External Data User Personas

Understanding our data users is key to delivering the right data and digitalised solutions and outcomes. To support this we've developed Beta User Personas to support further improving our understanding of data users' needs and expectations

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User persona

Consultant

Data already published by WPD is used by a variety of different consultants from those helping to build new electrical networks, developing transport infrastructure or studying the energy efficiency of buildings. Consultants often know exactly the type of data they need and prefer to use data portals to select and retrieve the information they need.

Frequency of data use
Annual — Weekly

Detail of data required
Low — High

User level
General — Specialist

Interaction required
Low — High

Typical data used

- Detailed network data to perform their own studies and analysis
- Type, location and scale of investments planned on the network
- Capacity information to understand the headroom available on the network

Goals

- Higher granularity of data available to allow more complex studies to be performed
- Data is renewed and published on a regular basis
- Information can be validated without the need to email generic ‘post boxes’

Challenges

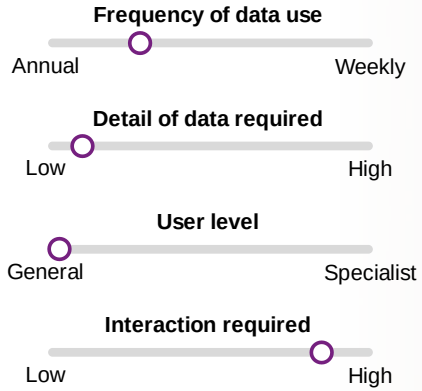
- Interaction required to verify data that was published a long time ago
- Network data is published in several different parts and needs ‘stitching’ together
- Only a high-level view of the network can be obtained from the data published

Increased uptake of Distributed Generation (DG) and Low Carbon Technologies (LCTs) will mean that customers will be looking to engage more and more with consultants to assist them with understanding how best to connect to the network. Providing up to date, validated data for all parts of the network will help consultants perform detailed studies and provide valuable information to our customers.

“I rely on accurate data that can be accessed quickly, I know types of data that I need and the more the better!”

User persona

Prosumer



Many of our customers are actively engaged to help deliver Net Zero and are interested to know what they can do to accelerate this. Our website contains lots of useful data that can help our customers understand how to connect the technologies such as an Electric Vehicle (EV) or Heat Pump (HP). There is also a wide range of other tools and resources to allow customers to track outages and understand what is happening in their area.

Typical data used

- Electricity unit prices (both DUoS and Unit price)
- Real-time energy usage
- Details of outages and network maintenance that affect supplies
- Response time targets and level of service from DNOs (Guaranteed Standards of Performance)

Goals

- Data to show how the actions of customers are helping to reduce carbon and costs
- Real-time outage notifications that can also predict what will happen next, when and where
- Details of ways and options to improve energy efficiency and connect new technologies that are easy to understand

Challenges

- Data is often not provided in layman's terms meaning it is difficult to interpret clearly
- Limited integration and consistency between suppliers and operators (gas and electricity)
- Data is contained across a number of different platforms meaning customers have to explore to find the data they need

Active participation of customers is a major element to achieving the overall goal of Net Zero by 2050. We need to work closely with all our customers to provide them with the data they need to help us with this transition. We recognise that our customers are all different and in particular, the importance of protecting those that are vulnerable. Therefore, we need to personalise the service and provision of data according to our different customer types.

"I want to see how I can contribute to net zero whilst having a reliable and affordable service that is user-friendly"

User persona

Energy Trader

Energy Traders are responsible for ensuring that the energy generated from power plants and renewable energy sources is delivered to consumers at a competitive price. Their decisions are influenced by system data pertaining to the availability of generation, consumer behaviour, the weather and the security of the system.

Frequency of data use
Annual — Weekly

Detail of data required
Low — High

User level
General — Specialist

Interaction required
Low — High

Typical data used

- Historical energy usage for different customer types
- Forecast trends in demand and generation for different licence areas
- Customer behaviours and trends in low carbon technology uptake

Goals

- Access to historical, real-time and forecast data in a universal format that is easy to access
- Oversight into all local and regional demand and distributed generation profiles
- Forecast of future energy consumption and the impact of low carbon technologies and flexibility markets

Challenges

- Data is provided in differing formats requiring time to process and filter
- Requisition of data is often a manual process requiring detailed interactions with the DNO
- Granularity of data could be higher to improve analysis and outputs

Energy consumption and generation patterns are changing and this trend is expected to continue as more Low Carbon Technologies (LCTs) and renewable generation connect to the network. Energy Traders therefore need access to more data to see how these changes are expected to materialise across our various regions so that they predict the costs and availability of energy.

“Access to data and trends is critical for my role. I need to be able to easily integrate network data into my models”

User persona

Technology Innovator

We work closely with Technology Innovators to develop tailored solutions that can help us operate and build a smarter, more efficient, network. Technology Innovators need data to understand the key challenges we are facing and how to build solutions that are suitable for the network we operate. Collaboration is key to ensure that new technologies can be trialled and rolled out across our network.

Frequency of data use
Annual — Weekly

Detail of data required
Low — High

User level
General — Specialist

Interaction required
Low — High

Typical data used

- Results of innovation studies and research into new and emerging technology
- High-level challenges and obstacles that DNOs are trying to resolve and typical costs for resolving these in a traditional manner
- Uptake of new technologies across different geographies

Goals

- Key equipment requirements published in one place providing all details to help build new technologies
- An easy-to-access portal which compiles the latest challenges network operators are facing
- Collaboration area for innovators and DNOs to share data and discuss options to solve challenges

Challenges

- Specifications for equipment are spread across lots of complex and detailed documents
- Data on new challenges and learning can be different across DNOs
- Gaining high-level insights into the operation and control of distribution networks is difficult

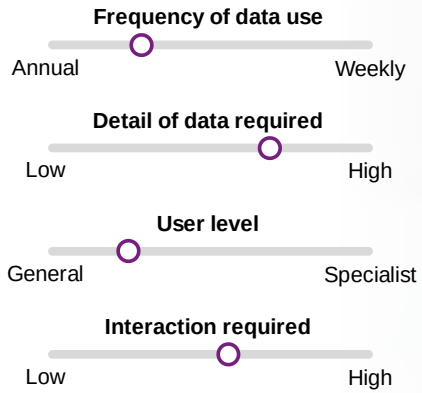
Innovation in our industry is progressing at pace and we need to provide Technology Innovators with data that can help them build new solutions without having to rely heavily on one-to-one interaction with ourselves. The increased availability and granularity of network data offers a great opportunity to help develop solutions that provide us with additional insight and knowledge about our network.

“Data allows me to keep pushing technological boundaries and stay on the cutting edge of innovation!”

User persona

Research Student

We understand the benefits of technical research and actively collaborate with a wide range of academic institutes. Professors and students provide valuable input to our innovation portfolio and help shape the future of our network. Using data published in our Long Term Development Statement, capacity maps and customer data, academics assist us with identifying trends and performing complex analysis.



Typical data used

- High-level network data available through the Long Term Development Statement (LTDS)
- Interactive maps showing capacity and location of energy network assets
- Testing and performance details of new and emerging technologies

Goals

- User guides and "sign-posting" to promote understanding of the data available and how it could be used
- Indexing of data showing the sources and what DNOs use this for
- Case studies and examples of where data has been used to inform investments and strategies

Challenges

- Limited understanding of the inner workings of DNOs
- Difficult to understand what data is published, what can be retrieved and where it is
- Inexperience interpreting energy data which could lead to the wrong conclusions being made

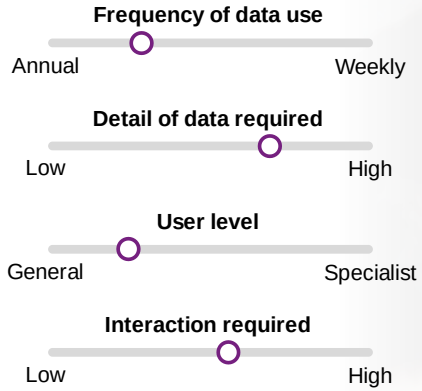
Students and other academics will benefit from better availability and greater quantity of data. The complex analysis they perform relies on having detailed data sets that can help identify particular patterns, trends and outcomes. However, it is also important that this information is provided with a context to explain how the data has been collected, what it relates to and how accurate it is.

"I'm researching developments that will change our future. I need to know what the latest trends are in energy!"

User persona

Local Authority Planner

We closely liaise with Local Authorities sharing our future plans and strategies for mutual benefit. Local Authority Planners need to understand the implications proposed developments will have on the network so that they can refine and inform their plans. It is also important that we share our proposed upgrades on the network so that our investments align and are coordinated with planning at a Local Authority level.



Typical data used

- Indicative costs of new electrical assets and the typical costs to connect
- Distribution Future Energy Scenarios (DFES) for an overview of what is happening and where
- Network capacity at given locations from discussions with DNO engineers and capacity maps published on websites

Goals

- Easy way of interacting with energy network experts to understand the impact of developments
- Interactive data platforms that allow planners to check the impact of developments on the network without the need for engineering knowledge
- Fast access to DNO engineers to assist with confirming plans

Challenges

- Difficulty contextualising the energy network data currently available and how it impacts on developments
- High reliance on DNO interaction to interpret data and evaluate plans
- Lack of familiarity with the inner workings of energy networks makes it difficult assess project feasibility

The way in which Local Authorities plan developments has changed with a focus on energy efficiency and the decarbonisation of heat and transport. For this reason, it is important that we continue to work closely with Local Authority Planners to share our data and knowledge to help them plan their own investments. Access to interactive, easy to use, data platforms would help Local Authority Planners to carry out their own assessments and discuss these with our engineers.

"Having access to the right data allows me to develop your local area and prepare for a net zero future"

User persona

Connection Provider

Building and extending our network is no longer a task just for the DNO. Independent Connection Providers (ICPs) also help design and install network assets to supply our customers. Safety, quality and accuracy are all fundamental elements to be considered when building new networks. Therefore, it is important that we provide ICPs with access to all our latest data to ensure the assets being installed are safe and reliable.

Frequency of data use
Annual — Weekly

Detail of data required
Low — High

User level
General — Specialist

Interaction required
Low — High

Typical data used

- Locations, types and specifications of equipment across the entire network
- GIS data to locate assets when planning, installing and commissioning new connections
- New equipment specifications to help build networks that DNOs will adopt after installation

Goals

- A portal to allow new installations to be captured, reviewed and approved with minimal interaction
- Use of the same portal to upload type, specification and location of new assets being installed
- Visibility of new equipment innovations that may be deployed on the network

Challenges

- Sign-off and adoption of assets relies heavily on manual checks and approvals
- New records and plans for installations may be in different formats and styles across different ICPs
- Limited view of changes to policies, specifications and standards

We already share all of our relevant policies and standards on our website to ensure that ICPs can have access to the information they require. As we adopt more efficient platforms and systems for capturing and sharing information, we aim to improve the way we interact with ICPs. Having online data and collaboration portals to help with the review, approval and recording of new network assets will help save time and improve the way we grow our network.

“Providing customers with new connections requires me to have access to lots of detailed network data”

User persona

Industry Regulator

The Industry Regulator performs a key role in shaping the way we develop the network and help to continually improve the service to our customers. We liaise with the Industry Regulator on a regular basis to develop our business plans, provide data on our performance, comment on new practices and plan new innovations.

Frequency of data use
Annual — Weekly

Detail of data required
Low — High

User level
General — Specialist

Interaction required
Low — High

Typical data used

- Up to date expenditure incurred for different investment programmes and operating cost categories
- Performance against key metrics for customer interactions
- Performance against key metrics to support national policy initiatives including the transition to net zero

Goals

- On-demand access to accurate data to support ongoing oversight of expenditure
- On-demand access to accurate data to monitor performance in resolution of faults and customer complaints
- Regular feedback on the effectiveness of incentives to meet policy objectives

Challenges

- Data required is split across multiple systems that use different platforms
- Manual process to prepare required data in spreadsheet format for email transfer (annually)
- Inconsistent data provided from different network operators

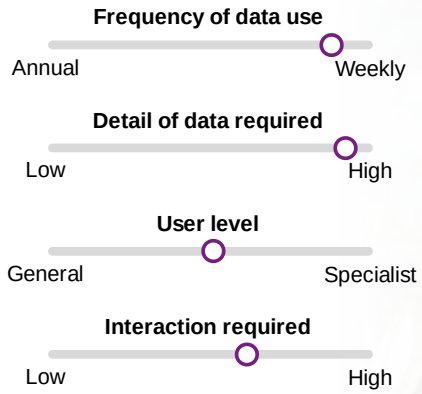
Interaction with the Industry Regulator is often quite formal and there is a definite need to continue this approach to ensure transparency across the industry. However, there are opportunities to use our data to engage more freely with the Industry Regulator. For example, providing up to date information on the performance of the network and the service to our customers through data portals and dashboards.

"The ability to review data showing the performance of network operators is important for oversight of the sector and to protect the interests of customers"

User persona

Community Energy Leader

Community energy projects are more popular than ever and help to improve the way in which energy is purchased, consumed and generated. These initiatives can include instances such as off-grid communities and community-owned generation plants. We work with Community Energy Leaders in our area to provide them with guidance and data to ensure that their projects can be successful.



Typical data used

- Details of network constraints and power flows next to our connection
- Details of variation in power flows at different times of the day/week/ year to understand whether there is potential to optimise our operations (including storage)
- Real-time price signals for import and export

Goals

- Understand changes to price signals to inform decisions about how we operate our assets to meet the needs of our community and provide support to the DNO
- Understand opportunities to participate more actively to provide flexibility services
- Working with DNOs to trial new technologies and processes

Challenges

- Information is dispersed across a number of different systems and location-specific
- Price signals depend on individual connection agreements
- Price signals are also dependent on the evolution/maturity of flexibility markets

“Network operation data can support decisions to make best use of our asset portfolio for mutual advantage”

The proliferation and forecast uptake of EVs, HPs, energy storage technologies and renewable generation will help encourage new community energy projects to be established. With power fluctuating all the time on our network, it is important that we share historic and real-time data with Community Energy Leaders to ensure they can operate their assets for maximum financial and carbon benefit.