

**Title: *An update on Government developments specific to Energy Market Data and the role of digitalisation in facilitating market developments.***

## **Summary**

To ensure stable and efficient future energy supplies there is a significant focus on the digitalisation of energy networks to address the increasingly dynamic nature of system operation and energy flows. In light of this there is an expectation that the exchange of operational data across the energy networks and between networks assets will need to be enhanced to facilitate / support the net zero carbon ambitions of Government.

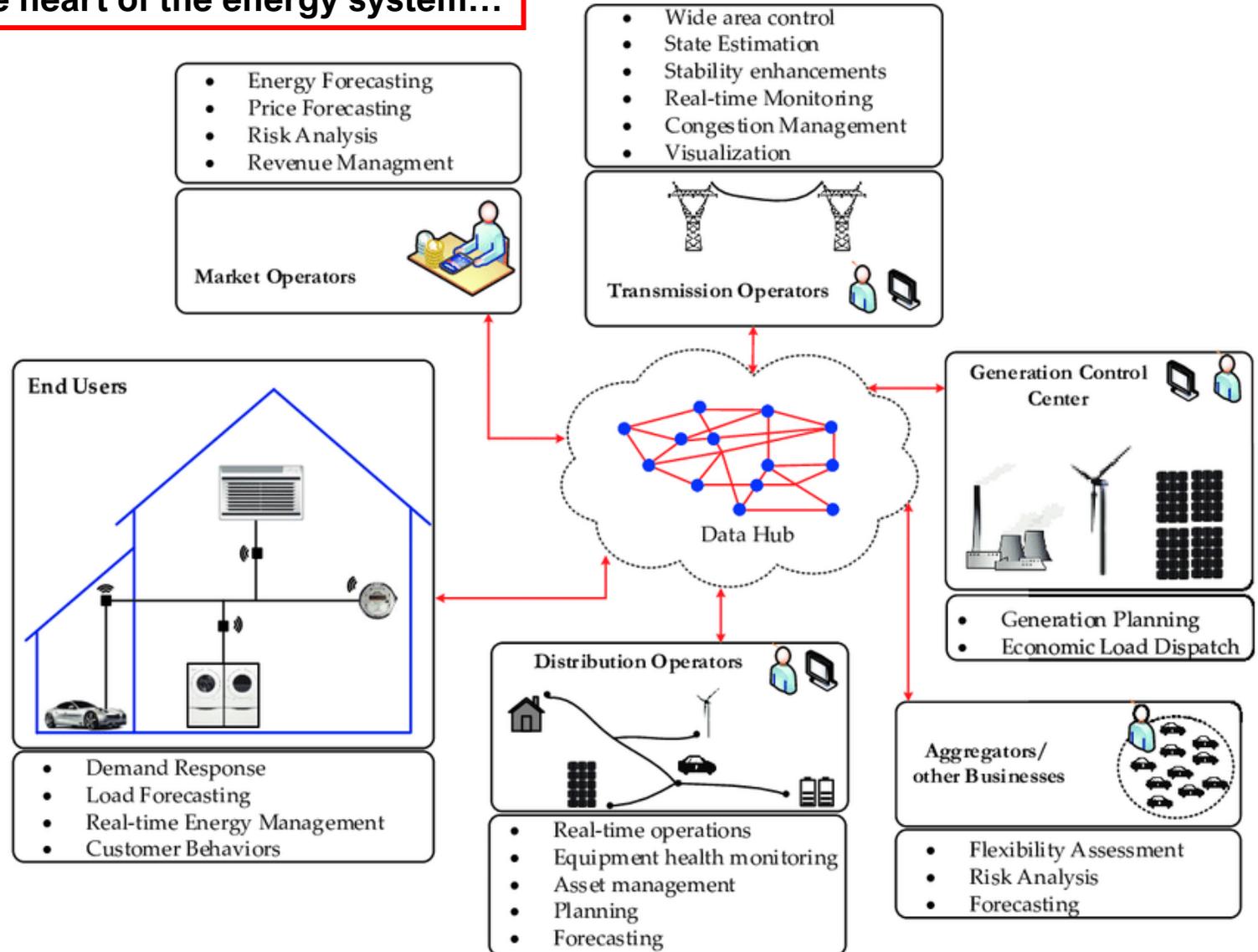
## **Presentation Flow**

- 1. Why is digitalisation of the energy system important?**
- 2. What does a digitalised energy system *really* mean?**
- 3. What is the current landscape of digitalisation efforts?**
- 4. What are the next steps from Government/Regulator perspective?**
- 5. Questions...**

# Why is digitalisation of the energy system important

**Data is at the heart of the energy system...**

- Data enables integration of large volumes of low carbon power, heat and transport.
- As levels of low carbon generation and demand technologies increase, data about and from these assets will become critical for system operation, investment planning and consumer engagement.



**...therefore digitalisation is a priority**

# What is a digitalised energy system

**Digitisation** is the process of converting information from a physical format into a digital one.

When this process is leveraged to improve business processes, it is called **digitalisation**.

A digitalised energy system is one where:



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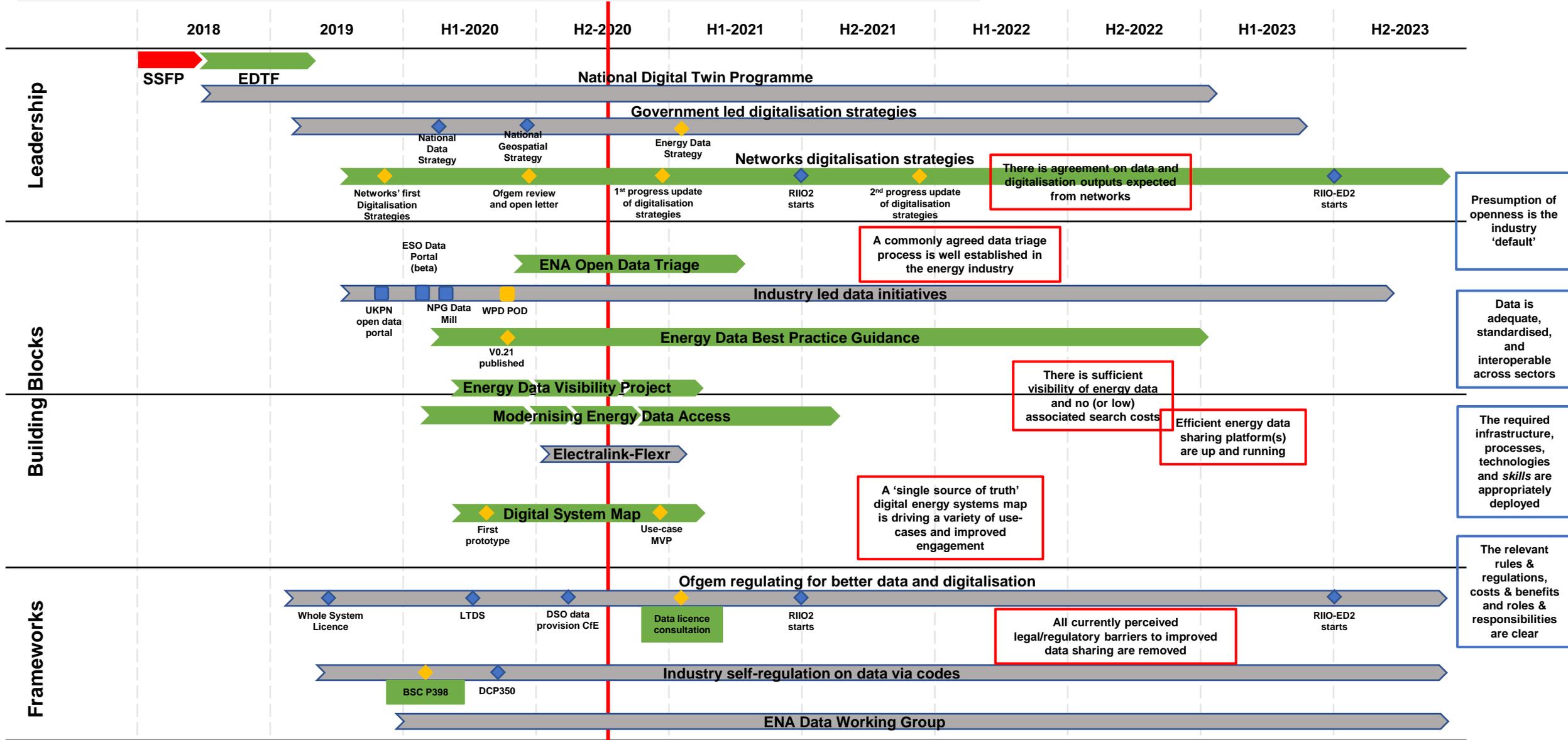
Presumption of openness is the industry default

Data is adequate, standardised, and interoperable across sectors

The required infrastructure, processes, technologies and skills are appropriately deployed

The relevant rules & regulations, costs & benefits and roles & responsibilities are clear

# Modernising Energy Data (MED) – Roadmap to desired outcomes



MED owned or affiliated timeline

MED owned or affiliated milestone

MED owned or affiliated activity/project

Intermediate outcomes

Others

Others

Others activity/project

Ultimate outcomes

# How we are modernising energy data

Based on our policy development thus far, below are the broad categories of all our planned activity

## Leadership

- **Communicating progress** of our activity since EDTF publication
- **Setting a vision** for digitalisation of the energy sector
- Providing a **coordination function** across the landscape of all relevant activity/initiatives (e.g. ENA-DWG, energy digital services forum)
- Regulator **investing in** its own 'data & digital' **capabilities**
- **Engaging with wider networks** for cross-sectoral coordination (e.g. CBDD-NDT programme, DCMS-National Data Strategy)

## Building Blocks

- A prototype energy data visibility service (aka data catalogue) with ONS
- A co-ordinated series of innovation programmes (with Innovate UK).
- Developing an effective asset registration process

## Frameworks

- **Consulting to clarify regulatory expectations**, (e.g. best practice guidance, DSAPs; DSO key enablers and next steps)
- **Embedding expectations into regulation**, such as new licences conditions being included in the RIIO-2 determination process
- **Engaging with the wider regulatory topics**, such as the SO review to include data specific governance issues within its scope of reforms

# Ofgem- upcoming energy data regulations

## Establishing our stances on: (1) Digitalisation of the energy system and; (2) the use of Energy System Data

Ofgem feedback on network companies' digitalisation strategies

<https://www.ofgem.gov.uk/publications-and-updates/review-and-next-steps-riio-digitalisation-strategies>

Links to network companies' digitalisation strategies  
(to be updated this year to also include their action plans for delivery)

<https://www.ofgem.gov.uk/publications-and-updates/digitalisation-strategies-modernising-energy-data>

Data Best Practice guidance (draft)

<https://www.ofgem.gov.uk/publications-and-updates/we-are-creating-data-best-practice-guidance>

## Where we're already embedding our stances into regulation

RIIO-2 Draft Determinations consultation  
(see the "core" document)

<https://www.ofgem.gov.uk/publications-and-updates/riio-2-draft-determinations-transmission-gas-distribution-and-electricity-system-operator>

RIIO-ED2 Sector Specific Methodology consultation  
(see the "overview" document, and related detail in Annex 2)

<https://www.ofgem.gov.uk/publications-and-updates/riio-ed2-sector-specific-methodology-consultation>

## Where to find all of Ofgem's updates on Modernising Energy Data

Ofgem website homepage for Modernising Energy Data

<https://www.ofgem.gov.uk/about-us/ofgem-data-and-cyber-security>

# Questions

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## Data.gov.uk results page Keyword search- "Energy"

The screenshot shows the search results for 'Energy' on data.gov.uk. It includes a search bar with 'Energy' entered, a filter section with options for Publisher, Topic, and Format, and a list of search results. The first result is 'UK Energy in Brief' published by the Department for Business, Energy and Industrial Strategy, last updated on 30 July 2020. Other results include 'Domestic energy consumption' and 'Energy Trends: quarterly data'.

This is the data.gov.uk website and links to all data published by the government. You can do simple keyword searches and filter data published under OGL if you want. Clicking on the link of data item takes you to a brief landing page with downloadable data (if available). Data is not standardised in any format and can be PDF/Image files also, so not always machine readable.

## Scottish Energy Statistics Hub

The screenshot shows the Scottish Energy Statistics Hub, a catalogue of energy data and statistics. It features a header with 'Scottish Energy Statistics' and a grid of icons representing various energy topics such as 'Clean Energy Assets', 'Whole System View of Energy', 'Renewable and Low Carbon', 'Local Energy Systems', 'Energy Efficiency', 'Consumer Engagement', 'Electricity and Gas Systems', 'Oil and Gas', and 'Target Tracker'.

This is the Scottish government catalogue for all energy data/statistics

## GB-ESO Data Portal

The screenshot shows the GB-ESO Data Portal, a beta service for electricity system data. It features a search bar and a grid of 'Data Groups' including 'Ancillary Services', 'Balancing Costs', 'Carbon Intensity', 'Constraint Management', 'Demand', 'Future Energy Scenarios', 'Generation', 'Platts, Reports & Insights', 'System', and 'Trading'.

This is the data portal of GB's Electricity System Operator. This is a beta service and they are inviting user feedback. Data is arranged under 10 Data Groups

## Ofgem Data Portal

The screenshot shows the Ofgem Data Portal, providing an overview of energy market data. It includes a 'Data Portal Overview' section with tabs for Overview, All charts, Retail, Wholesale, Customer service, and Networks. Below this are 'Our interactive charts and indicators' for Retail market, Wholesale market, Customer service, and Networks.

This is the data portal of GB's Energy Regulator- Ofgem

## Elxon data portal

The screenshot shows the Elxon data portal, managed by Elexon. It features a search bar, navigation tabs (HOME, FAQs, USER GUIDE, SEARCH), and a 'FREQUENTLY ASKED QUESTIONS' section. There is also a 'MY PORTAL' section for user login and a 'PORTAL CONTENT' section with links to Financial and Credit, Applications, and Site Information.

This is the data portal of Elexon who manage some key data flows in the energy market and are code administrator for the Balancing and Settlement Code (BSC)

More detail on data flows managed by Elexon:  
<https://www.elexon.co.uk/data/key-data-reports/data-flows-available-from-bsc-systems/>  
<https://www.bmreports.com/bmrs/?q=help/about-us>

Some more examples of data being published by GB Electricity Distribution Network Operators (DNOs)

<https://www.westernpower.co.uk/maps-hub>

<https://www.westernpower.co.uk/our-network/energy-data-hub>

<https://datamillnorth.org/dataset/northern-powergrid-dfes/>

## ENA web-page

The screenshot shows the ENA (Energy Networks Association) web-page, specifically the 'System Wide Resource Registers' section. It features a grid of logos for various DNOs (Distribution Network Operators) including Electricity North West, Northern Powergrid, SP Energy Networks, Scottish & Southern Energy, UK Power Networks, and Western Power Distribution. There is also a 'Feedback Request' section at the bottom.

This is web-page on Energy Networks Association (ENA) website that links to individual DNO webpages that contain their respective Embedded Capacity Registers (ECR)

## Danish SO Data Portal

The screenshot shows the Danish SO Data Portal (Energinet) with the heading 'WELCOME TO ENERGI DATA SERVICE'. It features a grid of icons for Ancillary Services, CO2 Emissions, Gas, Production and Consumption, Transmission Lines, and Whole Sale Market. Below this is a 'HIGHLIGHTED DATA' section with a line chart for 'CO2 EMISSION NEXT 8 HOURS', a bar chart for 'SHARE OF BIOGAS IN THE GAS SYSTEM', and a pie chart for 'CONSUMPTION COVERAGE LAST HOUR' showing 33% for Wind and Solar power and 67% for Other.

This is the energy data hub of the Danish System Operator (Energinet)

## Electralink-EMDH

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# OPEN DATA

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## OPEN DATA

### What is Open Data?

The Energy Market Data Hub (EMDH), managed by Electralink, transfers the data required to support the retail energy market (including electricity smart metering install and smart consumption data). Under the governance of the Data Transfer Service Agreement (DTSA), we are able to make this dataset available to market participants and regulators.

Since 2012, Electralink has had an established approach to data sharing – outlined in the DTSA, a well-defined data governance approach that enables us to manage a variety of data access requests from a wide range of utility industry parties.

Our data governance has allowed Electralink to improve and democratise the accessibility of our data as the needs of industry change. This open data pages just one way we are improving the accessibility of our data.

The EMDH holds multiple datasets which can improve the industry's understanding of the energy market. To reflect this, Electralink began its commitment to open data in 2016, which included regularly publishing key industry insights – such as switching and smart meter installation figures – in the public domain. Some of our datasets are not publicly available, as defined in our governance, but this doesn't mean that they can't be

This is Electralink's Energy Market Data Hub

## Xoserve- DDP

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# Data Discovery Platform

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## Data Discovery Platform

Our Data Discovery Platform (DDP) is represented by an interactive sunburst chart, which is a very visual way for us to show you all the data we have. We have built several sub-charts for you to interact with. Each ring on the chart represents a category of data. You can explore the data categories in each chart by hovering over the different rings, and clicking on them to delve deeper into your data.

- Energy Distribution
- Energy Meters
- Energy Meters
- Energy Meters
- Energy Meters

### What does this mean for you?

- The Data Discovery Platform (DDP) is our first service supported by mobile technology, providing you with an easy and secure way to access your data on the move.

### What are the benefits?

- You will have the ability to query and understand your own data, and create reports for your organisation
- You will get frequent updates providing you with an up to date view of your data
- To support you and organisation's decision

DDP Login  
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This is the data discovery platform developed by xoserve