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UK Power Networks supports energy transition through innovative open data portal and community

55
Datasets

14,000
Users

4 Months
Implementation time

CONTEXT:
OPEN DATA TO DRIVE ENERGY DECARBONIZATION

UK Power Networks (UKPN) is the UK's largest distribution network and system operator, responsible for power distribution to 8.3 million homes and businesses.

Due to the energy transition to achieve Net Zero targets its business model is changing fundamentally, moving from a linear approach of transmitting power to its customers to a much more active, distributed model.

Data sharing is essential to managing this complex ecosystem, to ensure resilience, enable innovation and strengthen relationships with stakeholders.

CHALLENGE:
DIGITIZE AND SHARE DATA TO MEET FUTURE NEEDS

For UKPN to successfully achieve this shift and ensure resilience across its distribution network requires greater visibility, control, and collaboration.

Data is central to this and while new UK regulatory guidelines on open data will not come into force until 2023, UKPN wanted to be proactive and lead the industry. As part of its digitization and modernization strategy, it therefore looked to create an open data portal for its stakeholders.

> " *Successfully moving to a Net Zero world heavily depends on open data – ours and that of our ecosystem partners. It has to be interoperable, readily consumable and drive near real-time insight. We therefore wanted to break down barriers and build a community of stakeholders around our data.*

Matt Webb
Head of Enterprise Data Management,

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DATA EXPERIENCE:
USING OPEN DATA TO COLLABORATE WITH DIVERSE STAKEHOLDERS

UKPN had multiple key objectives for its open data portal. It had to provide direct, easy access to a broad range of datasets for its diverse stakeholder community, which includes internal users, local government, businesses, consumers and the energy industry. Datasets include a variety of information on network assets as well as predicted future energy usage scenarios.

Now live, the portal helps UKPN to:

▶ increase the usability and interoperability of its data.

▶ ensure that data sharing and reuse meets security and privacy standards.

▶ make data easy to use with an intuitive interface that gives choice in how data is accessed and consumed.

The portal is now central to a strong, open data community that shares use cases and promotes best practice in the use of open energy data. A recent demonstration of this engagement and feedback is a flexibility market use case enabled through direct, unsupported utilization of UKPN's openly published data.

Data experiences on the portal are accessible as tables, maps, graphics or through downloads or APIs. This caters for all levels of data skills, democratizing information and making it available to all. For example, the Grid and Primary Substation dashboard brings together all relevant data on a specific site, including capacity, utilization and usage under future energy scenarios. It can be accessed in multiple ways, such as through its map, searches or drop down menu.

Key to the success of the project was closely involving stakeholders in the development of the platform, thus creating an active, ongoing open data community. UKPN therefore ran a series of open forums to collect feedback and recruit people to help shape the beta platform, with the full portal going live in September 2021. More than 14,000 people have now used the portal, which has received over 4 million API calls.
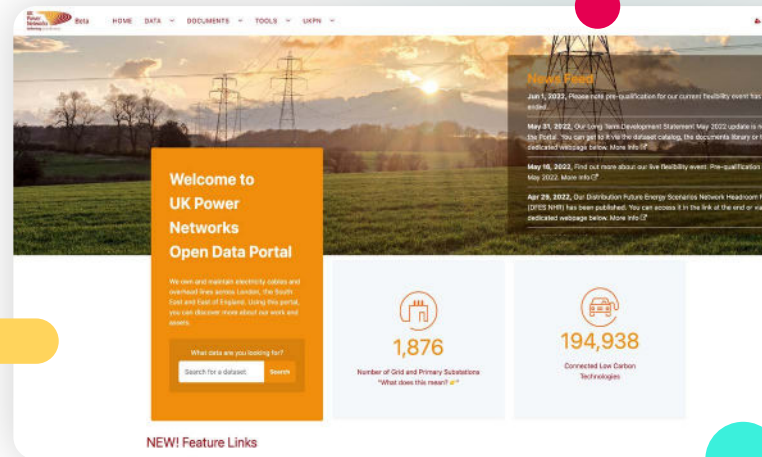
DATA TRIAGE:
TRANSPARENT METHODS SHARED WITH STAKEHOLDERS

UKPN operates on a 'presumed open' principle for data and runs a data triage process on every dataset before it is shared. Data is evaluated based on multiple criteria (such as privacy, security, ethics, intellectual property, data quality,) before deciding whether it can be published, or if it needs further work to anonymize it. As part of its commitment to transparency UKPN is sharing its data triage methods so they can be used across the sector.

"
Opendatasoft has helped UK Power Networks move from a position of relative immaturity in the open data space to our current position, where we have developed a leading energy data service within the UK and a corresponding community of active and engaged users. They share our passion and vision for open data which has made the project a pleasure to work on throughout.

Matt Webb
Head of Enterprise Data Management,

OPENDATASOFT:
THE FOUNDATION OF UKPN'S DATA PORTAL

UKPN understood that it required a strong partner to deliver the right technology and expertise to achieve its aims. It therefore looked at organizations across Europe that were successfully sharing open data, and evaluated the technical capabilities of the platforms they were using. Thanks to recommendations from existing clients, particularly in the energy industry, UKPN chose Opendatasoft (ODS) as the best solution to meet its needs.

Working with Opendatasoft enabled UKPN to launch the first iteration of its portal in just four months. The portal now offers 55 datasets, drawn from UKPN's operational systems, with data integrated through the ODS SharePoint connector and an FTP server. UKPN uses three key ODS features in particular:

INTUITIVE DATA EXPLORATION

UKPN's data library is based on Opendatasoft's data publishing functionality. By using geographic and thematic filters and a fast and powerful search engine, users can quickly find the datasets they need.

CUSTOMIZED MAPS

UKPN utilizes the platform's mapping capabilities to create customized multi-layer maps for end users. These provide an intuitive, interactive experience through a geospatial view, where it is easy for viewers to show and hide layers and search for specific locations.

API ENGINE

Each dataset has a standard and documented API, automatically generated by ODS. Development teams can plug into this API to accelerate the design and deployment of their application projects.

RESULTS:

Bringing together and sharing its data for the first time has created a key resource for both UKPN and its wider community. The open data portal delivers full visibility of current network assets, where they are, what capacity they have and how they are being used. As part of this it includes details of nearly 1,000 large-scale connected generation sites, and over 2 million records.

This enables UKPN to optimize operations moving forward and meet changing energy needs, such as with electric vehicle charging. This not only helps consumers but those creating low carbon equipment moving forward, giving insight on where to locate projects.

Above all, UKPN has now created a vibrant, active community that is using open data to create a digital, collaborative, and low carbon future for the energy industry.

> *The UKPN Enterprise Data team regularly engages both internal and external stakeholders, proactively listens to the user community, and is extremely transparent when it comes to objectives and achievements. For me, being open to collaboration and focusing on constant improvement are the most important reasons for UKPN's success.*

Kiki Li
Customer Success Manager

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