# Energy Digitalisation Taskforce Launch

12th May 2021

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# Welcome

CATAPULT Energy Systems

Department for Business, Energy & Industrial Strategy

ofgem
Making a positive difference for energy consumers

UKRI Innovate UK

# Why Digitalisation?

# The Future Requires Digitalisation

## Stable & Efficient System Operation

- Link Demand and Supply
- Manage complex interactions across generation, transmission, distribution, storage and demand
- Unlock deep flexibility to increase system wide efficiency
- Integrate markets and technology to deliver optimal outcomes

## Decentralized Assets and Actions

- Simple, streamlined and consumer centric
- Seamless service delivery, tailored around customer preferences
- Enable value to flow to customers and make decentralization a reality
- Link consumer action and assets to market signals and rewards

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# Digitalisation of the Energy System is Essential

**Challenge:**
**System Stability**

- **Net Zero is not optional**
- The energy system is experiencing **rapid change**
- The number of **energy assets is soaring** in generation, storage and demand
- Energy assets have more **dynamic performance**
- Existing **digital silos** are increasingly interdependent
- Increasingly complex interactions creates the risk of **negative emergent behaviours**
- New roles are emerging, sometimes **without clear responsibilities and accountability**

**From 400 actors to 100 million actions and assets**

System Stability

Consumer Experience and Rewards

Digital Silos

Energy Assets

Emergent Behaviours

Changing Demand

Regulation

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# Digitalisation creates Opportunities and Risks

## Opportunity:
## Transformation and Optimisation

- Digitalisation can transform the industry through **new markets and business models**
- **Optimisation** not Consumption
- **Customer centric products** and services that **mitigate complexity**
- Enable consumers to be **rewarded**
- Unlock the value of **storage & flexibility**
- **Stability and security** through visibility & interactions
- Enabling more **effective investment** in net zero

## Risk:
## Vulnerability and System Dominance

- **Consumer detriment** from service failure, mis-selling or data misuse
- Some **consumers could be left behind** and face higher or more uncertain costs
- **Digital monopolies** skew markets and business models
- New digital roles and functions may be essential to system operation but fall **outside of existing governance**
- Unforeseen cumulative actions **risking system stability and security**
- **Algorithm discrimination**

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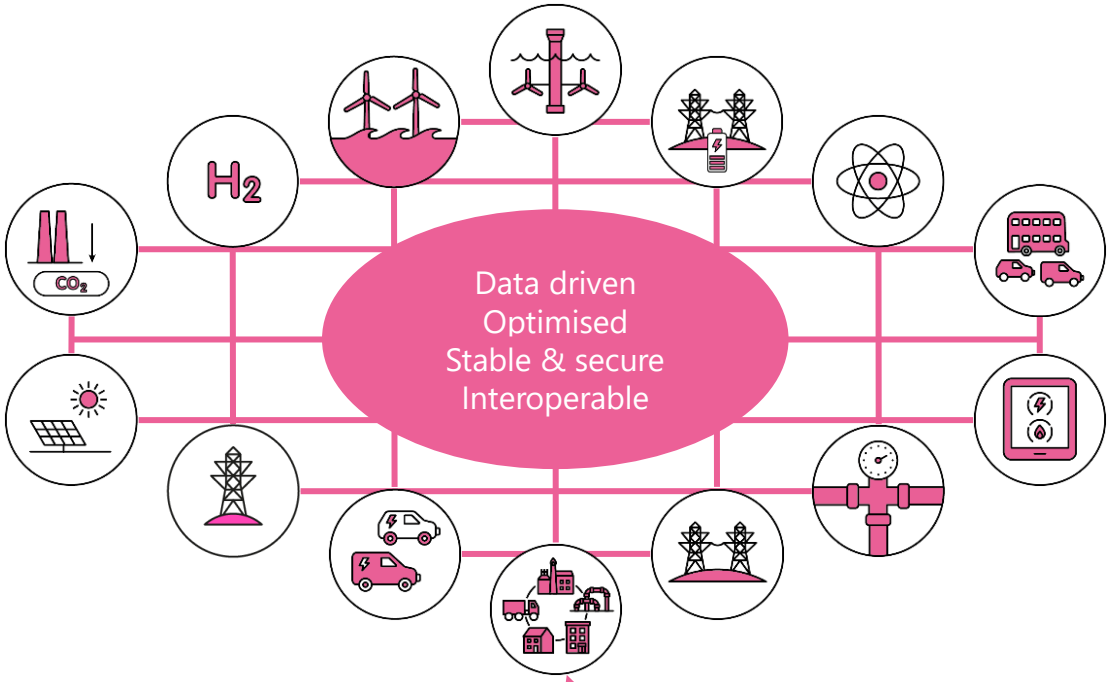
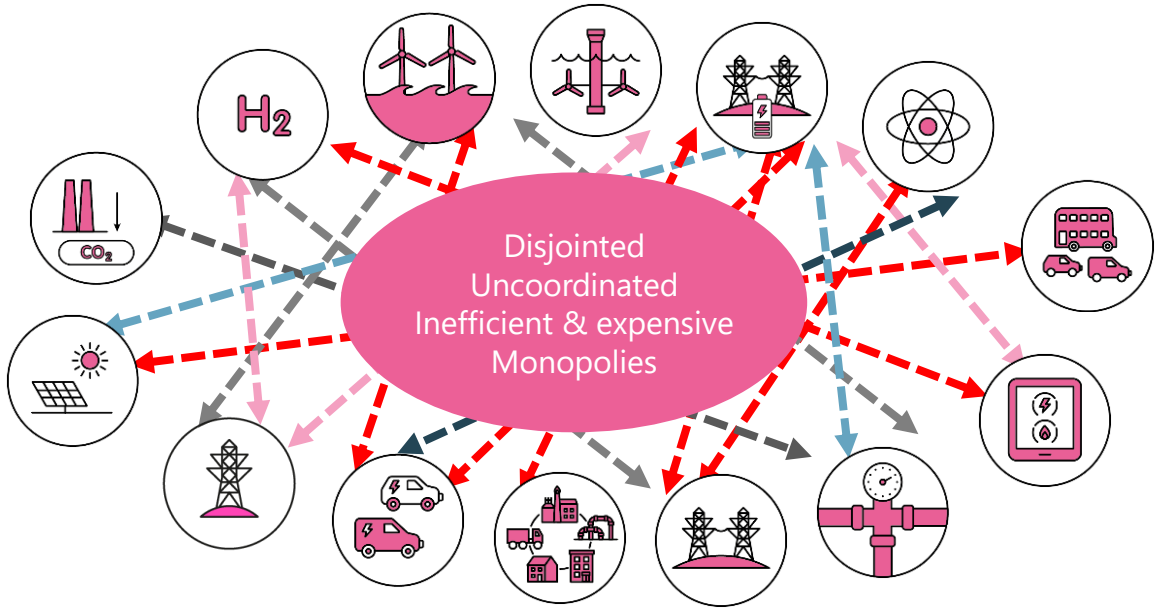
# Which vision of the future do we create?

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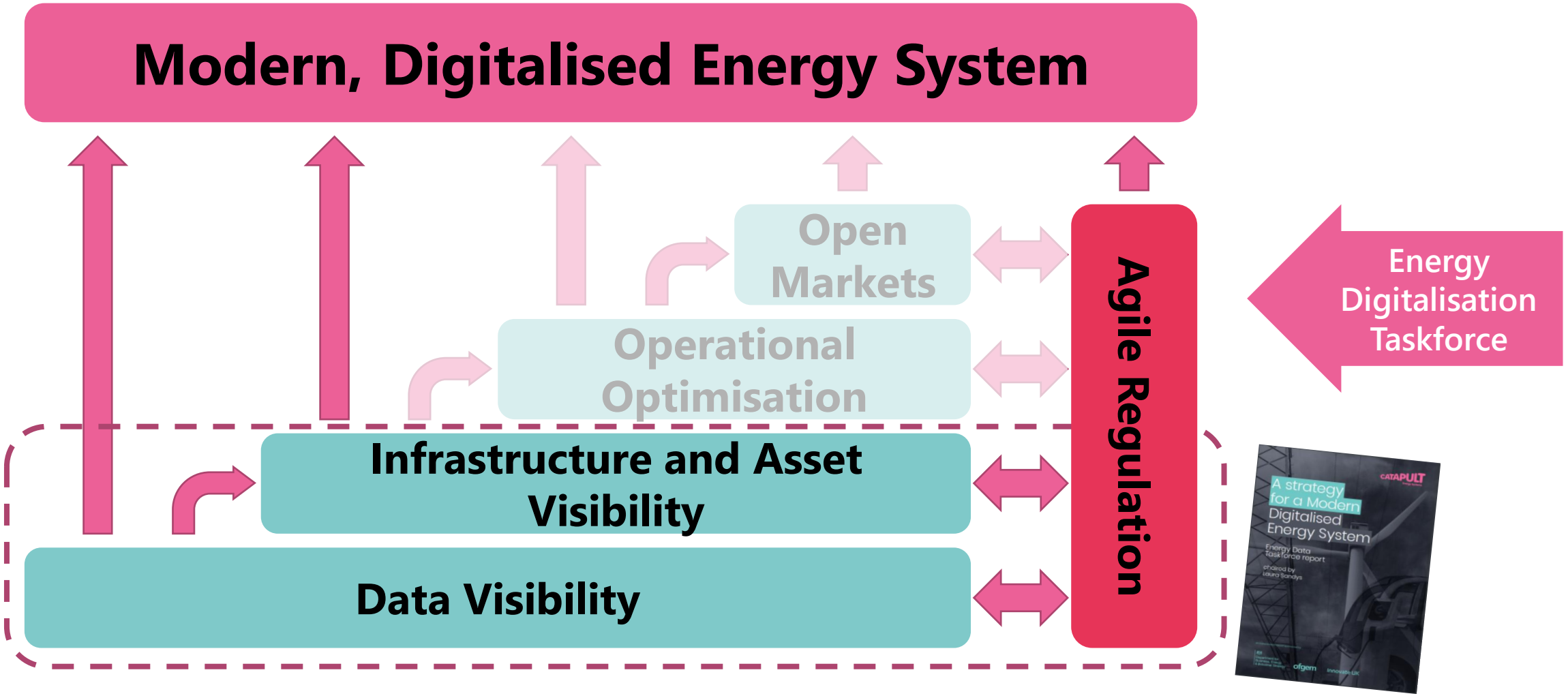
# Effort since the EDTF has focused on Data and Infrastructure Visibility

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# Energy Digitalisation Taskforce

# Energy Digitalisation Taskforce - Outcomes

Shared digital architecture vision across sector

Innovation is used to address specific digitalisation gaps

Governance promotes innovation and protects consumers

Digitalisation underpins system stability and security

Net Zero business models are unlocked

The realisation of behind the meter asset value

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# Energy Digitalisation Taskforce - Approach

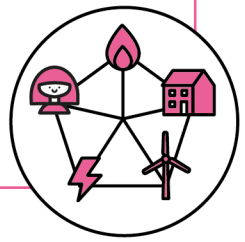
## Energy Data Taskforce Review

- Build on excellent work in the sector
- Systematic review of digital and data progress since EDTF
- Critical analysis of the success of the recommendations since launch
- Updates and additions to recommendations

Publishing Soon

## Energy System Destination

- Future Digitalised System Vision
- Greenfield Design
- Digitalised Market and Industry Structure
- Potential of transformational digitalisation across other sectors and countries
- Sector Digital Architecture
- Innovation Needs



## Digital Governance

- Mapping Governance Needs
- Review of Governance Best Practice
- Governance Frameworks,
- Functions and Responsibilities
- Governance Roadmap

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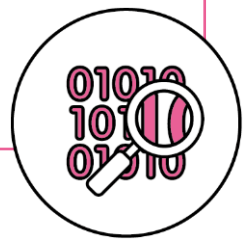
# Building on the Energy Data Taskforce

15:50

# Energy Data Taskforce… the progress so far

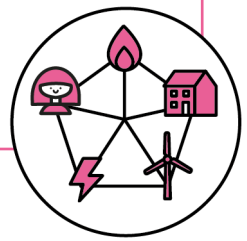
## Data Visibility

- **Presumed Open**
  - ✓ Great progress and strong support for Data Best Practice
  - Support for legal challenges and commercial triage is needed
- **Visibility of Data**
  - ✓ Agreement this is the best approach to make data discoverable
  - Slow progress but EDVP project timelines are very positive. Presumed Open governance needs to be a priority



## Infrastructure and Asset Visibility

- **Asset Registration**
  - ✓ There is strong support for BEIS intervention
  - Need to accelerate progress and there is potential to 'leapfrog' the previous recommendation
- **Digital System Map**
  - ✓ Strong support for the recommendation
  - Need for greater visibility and speed of work



## Digitalisation

- **Digitalisation of the Energy System**
  - ✓ Industry support is strong and Network Digitalisation Strategies and Action Plans are a positive step forward
  - More leadership is needed to focus on the right outcomes
  - More coordination is essential to ensure a coherent system
  - Governance is critical to manage risks of new functions and roles

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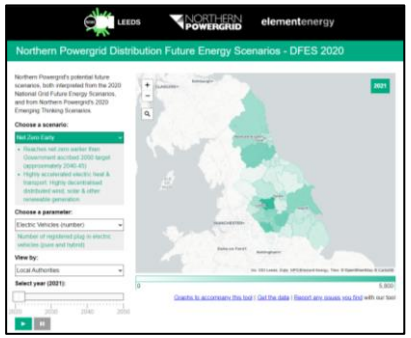
# Spotlight on Data Visibility

NORTHERN POWERGRID



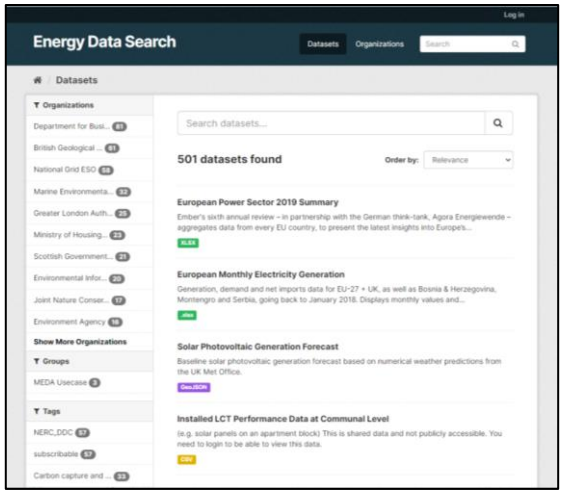

UK Power Networks

WESTERN POWER DISTRIBUTION
*Serving the Midlands, South West and Wales*

## Published Data

ElectraLink

IB1 Icebreaker One




## Tools

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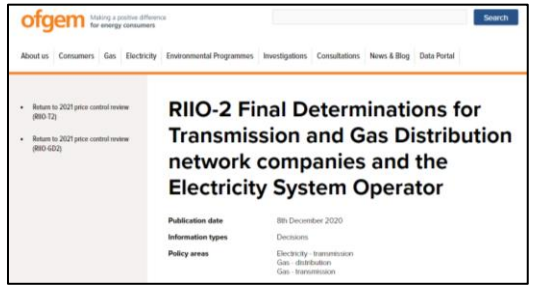
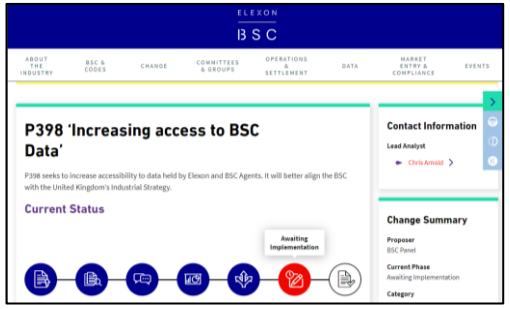



ELEXON

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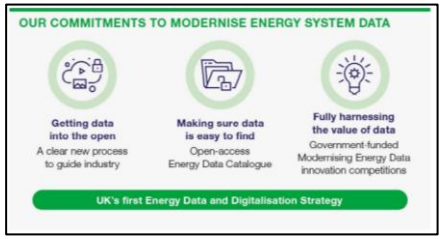


## Policy, Regulation and Codes

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# Spotlight on Data Visibility

## Published Data

**LCCC** released an open data portal

**National Grid** created open data portal

**Energy Systems Catapult** published living lab data

**Elexon** published BSC open data

**NPG** published open FES data

**WPD** created the Connected Data Hub and real time data portal

**UKPN** published Open Data Portal and DSO dashboard

**DNOs** publish the Embedded Capacity Registers

## Tools

**BEIS** commissioned the Energy Data Visibility Project

**ENA** developed an Open Data Triage sub-group

**ENA** procured a digital system map solution

**Innovate UK** funded 9 MED Apps projects

**Innovate UK** funded 3 MED Access projects

**Icebreaker One** developed open energy data search

**Electralink** developed the Flexr MVP

**Energy Systems Catapult** developed Open Data Triage tools

## Policy, Regulation and Codes

**Energy White Paper** committed to open energy data

**National Data Strategy** promoted Open Data and EDTF approach

**DCUSA** DCP350 mandated ECR publishing

**UNC** enabled easier data access for researchers

**WPD** Presumed Open Data (Open Release Playbook)

**BSC** embedded Presumed Open into code

**Ofgem** embedded Data Best Practice into RIIO 2 Licence conditions

**ESC, IUK, Ofgem and BEIS** created Data Best Practice Guidance

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# We need your input!

16:05

# How to get involved

## We need your input!

### Industry Stakeholders

- Working and co-creating with industry stakeholders
- Regular outreach, engagement and workshops
- Drawing on the experience of industry stakeholders
- Crowding in expertise from **other sectors and countries**

### Strategic Advisory Group

- A hand selected group of experts who can guide the taskforce
- Drawing on leading experts from adjacent industries
- **Announcement coming soon**

### Initial Key Dates – more to be announced

| | |
|---|---|
| Launch | 12th May |
| **Industry Event** | **6th July** |
| **Industry Event** | **7th Sept** |
| Publication | Dec 2021 |

**Several smaller group meetings throughout the process focusing on key challenges and opportunities**

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# Huge thanks for your support and input!

Chair
Laura Sandys CBE

Simon Pearson

Dr Richard Dobson

Jake Verma

Department for Business, Energy & Industrial Strategy

Innovate UK

ofgem Making a positive difference for energy consumers

**If you have an idea or suggestion don't wait, get in touch via email:**

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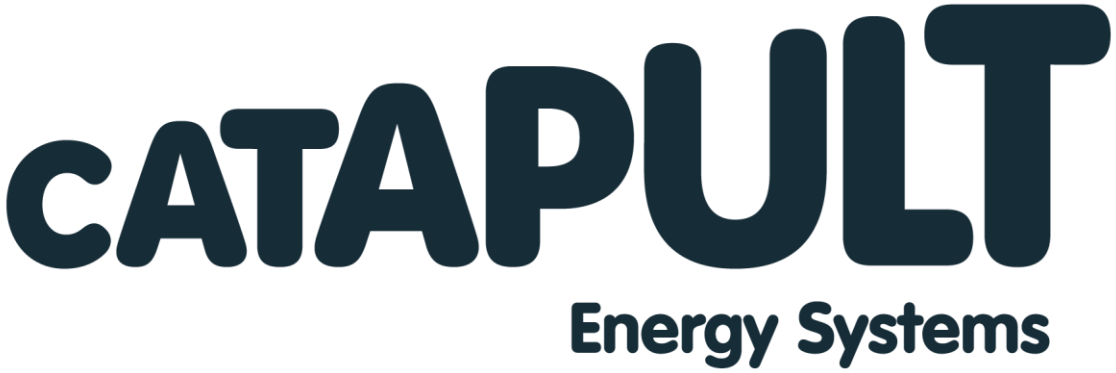
# Thank You
# We look forward to working with you all

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