

2021 NIC Call for Ideas

Webinar

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Agenda

- 1 | Innovation at WPD**
- 2 | Why participate in this call?**
- 3 | What are our priorities and challenges?**
- 4 | What is the timeline and process?**
- 5 | Q&A – enter you questions in the chat**



Who we are

- We operate the local electricity network, distributing power to 7.9 million homes & businesses
- Covering the East and West Midlands, South Wales and South West England

Network assets

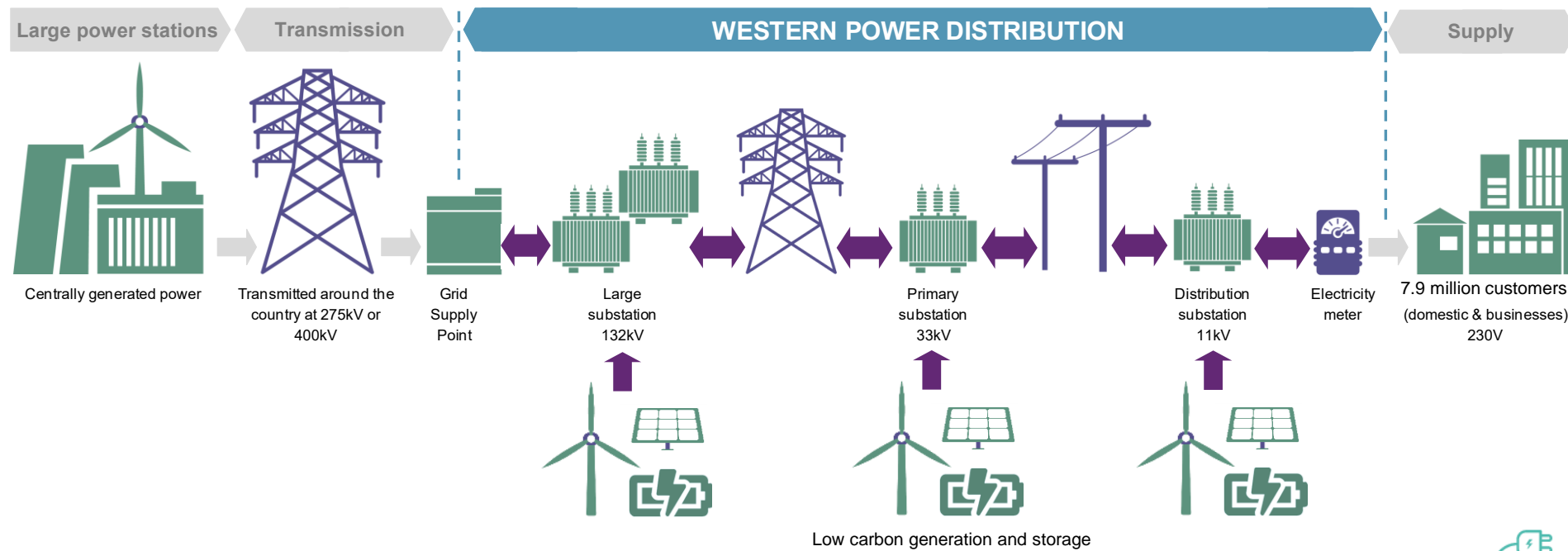
Cables and overhead lines	225,000 km
Poles and towers	1,389,000
Transformers	188,000



Introduction to WPD

Who we are

- A Distribution Network Operator (DNO) including a Distribution System Operator (DSO)



What we do



Keep the lights on

by operating our network assets effectively



Maintain equipment

so that the network remains reliable



Fix the network

if equipment gets damaged or is faulty



Connect customers

by upgrading existing networks or building new ones



Operate a smart system

by managing two-way power flows and flexibility services



Our Innovation Strategy & Values

We are a team of engineers dedicated to implementing our Innovation Strategy



Decarbonisation

Excellence

Value for Money

We identify problems, find solutions and trial them through our projects

We aim to be a main contributor to decarbonisation

We are passionate about using our innovation funding the best way possible and providing value for money

We want to be working with the best people to achieve excellence together



How do we Innovate

Generating ideas:

- We run **external calls** for ideas for projects.
- We **involve our experts** within the business.
- We **collaborate** with industry institutions.

Assessing ideas:

- We assess based on the level of **risk and benefits**.
- We determine whether projects align with **Ofgem's funding criteria**.

Funding projects:

- [Network Innovation Allowance](#) (NIA)
- [Network Innovation Competition](#) (NIC)



Stages of Innovation



Why participate in this call?

Hear from our partners



*“...participating in NIC projects gives our team of innovation engineers an opportunity to use their technical expertise on **ground breaking projects** working in collaboration with the network companies to contribute to GB decarbonisation. Working at the cutting edge of Smart Networks enables us to **take our knowledge to international clients.**”*



Why participate in this call?

Hear from our partners



*“The benefits to a supplier of working on an NIC funded project is that it **gives you the backing to develop your idea, demonstrate it in a real world application** and most significantly work with a partner that has commercial interest in it, providing **a direct route for exploitation of the target market.**”*



Our Priority Areas



**Decarbonisation
and Net Zero**



Heat



Transport



**Communities and
Consumer Vulnerability**



Data



Transport

Why is transport a priority for us?

- We forecast around **3,000,000 EVs** to be used in our area by 2030, up from 37,000 now.
- We predict to see **217,000 chargers connected to our network by 2023.**
- We are committed to ensure that we are an enabler to this, not a barrier.

Some of our innovation projects:

- [DC Share](#) – £5.6M
- [Take Charge](#) – £1.3M
- [Electric Nation Powered Up](#) – £2.6M

Can you help us with:

- Identifying how we can provide capacity in urban environments where we anticipate large amounts of **on-street EV charging.**
- Developing innovative solutions for providing capacity for **EV filling stations.**
- Demonstrating effective methods for managing capacity that enables **charging for freight** including, HGVs and ships.



Heat

Why is heat a priority for us?

- We forecast **110,000 heat pumps** to be installed on the network by the end of 2023, up from 2,000 now.
- Managing this increasing power demand (ranging from 4kW – 8kW per heat pump) at the **lowest cost and disruption for our customers** is imperative.

Some of our innovation projects:

- [Freedom](#) – £5.2M
- [Hydrogen Heat & Fleet Viability Assessment](#) – £60k
- [Multi Asset Demand Execution](#) – £1.7M

Can you help us with:

- Understanding **how electrification of heat could impact** the operation and planning of our networks.
- Determining the **flexibility of heating loads** to manage our network capacity efficiently.
- Understanding how WPD can **provide connections for energy to hydrogen services** that support the decarbonisation of gas networks.



Decarbonisation and Net Zero

Why is decarbonisation a priority for us?

- We aim to **facilitate the connection of low carbon technologies** while maintaining safe and reliable network.
- Creating a more **efficient and flexible system** will benefit all customers and empower them to be at the centre of the energy revolution.

Some of our innovation projects:

- [Electricity Flexibility & Forecasting System \(EFFS\)](#) – £3.3M
- [IntraFlex](#) – £1.3M
- [Net Zero South Wales – Cross Vector Scenarios](#) – £152k

Can you help us with:

- Identifying solutions for **whole energy system partnerships** to deliver net-zero for communities.
- Enabling **local energy markets and flexibility services** for our customers.
- Developing **neutral market facilitation** platforms that enable the energy transition.



Data

Why is data a priority for us?

- **Accurate and reliable data is paramount** to the operation and planning of electricity distribution networks.
- The increased **availability and granularity of data provides opportunities** for DNOs to improve their understanding of when and where, and how to plan and operate their networks.

Some of our innovation projects:

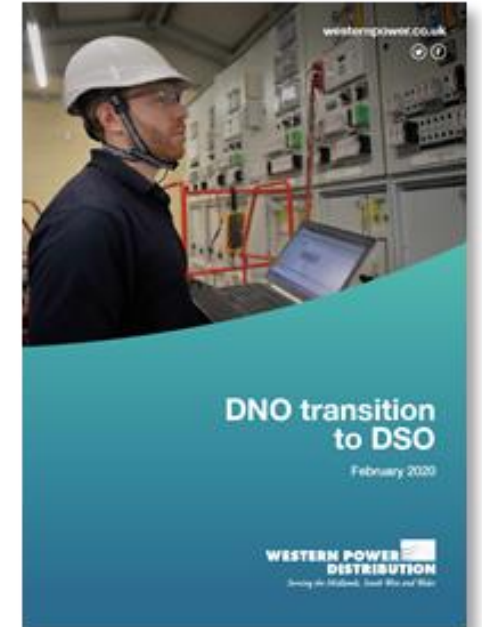
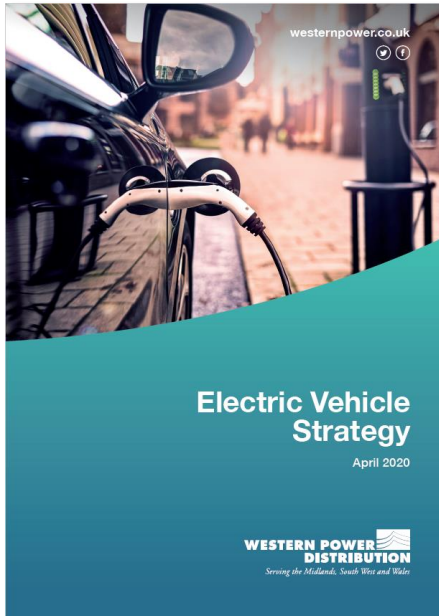
- **OpenLV** – £5.4M
- **LCT Detection** – £346k
- **Presumed Open Data** – £580k

Can you help us with:

- Identifying **novel ways that new data sets can be used** to plan and operate networks more efficiently & effectively.
- **Utilising existing network data** to understand; the real-time network condition and asset conditions.
- **Maximising third party access to data** that enables them to innovate.

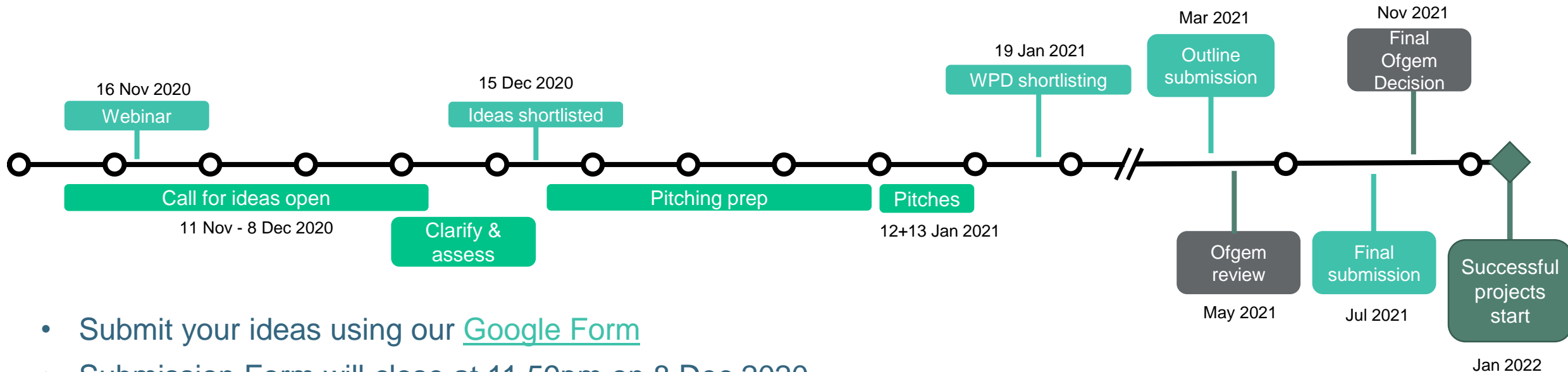


Our strategy documents



Our 2021 NIC Call for Innovation Ideas

Our timelines and process



- Submit your ideas using our [Google Form](#)
- Submission Form will close at 11.59pm on 8 Dec 2020.
- If you have any questions, reach out to us at wpdinnovation@westernpower.co.uk.
- If you have already submitted your idea through the [ENA](#) call, please do not duplicate it in this call for ideas.



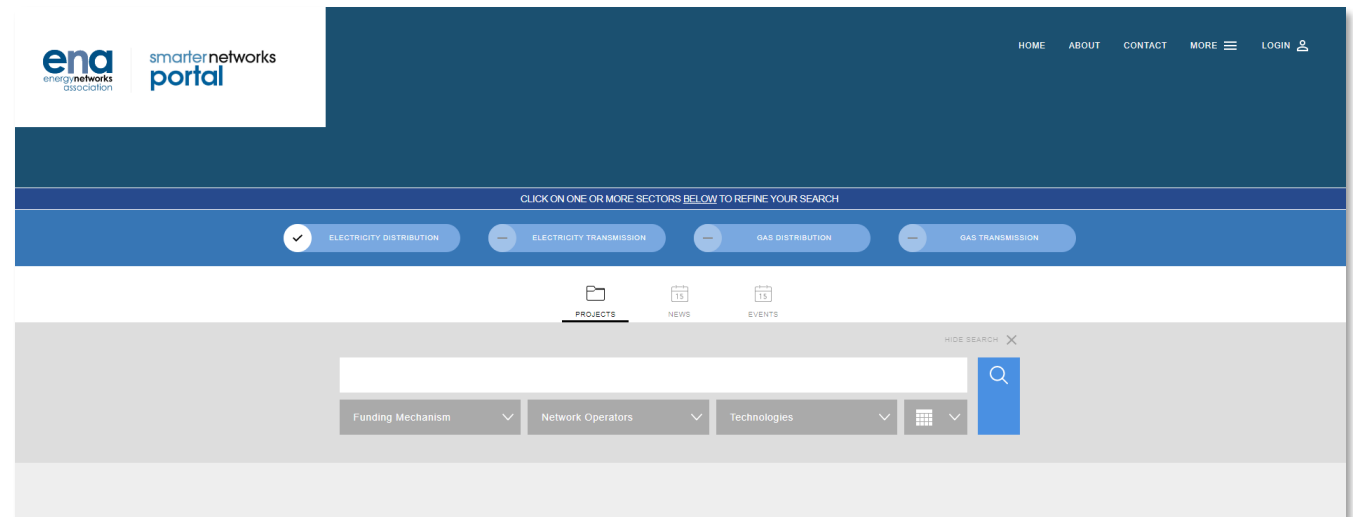
Our 2021 NIC Call for Innovation Ideas

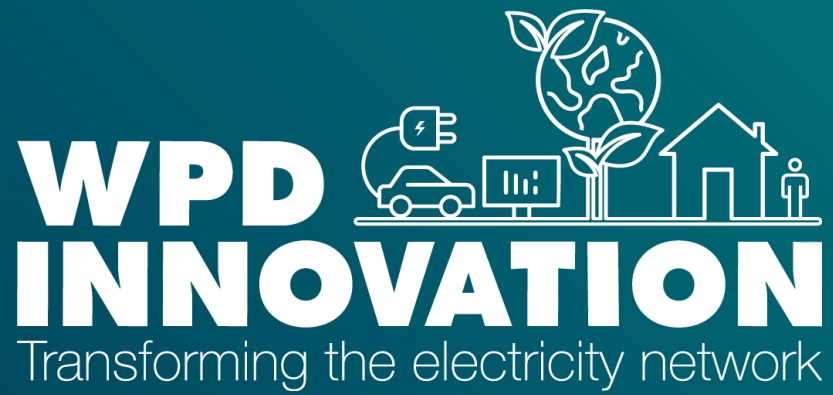
Considerations for your ideas

Successful project ideas will...

- Have the potential to **save customers money**, compared to the way things are done now.
- **Not duplicate other innovation** projects in the UK.
- **Generate learning** that can be transferred to other locations around the UK.

Check out the ENA's smarter networks portal to get inspiration of existing projects





Q&A

wpdinnovation@westernpower.co.uk



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