages with customer planned downtime where possible	Currently provided to relevant customers, but not publicly.	Shared	N/A			Q1 2023	

Operational data sharing – network and system operator commitments

Outage Data	Provide historic outage data	Data can be extracted from September 2021 onwards	Data publishing mechanism would need to be developed.	Public / Shared dependent on contractual sensitivity and relevant customers use case	NaFIRS data at feeder level back to 1985 with data to the clearing switch back to the start of ED1. MPAN level data from September 2021			Q1 2023	
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## Annex 3: Operational data sharing commitments – NPg

Boundary flow data and curtailment data									
Data Set	Market Data Requirement	Current Status	GAP	Data Triage Playbook Classification	Granularity of data to be provided (interval of data points in minutes)	Refresh Rate of data set (interval between updates of entire dataset or additional of new data points to existing data set)	Data - Period of Historic Data Available	Timeframe to Implement	Notes
Boundary Flow Data	GSP - MW	Internally available in PI data store	Requires code to extracting data from PI API and placement into a suitable format (eg csv) ready for collection from dedicated are of corporate website. Probably achievable in short term using desktop (office) type tools.	Public / Shared dependent on contractual sensitivity	Raw data is collected as 10 min or 30 min snapshots (dependent site and/or communication capacity)	Proposed data set made available initially as weekly csv extract. Data can be extracted daily from PowerOn system	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	Conservative date and medium classification due to requirement for programming expertise
Boundary Flow Data	GSP - MVAr	Internally available in PI data store	Requires code to extracting data from PI API and placement into a suitable format (eg csv) ready for collection from dedicated are of corporate website. Probably achievable in short term using desktop (office) type tools.	Public / Shared dependent on contractual sensitivity	Raw data is collected as 10 min or 30 min snapshots (dependent site and/or communication capacity)	Proposed data set made available initially as weekly csv extract. Data can be extracted daily from PowerOn system	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	Conservative date and medium classification due to requirement for programming expertise
Boundary Flow Data	GSP - Current	Internally available in PI data store	Requires code to extracting data from PI API and placement into a suitable format (eg csv) ready for collection from dedicated are of corporate website. Probably achievable in short term using desktop (office) type tools.	Public / Shared dependent on contractual sensitivity	Raw data is collected as 10 min or 30 min snapshots (dependent site and/or communication capacity)	Proposed data set made available initially as weekly csv extract. Data can be extracted daily from PowerOn system	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	Conservative date and medium classification due to requirement for programming expertise
Boundary Flow Data	GSP - Voltage	Internally available in PI data store	Requires code to extracting data from PI API and placement into a suitable format (eg csv) ready for collection from dedicated are of corporate website. Probably achievable in short term using desktop (office) type tools.	Public / Shared dependent on contractual sensitivity	Raw data is collected as 10 min or 30 min snapshots (dependent site and/or communication capacity)	Proposed data set made available initially as weekly csv extract. Data can be extracted daily from PowerOn system	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	Conservative date and medium classification due to requirement for programming expertise

## Operational data sharing – network and system operator commitments

Boundary Flow Data	Expansion of dataset to include Grid and Primary	Internally available in PI data store where telemetered	Incremental extension to the GSP Case for sites with telemetry	Public / Shared dependent on contractual sensitivity	Raw data is collected as 10 min or 30 min snapshots (dependent site and/or communication capacity)	Proposed data set made available initially as weekly csv extract. Data can be extracted daily from PowerOn system	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	Conservative date and medium classification due to requirement for programming expertise
Boundary Flow Data	Embedded Generation cumulative MW flow	Base data limited to existing telemetry /anm installations, not currently summated	Requires summation of available telemetered data and assessment of known untelemetered data	Public / Shared dependent on contractual sensitivity	Raw data is collected as 10 min or 30 min snapshots (dependent site and/or communication capacity)	Proposed data set made available initially as weekly csv extract. Data can be extracted daily from PowerOn system	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	Conservative date and medium classification due to requirement for programming expertise
Boundary Flow Data	Embedded generation split by ECR type data	Type available from generation database - I assume this means flow not just a list of generators	As per above but subdivided	Public / Shared dependent on contractual sensitivity	N/A	N/A	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	
Curtailment Data	Provide regional curtailment figures	Available in ANM systems and from manual requests	Will require combination of ANM and manual curtailment requests	Public / Shared dependent on contractual sensitivity	Will be based on granularity of curtailments issued for both ANM and non ANM (manually applied)	Not currently designed, proposal to take steer based on outputs provided from other DNOs and feedback to design based on requirements	Will be based on new reporting platform, will be all data once platform goes live. Pre system data will be assessed on options to import	Q1 2023	
Curtailment Data	Split data to GSP level	see above	Dependent on above	Public / Shared dependent on contractual sensitivity	As per regional above	As per above	As per above	Q1 2023	
Curtailment Data	Split curtailment data by ECR type	see above	Dependent on above	Public / Shared dependent on contractual sensitivity	N/A	N/A	N/A	Q1 2023	
<b>Operational forecasting and outage data</b>									
<b>Data Set</b>	<b>Market Data Requirement</b>	<b>Current Status</b>	<b>GAP</b>	<b>Data Triage Playbook Classification</b>	<b>Data - Period of Historic Data Available</b>			<b>Timeframe to Implement</b>	<b>Notes</b>

## Operational data sharing – network and system operator commitments

Operational Forecasting	Provide a forecasted view of load and generation in near real time	Whole system load flow analysis and prediction recognised as an essential enabler to full DSO operation.	Requires procurement and/or development of predictive network analysis tools capable of harvesting multiple available data sources using an as yet to be determined combination of measured values and statistical/AI inputs to arrive at credible load/generation forecasts.	Likely to range from Closed to public, dependent on as yet undefined systems	Data will be stored once forecasting is in place, historian will allow data created to be shared; period of history will be defined at time based on system used to hold historian data but would be no less than other historic data sets			ED2	Dependent on longer term core system development.
Outage Data	Provide outage data to relevant customers for period of eight weeks ahead of real time (Programming Phase)	Previously piloted to large customers with information emailed	Requires extension to previous pilot activity and establishment of web portal / data collection area	Shared (based on relevant customers use case)	N/A			Q4 2022	Main unknown relates to creation of web portal / data collection zone which may require custom privacy
Outage Data	Provide outage data to relevant customers for period of eight weeks ahead of real time (Operational Planning Phase)	Previously piloted to large customers with information emailed	Requires extension to previous pilot activity and establishment of web portal / data collection area	Shared (based on relevant customers use case)	N/A			Q4 2022	Main unknown relates to creation of web portal / data collection zone which may require custom privacy
Outage Data	Outage data to show impact to individual DER	Previously piloted to large customers with information emailed	Requires extension to previous pilot activity and establishment of web portal / data collection area	Shared (based on "individual DER" use case)	N/A			Q4 2022	Main unknown relates to creation of web portal / data collection zone which may require custom privacy
Outage Data	Provide historic outage data	Maintained by operational planning	Requires extension to previous pilot activity and establishment of web portal / data collection area, some additional collation required	Public / Shared dependent on contractual sensitivity and relevant customers use case	Data goes back several years but exists in log format through Control System which is not easily reportable			Q4 2022	Main unknown relates to creation of web portal / data collection zone which may require custom privacy

## Annex 4: Operational data sharing commitments – SPEN

Boundary flow data and curtailment data									
Data Set	Market Data Requirement	Current Status	GAP	Data Triage Playbook Classification	Granularity of data to be provided (interval of data points in minutes)	Refresh Rate of data set (interval between updates of entire dataset or additional of new data points to existing data set)	Data - Period of Historic Data Available	Timeframe to Implement	Notes
Boundary Flow Data	GSP - MW	Internally available in PI historian this is now exported to our PRAE system which provides analytics and visualisation	Develop web portal to publicise PRAE platform outputs. Initial option would be external publication as is. Further work required depending on visualisation requirements that best fit customer needs.	Public	30mins	30mins	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	
Boundary Flow Data	GSP - MVAR	Internally available in PI historian this is now exported to our PRAE system which provides analytics and visualisation	Develop web portal to publicise PRAE platform outputs. Initial option would be external publication as is. Further work required depending on visualisation requirements that best fit customer needs.	Public	30mins	30mins	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	
Boundary Flow Data	GSP - Current	Internally available in PI historian this is now exported to our PRAE system which provides analytics and visualisation	Develop web portal to publicise PRAE platform outputs. Initial option would be external publication as is. Further work required depending on visualisation requirements that best fit customer needs.	Public	30mins	30mins	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	

## Operational data sharing – network and system operator commitments

Boundary Flow Data	GSP - Voltage	Internally available in PI historian this is now exported to our PRAE system which provides analytics and visualisation	Develop web portal to publicise PRAE platform outputs. Initial option would be external publication as is. Further work required depending on visualisation requirements that best fit customer needs.	Public	30mins	30mins	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	
Boundary Flow Data	Granularity of data	Internally available in PI historian this is now exported to our PRAE system which provides analytics and visualisation	Develop web portal to publicise PRAE platform outputs. Initial option would be external publication as is. Further work required depending on visualisation requirements that best fit customer needs.	Public	30mins	30mins	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	
Boundary Flow Data	Dataset Update Frequency	30min Avg from PI - this is then updated into PRAE	Develop web portal to publicise PRAE platform outputs. Initial option would be external publication as is. Further work required depending on visualisation requirements that best fit customer needs.	Public	30mins	30mins	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	
Boundary Flow Data	Expansion of dataset to include Grid and Primary	All above data is available at both GSP and Primary level	None	Public	30mins	30mins	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	
Boundary Flow Data	Embedded Generation cumulative MW flow	Internally available in PI historian this is now exported to our PRAE system which provides analytics and visualisation	Develop web portal to publicise PRAE platform outputs. Initial option would be external publication as is. Further work required depending on visualisation requirements that best fit customer needs.	Public	30mins	30mins	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	
Boundary Flow Data	Embedded generation split by ECR type data	ECR data is available in PRAE and could be displayed in web portal	Develop web portal to publicise PRAE platform outputs. Initial option would be external publication as is. Further work required depending on visualisation requirements that best fit customer needs.	Public	30mins	30mins	This data would likely not be available historically as the PI records do not have sufficient data to split by	Q4 2022	

## Operational data sharing – network and system operator commitments

							generation type		
Curtailment Data	Provide regional curtailment figures	Curtailment assessment available in PRAE platform based on asset ratings at GSP & Primary level	Develop web portal to publicise PRAE platform outputs. Initial option would be external publication as is. Further work required depending on visualisation requirements that best fit customer needs.	Confidential data - some aspects of the data could be shared subject to triage.	30mins	30mins	For ANM schemes 3-4 years of historic data available for manual requests likely 1 year of historic records	Q4 2022	
Curtailment Data	Split data to GSP level	PRAE platform can provide data at GSP & Primary level	Develop web portal to publicise PRAE platform outputs. Initial option would be external publication as is. Further work required depending on visualisation requirements that best fit customer needs.	Confidential data - some aspects of the data could be shared subject to triage.	30mins	30mins	For ANM schemes 3-4 years of historic data available for manual requests likely 1 year of historic records	Q4 2022	
Curtailment Data	Split curtailment data by ECR type	Currently not available	Will require combination of ANM and manual curtailment requests. Classification of ECR type in both automated and manual systems required	Confidential data - some aspects of the data could be shared subject to triage.	30mins	30mins	For ANM schemes 3-4 years of historic data available for manual requests likely 1 year of historic records	Q4 2022	
<b>Operational forecasting and outage data</b>									
<b>Data Set</b>	<b>Market Data Requirement</b>	<b>Current Status</b>	<b>GAP</b>	<b>Data Triage Playbook Classification</b>	<b>Data - Period of Historic Data Available</b>			<b>Timeframe to Implement</b>	<b>Notes</b>
Operational Forecasting	Provide a forecasted view of load and generation in near real time	PRAE platform can provide generation and demand forecasting from 4 day ahead to day ahead	This is a relatively new innovation and work will be required to provide a suitable front end visualisation tool and develop within day forecasting	Public / Shared depending on the level of disaggregation	No significant records of forecast data sets with the exception of Demand forecasting			Q4 2022	



## Operational data sharing – network and system operator commitments

Outage Data	Provide outage data to relevant customers for period of eight weeks ahead of real time (Programming Phase)	Already inform customers of planned outages 5 weeks ahead of time	Internal business processes and systems would need to be modified to provide 8 weeks ahead of time notifications including publication of data	Public / Shared - Certain parts of this dataset may show individual customers forecasted profile which, if shared publicly, may lead to commercial advantage to competitors	Data goes back several years but exists in log format or manual records System which is not easily reportable			Q4 2022	
Outage Data	Provide outage data to relevant customers for period of eight weeks ahead of real time (Operational Planning Phase)	Already inform customers of planned outages 5 weeks ahead of time	Internal business processes and systems would need to be modified to provide 8 weeks ahead of time notifications including publication of data	Public / Shared - Certain parts of this dataset may show individual customers forecasted profile which, if shared publicly, may lead to commercial advantage to competitors	Data goes back several years but exists in log format or manual records System which is not easily reportable			Q4 2022	
Outage Data	Outage data to show impact to individual DER	Available for HV and above connected generation	To make this available for smaller scale DER this will require the development of a new reporting requirement and incorporated within web portal	Public / Shared - Certain parts of this dataset may show individual customers forecasted profile which, if shared publicly, may lead to commercial advantage to competitors	Data goes back several years but exists in log format or manual records System which is not easily reportable			Q4 2022	
Outage Data	Provide historic outage data	Captured in PowerOn Historian	Develop external tools to publicise PowerOn historian data	Public / Shared - Certain parts of this dataset may show individual customers forecasted profile which, if shared publicly, may lead to commercial advantage to competitors	Analogue data from the PI historian is available for a considerable period (5 years+)			Q4 2022	

## Annex 5: Operational data sharing commitments – SSEN

Boundary flow data and curtailment data									
Data Set	Market Data Requirement	Current Status	GAP	Data Triage Playbook Classification	Granularity of data to be provided (interval of data points in minutes)	Refresh Rate of data set (interval between updates of entire dataset or additional of new data points to existing data set)	Data - Period of Historic Data Available	Timeframe to Implement	Notes
Boundary Flow Data	GSP - MW	Internally available in PI data store	Requires code to extracting data from PI API and placement into a suitable format (eg csv) ready for collection from dedicated area of corporate website. MW/MVAr will be provided where available from site, otherwise flow will be MVA.	Public	Between 5 to 30 mins dependant on system capability	Proposed data set made available initially as weekly csv extract.	Analogue data from the PI historian is available for a considerable period (5 years+)	Q2 2022	
Boundary Flow Data	GSP - MVAr	Internally available in PI data store	Requires code to extracting data from PI API and placement into a suitable format (eg csv) ready for collection from dedicated area of corporate website. MW/MVAr will be provided where available from site, otherwise flow will be MVA.	Public	Between 5 to 30 mins dependant on system capability	Proposed data set made available initially as weekly csv extract.	Analogue data from the PI historian is available for a considerable period (5 years+)	Q2 2022	
Boundary Flow Data	GSP - Current	Internally available in PI data store	Requires code to extracting data from PI API and placement into a suitable format (eg csv) ready for collection from dedicated area of corporate website.	Public	Between 5 to 30 mins dependant on system capability	Proposed data set made available initially as weekly csv extract.	Analogue data from the PI historian is available for a considerable period (5 years+)	Q2 2022	
Boundary Flow Data	GSP - Voltage	Internally available in PI data store	Requires code to extracting data from PI API and placement into a suitable format (eg csv) ready for collection from dedicated area of corporate website.	Public	Between 5 to 30 mins dependant on system capability	Proposed data set made available initially as weekly csv extract.	Analogue data from the PI historian is available for a considerable period (5 years+)	Q2 2022	

## Operational data sharing – network and system operator commitments

Boundary Flow Data	Expansion of dataset to include Grid and Primary	Internally available in PI data store where telemetered	Process for GSPs makes this data viable, just needs expansion. Sites with single significant customers to be excluded so individual customer data will not be shared	Public	Between 5 to 30 mins dependant on system capability	Proposed data set made available initially as weekly csv extract.	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	
Boundary Flow Data	Embedded Generation cumulative MW flow	GSP summated totals available internally through manually created tags in PI historian.	Requires code to extracting data from PI API and placement into a suitable format (eg csv) ready for collection from dedicated area of corporate website.	Public	Between 5 to 30 mins dependant on system capability	Proposed data set made available initially as weekly csv extract.	Analogue data from the PI historian is available for a considerable period (5 years+)	Q4 2022	
Boundary Flow Data	Embedded generation split by ECR type data	GSP summated totals available internally through manually created tags in PI historian.	Requires code to extracting data from PI API and placement into a suitable format (eg csv) ready for collection from dedicated area of corporate website.	Public	N/A	N/A	N/A	Q4 2022	
Curtailment Data	Provide regional curtailment figures	Not provided	Consistent method across DNOs for measuring curtailment impact to ensure fair and representative figures are published.	Public	Will be based on granularity of curtailments issued for both ANM and non ANM (manually applied)	Not currently designed. Should be consistent across the DNOs	Available in email format for last 4/5 years	Q2 2023	
Curtailment Data	Split data to GSP level	Not provided	Consistent method across DNOs for measuring curtailment impact to ensure fair and representative figures are published.	Public	As per regional above	Not currently designed. Should be consistent across the DNOs	Available in email format for last 4/5 years	Q2 2023	
Curtailment Data	Split curtailment data by ECR type	Not provided	Consistent method across DNOs for measuring curtailment impact to ensure fair and representative figures are published.	Public	N/A	N/A	N/A	Q2 2023	
<b>Operational forecasting and outage data</b>									
<b>Data Set</b>	<b>Market Data Requirement</b>	<b>Current Status</b>	<b>GAP</b>	<b>Data Triage Playbook Classification</b>	<b>Data - Period of Historic Data Available</b>			<b>Timeframe to Implement</b>	<b>Notes</b>

## Operational data sharing – network and system operator commitments

Operational Forecasting	Provide a forecasted view of load and generation in near real time	Whole system load flow analysis and prediction recognised as an essential enabler to full DSO operation.	Requires procurement and/or development of predictive network analysis tools capable of harvesting multiple available data sources using an as yet to be determined combination of measured values and statistical/AI inputs to arrive at credible load/generation forecasts.	Public / Shared / Closed - will be subject to granularity of the data	Data will be stored once forecasting is in place, historian will allow data created to be shared; period of history will be defined at time based on system used to hold historian data but would be no less than other historic data sets			ED2	
Outage Data	Provide outage data to relevant customers for period of eight weeks ahead of real time (Programming Phase)	Outages arranged individually with relevant customers	Data not published. Needs online application/portal for customers to access information	Shared	Planned outages can be provided for last 10+years			ED2	
Outage Data	Provide outage data to relevant customers for period of eight weeks ahead of real time (Operational Planning Phase)	Outages arranged individually with relevant customers	Data not published. Needs online application/portal for customers to access information	Shared	Planned outages can be provided for last 10+years			ED2	
Outage Data	Outage data to show impact to individual DER	Outages arranged individually with relevant customers	Data not published	Shared	Previous 4/5 years available in email form			Q4 2022	
Outage Data	Provide historic outage data	All planned outages for last 20 years in central database. Unplanned outages can be found on ad-hoc basis through PowerOn	Requires unplanned outages to be systematically recorded like alongside planned outages in central location. This then needs to be published online	Public / Shared - General statistics on circuits can be public data but historic outage data on individual sites should be Shared	All planned outages for last 20 years in central database. Unplanned outages can be found on ad-hoc basis for last 5+ years			ED2	

## Annex 6: Operational data sharing commitments – WPD

Boundary flow data and curtailment data									
Data Set	Market Data Requirement	Current Status	GAP	Data Triage Playbook Classification	Granularity of data to be provided (interval of data points in minutes)	Refresh Rate of data set (interval between updates of entire dataset or additional of new data points to existing data set)	Data - Period of Historic Data Available	Timeframe to Implement	Notes
Boundary Flow Data	GSP - MW	30min Avg for historic / 5min Avg for real-time	COMPLETE	Open	TBC for historic / 5min for real-time	5 minutes for data refresh from live Control System	from March 2019	2021	Dataset - Western Power Distribution's Connected Data Portal [connecteddata.westernpower.co.uk]
Boundary Flow Data	GSP - MVar		COMPLETE	Open	30min Avg for historic / 5min Avg for real-time	5 minutes for data refresh from live Control System	from March 2019	2021	Dataset - Western Power Distribution's Connected Data Portal [connecteddata.westernpower.co.uk]
Boundary Flow Data	GSP - Current		COMPLETE	Open	30min Avg for historic / 5min Avg for real-time	5 minutes for data refresh from live Control System	from March 2019	2021	Dataset - Western Power Distribution's Connected Data Portal [connecteddata.westernpower.co.uk]
Boundary Flow Data	GSP - Voltage		Historic and real-time data to be published Q2 2022	Open	30min Avg for historic / 5min Avg for real-time	5 minutes for data refresh from live Control System	from March 2019	Q2 2022	
Boundary Flow Data	Expansion of dataset to include Grid and Primary		Identified as part of current workplan to be completed in 2022	Open	30min Avg for historic / 5min Avg for real-time	5 minutes for data refresh from live Control System	Planning to include from March 2019	Q2 2022	
Boundary Flow Data	Embedded Generation cumulative MW flow	Currently available at licence area and GSP level	COMPLETE	Open	30min Avg for historic / 5min Avg for real-time	5 minutes for data refresh from live Control System	from March 2019	2021	Dataset - Western Power Distribution's Connected Data Portal [connecteddata

## Operational data sharing – network and system operator commitments

									.westernpower.co.uk]
Boundary Flow Data	Embedded generation split by ECR type data	Provided at Solar, Wind, STOR and Other currently	Coordination of DG assets in ADMS system is required to assign ECR definition detail	Open	N/A	N/A	N/A	Q2 2022	
Curtailment Data	Provide regional curtailment figures	finalising development for dataset creation	to be made available at monthly intervals per BSP and GSP end 2021	Public / Shared dependent on contractual sensitivity	Half hourly	Monthly	Oct-21	Q1 2022	
Curtailment Data	Split data to GSP level	finalising development for dataset creation	to be made available at monthly intervals per BSP and GSP end 2021	Public / Shared dependent on contractual sensitivity	Half hourly	Monthly	Oct-21	Q1 2022	
Curtailment Data	Split curtailment data by ECR type	finalising development for dataset creation	to be made available at monthly intervals per BSP and GSP Q2 2022	Public / Shared dependent on contractual sensitivity	N/A	Monthly	N/A	Q2 2022	
<b>Operational forecasting and outage data</b>									
Data Set	Market Data Requirement	Current Status	GAP	Data Triage Playbook Classification	Data - Period of Historic Data Available			Timeframe to Implement	Notes
Outage Data	Provide outage data to relevant customers for period of eight weeks ahead of real time (Programming Phase)	Current 4 weeks in advance	Work on-going to understand moving out to 8 week timescales	Data is specific to customers so no concerns sharing	N/A			Q2 2022	
Outage Data	Provide outage data to relevant customers for period of eight weeks ahead of real time (Operational Planning Phase)	COMPLETE - at 8 weeks now		Data is specific to customers so no concerns sharing	N/A				

Operational data sharing – network and system operator commitments

Outage Data	Outage data to show impact to individual DER	COMPLETE	Relevant customers have access to the DG Outage Portal	Data is specific to customers so no concerns sharing	N/A				
Outage Data	Provide historic outage data	COMPLETE	Relevant customers have access to the DG Outage Portal	Data is specific to customers so no concerns sharing					

## Annex 7: Operational data sharing commitments – UKPN

Boundary flow data and curtailment data									
Data Set	Market Data Requirement	Current Status	GAP	Data Triage Playbook Classification	Granularity of data to be provided (interval of data points in minutes)	Refresh Rate of data set (interval between updates of entire dataset or additional of new data points to existing data set)	Data - Period of Historic Data Available	Timeframe to Implement	Notes
Boundary Flow Data	GSP - MW	Available for selection of GSPs	Requirement to expand to all GSPs	Public	Data points every 10 minutes	10 minutes for data refresh from live Control System	Plan to provide data from mid 2020 onwards. Data for LPN is currently available from December 2021.	End of 2021	More historic is available if deemed suitable and method of providing greater data will be investigated as may require different method of sharing. Proposing to change current data period so data is available from January 2018 (to include one year of Pre Covid) Data available at: <a href="https://dsodashboard.ukpowernetworks.co.uk/">https://dsodashboard.ukpowernetworks.co.uk/</a>
Boundary Flow Data	GSP - MVAR	Available for selection of GSPs	Requirement to expand to all GSPs	Public	Data points every 10 minutes	10 minutes for data refresh from live Control System	Plan to provide data from mid 2020 onwards. Data for LPN is currently available from December 2021. Proposing to set start data for all Boundary Flow data to January 2018 once architecture is confirmed to not have any constraints	End of 2021	More historic is available if deemed suitable and method of providing greater data will be investigated as may require different method of sharing. Proposing to change current data period so data is available from January 2018 (to include one year of Pre Covid) Data available at: <a href="https://dsodashboard.ukpowernetworks.co.uk/">https://dsodashboard.ukpowernetworks.co.uk/</a>
Boundary Flow Data	GSP - Current	Available for selection of GSPs	Requirement to expand to all GSPs	Public	Data points every 10 minutes	10 minutes for data refresh from live Control System	Plan to provide data from mid 2020 onwards. Data for LPN is currently available from December 2021. Proposing to set start data for all Boundary Flow data to January 2018 once architecture is confirmed to not have any constraints	End of 2021	More historic is available if deemed suitable and method of providing greater data will be investigated as may require different method of sharing. Proposing to change current data period so data is available from January 2018 (to include one year of Pre Covid) Data available at: <a href="https://dsodashboard.ukpowernetworks.co.uk/">https://dsodashboard.ukpowernetworks.co.uk/</a>



## Operational data sharing – network and system operator commitments

Boundary Flow Data	GSP - Voltage	Available for selection of GSPs	Requirement to expand to all GSPs	Public	Data points every 10 minutes	10 minutes for data refresh from live Control System	Plan to provide data from mid 2020 onwards. Data for LPN is currently available from December 2021. Proposing to set start data for all Boundary Flow data to January 2018 once architecture is confirmed to not have any constraints	End of 2021	More historic is available if deemed suitable and method of providing greater data will be investigated as may require different method of sharing. Proposing to change current data period so data is available from January 2018 (to include one year of Pre Covid) Data available at: <a href="https://dsodashboard.ukpowernetworks.co.uk/">https://dsodashboard.ukpowernetworks.co.uk/</a>
Boundary Flow Data	Expansion of dataset to include Grid and Primary		Process for GSPs makes this data viable, just needs expansion. Sites with single significant customers to be excluded so individual customer data will not be shared	Public	Data points every 10 minutes	10 minutes for data refresh from live Control System	Proposing to have data starting January 2018	Q4 2022	
Boundary Flow Data	Embedded Generation cumulative MW flow	Currently provided for published GSPs	Only includes embedded generation with telemetered data	Public	Data points every 10 minutes	10 minutes for data refresh from live Control System	Plan to provide data from mid 2020 onwards. Data for LPN is currently available from December 2021. Proposing to set start data for all Boundary Flow data to January 2018 once architecture is confirmed to not have any constraints	Q4 2021	More historic is available if deemed suitable and method of providing greater data will be investigated as may require different method of sharing. Proposing to change current data period so data is available from January 2018 (to include one year of Pre Covid) Data available at: <a href="https://dsodashboard.ukpowernetworks.co.uk/">https://dsodashboard.ukpowernetworks.co.uk/</a>
Boundary Flow Data	Embedded generation split by ECR type data		Currently split by generation type but not aligned with ECR	Public	N/A	N/A	N/A	Q4 2021	Data split by the high level types in the ECR, updated in December 2021. Data available at: <a href="https://dsodashboard.ukpowernetworks.co.uk/">https://dsodashboard.ukpowernetworks.co.uk/</a>

## Operational data sharing – network and system operator commitments

Curtailment Data	Provide regional curtailment figures	Not provided	Requires planned curtailments to be calculated against forecasted availability to confirm lost production. DNO forecasting not accurate on a site by site level at present. Customers with forecasting information are requiring NDAs with UKPN to share data as they do not want it published as it may provide competitors benefits.	Public	For ANM, data would be based on granularity of curtailments issued. Instantaneous values could be provided however due to data size averaged at half hour would be proposed initially. For non ANM (manually curtailed, granularity would be dependent on the curtailment applied; this may be for 1-4 time periods per day based on current working practises)	Working through data sets from sources to link together. Dependant on which platform hosts the data, this will likely be a nightly update.	Initially will be 2022 data onwards for manual constraints. Further historic data exists in emails so justification for work required to exact needs to be considered. ANM curtailments should be available from point in time constraints were applied via ANM system	Q1 2023	
Curtailment Data	Split data to GSP level	Not provided	Requires planned curtailments to be calculated against forecasted availability to confirm lost production. DNO forecasting not accurate on a site by site level at present. Customers with forecasting information are requiring NDAs with UKPN to share data as they do not want it published as it may provide competitors benefits.	Public / Shared - Certain parts of this dataset may show individual customers forecasted profile which, if shared publicly, may lead to commercial advantage to competitors	As per regional above	As per above	As per above	Q1 2023	

## Operational data sharing – network and system operator commitments

Curtailment Data	Split curtailment data by ECR type	Not provided	Data can be linked back to ECR but dependant on actual forecasted data to calculate lost production	Public / Shared - Certain parts of this dataset may show individual customers forecasted profile which, if shared publicly, may lead to commercial advantage to competitors	N/A	N/A	N/A	Q1 2023	
<b>Operational forecasting and outage data</b>									
Data Set	Market Data Requirement	Current Status	GAP	Data Triage Playbook Classification	Data - Period of Historic Data Available			Timeframe to Implement	
Operational Forecasting	Provide a forecasted view of load and generation in near real time	Investigating methods to provide data, currently working on using AI to combine historic outage and forecasts to create a model to provide data. Also working with customers to use their forecasted output but currently they will not allow this to be shared	Investigate code requirements to require customers to share data such that all DNOs can provide forecasting data where there is a system need	Public / Shared / Closed - will be subject to granularity of the data	Data will be stored once forecasting is in place, historian will allow data created to be shared; period of history will be defined at time based on system used to hold historian data but would be no less than other historic data sets			ED2	

Outage Data	Provide outage data to relevant customers for period of eight weeks ahead of real time (Programming Phase)	Customers provided with access via web portal to all outages that may impact their supply. Outages within the portal currently are 1-2 years ahead. System live in two of three regions, third region provides weekly outage programmes to all relevant customers showing eight weeks ahead information	Requires portal to be rolled out to third region, web portal live	Public / Shared dependent on contractual sensitivity and relevant customers use case	Data from 2020 onwards loaded to system. Historic data for 20 years in various formats exists and will be cleansed and loaded over time. Prioritised as customers request areas of network			2021	
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## Annex 8: Operational data sharing commitments - ESO

Boundary flow data and curtailment data									
Data Set	Market Data Requirement	Current Status	GAP	Data Triage Playbook Classification	Granularity of data to be provided (interval of data points in minutes)	Refresh Rate of data set (interval between updates of entire dataset or additional of new data points to existing data set)	Data - Period of Historic Data Available	Timeframe to Implement	Notes
Boundary Flow Data	GSP Rating	Shared for internal DNO use only.	Requires agreement from ESO (and TO) to share BCA contractual limit, wider Main Interconnected System limit or TO plant limit (which ever is limiting factor for GSP). Values can be dynamic so need process to manage non static data once ESO confirm agreement to provide to DNOs and method to do so	Public	N/A	Yearly data update.	N/A	For each DNO to make use of the data as NG ESO has confirmed information is available	ETYS Appendix B (published on NGESE's website) lists the ratings (continuous MVA) of all-TO owned transformers and is refreshed annually around the end of November. As the DNOs are intending to publish the flow data at the GSPs as a start (and progress deeper into their network, rate of expansion of varying by DNO) and want to use the rating of the SGTs to determine/publish the utilization of the GSP, ETYS Appendix B can be used as a starting point. As the ESO has no visibility beyond the GSP, it is upto the DNOs to ensure consistency and granularity when publishing the data beyond the GSP (P6 recommends use cases for better data taken from DERs directly, but it is upto the DNO to further the recommendation).

## Annex 9: Non-operational data sources set for availability by the end of 2023

This is a non-exhaustive list of data improvements taking place by the end of 2023. DNOs may add, develop, and release other datasets during this period.

Data Set	Market Data Requirement	Current Status/timeframe to implement	Mandatory/voluntary	Owner of reforms/requirement	Contact
ANM/curtailment data	Expected curtailment and data to calculate curtailment	Under ENA ONP working group WS1A P8 for data sharing in 2022	Voluntary	ENA ONP	<a href="mailto:opennetworks@energynetworks.org">opennetworks@energynetworks.org</a>
Best view	Most likely future energy scenario and associated data	All DNOs develop a best view for use in network development plans	Mandatory to meet network development plan licence	Each DNO	See appendix 10
Distribution Future Energy Scenarios	Reports and data tables on a range of possible energy scenarios	All DNOs publish DFES	Voluntary	Each DNO	See appendix 10
Embedded Capacity Register	Monthly report of embedded capacity >1MW	Implemented	Mandatory	Each DNO	See appendix 10
Flexibility procurement data/ standard licence condition 31E reporting	Annual backward looking review and forward looking statement on DNO flexibility procurement results and plans	Implemented	Mandatory	Ofgem	<a href="mailto:flexibility@ofgem.gov.uk">flexibility@ofgem.gov.uk</a>
Grid Code modification 0139: week24/48 data	Modification to increase the scope and detail of	Working group stage	Mandatory	Grid code working group	See <a href="#">GC1039</a>

## Operational data sharing – network and system operator commitments

	<p>planning-data exchange between DNOs and National Grid ESO</p> <p>Consideration being given to sharing some data publicly</p>			Ultimately Ofgem for approval	
Heatmaps	Easily accessible data visualising network capacity	<p>Under LTDS reforms</p> <p>Data to be standardised and regulated</p> <p>Licence update Q3 2023</p>	Currently voluntary, will be made mandatory	Ofgem	<a href="mailto:flexibility@ofgem.gov.uk">flexibility@ofgem.gov.uk</a>
Long Term Development Statement (standard licence condition 25)	Granular data covering network developments	<p>Under reforms</p> <p>Working group stage</p> <p>The statement is being updated to CIM data format</p> <p>Licence update Q3 2023</p>	Mandatory	Ofgem	<a href="mailto:flexibility@ofgem.gov.uk">flexibility@ofgem.gov.uk</a>
Network Development Plans (standard licence condition 25B)	Biennial publication of network plans and data tables, including indicate flexibility requirements) for 5-10 year time horizon	New licence. First publication May 2023	Mandatory	<p>Ofgem licence</p> <p>NDPs format developed by ENA ONP</p> <p>Each DNO responsible for publication</p>	<p><a href="mailto:flexibility@ofgem.gov.uk">flexibility@ofgem.gov.uk</a></p> <p>DNOs: see appendix 10</p>

## Annex 10: DNO contacts for operational data sharing

Network or system operator	Data sharing contact email address
ENWL	<a href="mailto:ElectricityNorthWestEnquiries@enwl.co.uk">ElectricityNorthWestEnquiries@enwl.co.uk</a>
ESO	<a href="mailto:box.OpenData.ESO@nationalgrideso.com">box.OpenData.ESO@nationalgrideso.com</a>
NPg	<a href="mailto:npg.system.planning@northernpowergrid.com">npg.system.planning@northernpowergrid.com</a>
SPEN	<a href="mailto:opendata@spenergynetworks.co.uk">opendata@spenergynetworks.co.uk</a>
SSEN	<a href="mailto:SHEPDGeneralEnquiries@sse.com">SHEPDGeneralEnquiries@sse.com</a> (Scotland) <a href="mailto:GE@ssen.co.uk">GE@ssen.co.uk</a> (England)
WPD	<a href="mailto:wpddata@westernpower.co.uk">wpddata@westernpower.co.uk</a>
UKPN	<a href="mailto:opendata@ukpowernetworks.co.uk">opendata@ukpowernetworks.co.uk</a>