Helping Housing Associations decarbonise their estates

Thursday, 7th November 2024

Agenda

- Distribution networks explained
- Making your properties LCT ready
  - Homes
  - Multi-occupied buildings
- Your DNO contacts
- Connect Direct demonstration
- Q&A

Introduction to ENA

The voice of the networks

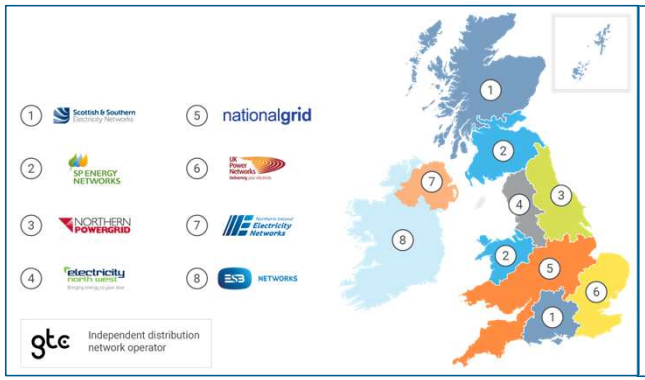
- 29 million electricity customers
- 21.5 million gas customers
- 180,000 miles of gas network
- 520,000 miles of electricity network

Areas we support the Networks

- Integrating Low Carbon Technologies
- Transition to Hydrogen programme
- Data and Digitalisation
- Safety, health and environment
- Governance of Engineering codes

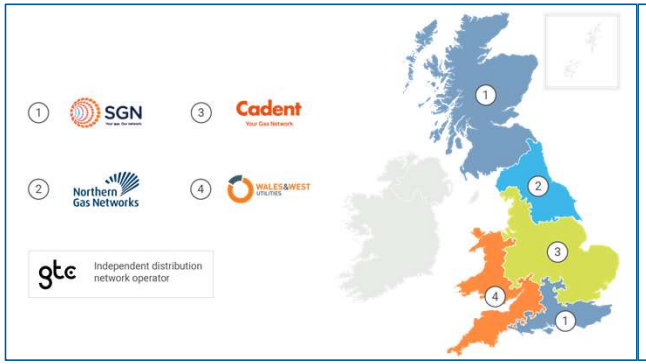
And many more…

Electricity Distribution



Electricity Transmission

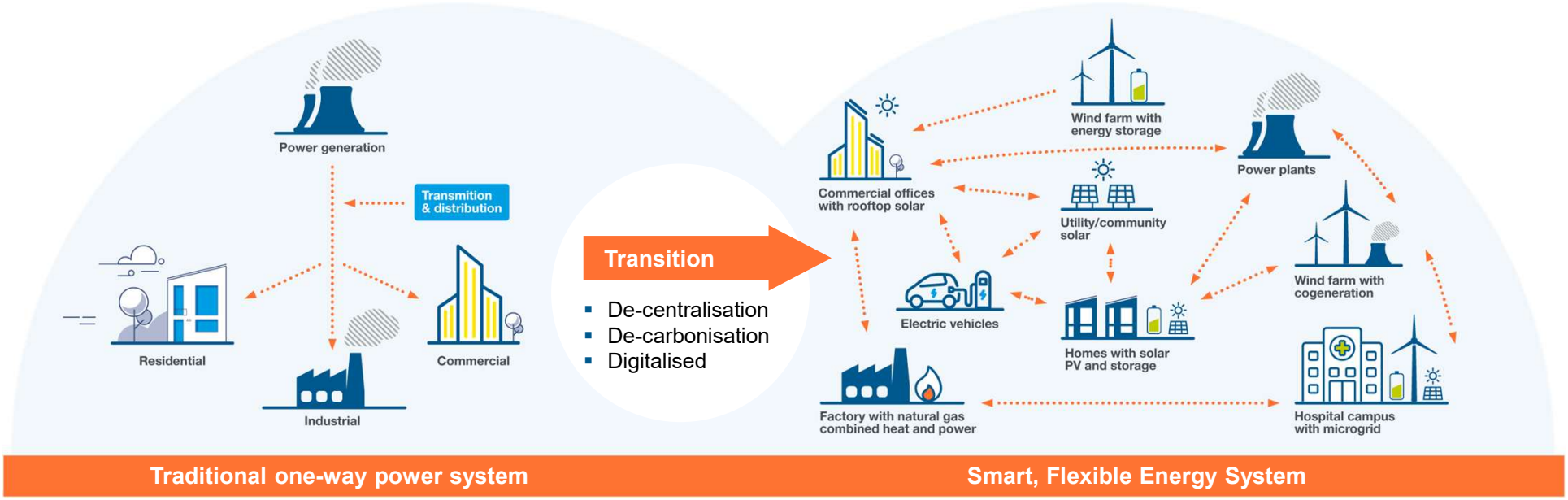
Gas Distribution



Gas Transmission

The Challenge of Net Zero networks

The UK's Electricity System is transitioning from a centralised one-way power network to a bidirectional smart and flexible grid.



What is an LCT?

AC/DC Electric Vehicle Charge Points

Heat Pumps

Solar Panels

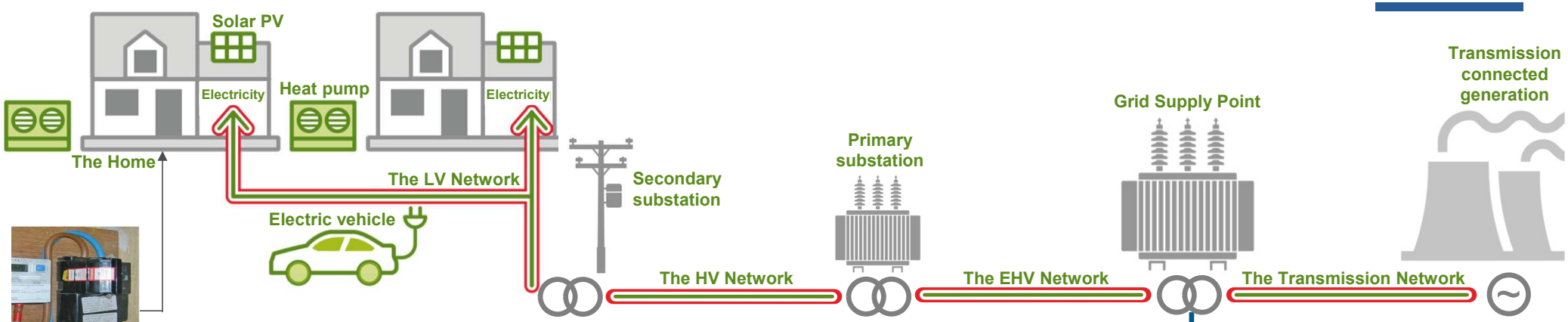
Vehicle to Grid (V2G)

Home Battery Storage

Tracking device installation helps networks plan upgrades to manage increasing and variable demand

Monitoring generation and storage devices improves supply-demand balancing, especially with a growing renewable market

Distribution networks explained



1. In your home: A "cut out" fuse

These upgrades are often the first action needed at the domestic level when Low Carbon Technologies are connected

2. Low Voltage Network: Your home to a distribution substation

This is the first potential network pinch point after the home. It is where change is happening the most, but also most challenging to predict

- Voltages less than 1kV

3. High Voltage Network

Typically, 11kV or 6.6kV voltages

4. Extra High Voltage Network

20kV to 132kV voltages

5. Transmission Network

132kV to 400kV voltages

Distribution Network | **Transmission Network**

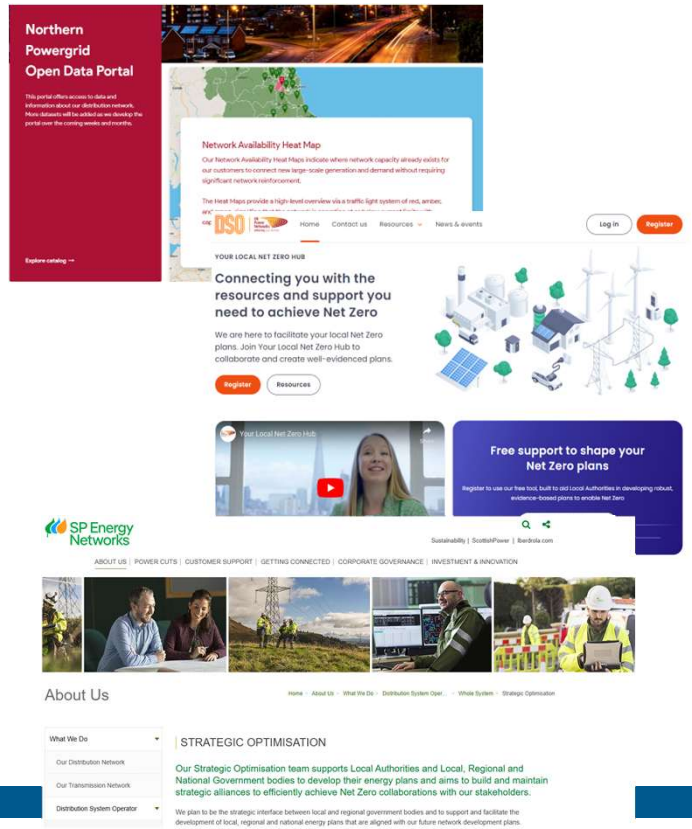
Making homes LCT ready

Discussing your programme of works with your local DNO	Appointing an LCT installer	Assessing your homes' LCT readiness	Informing your DNO through Connect Direct	Working with your DNO to undertake electrical upgrades
Identify any potential network improvements	Supporting your installer on the ENA Connect Direct platform	Understanding how to calculate your homes' existing electrical demand	How does the DNO assess my application?	Will this cost me anything?
Analysing your data	Using the ENA spreadsheet (multiple applications)	Making accurate assessments of the electrical requirements of your LCT equipment	What are the possible outcomes from my application?	What is the process?
Identifying 'low hanging fruit' – helping you order your programme	Checking your LCT equipment is 'type tested' on the ENA register (pre-approved)		Connect Direct demonstration	What are the timescales?
				Who needs to be involved?

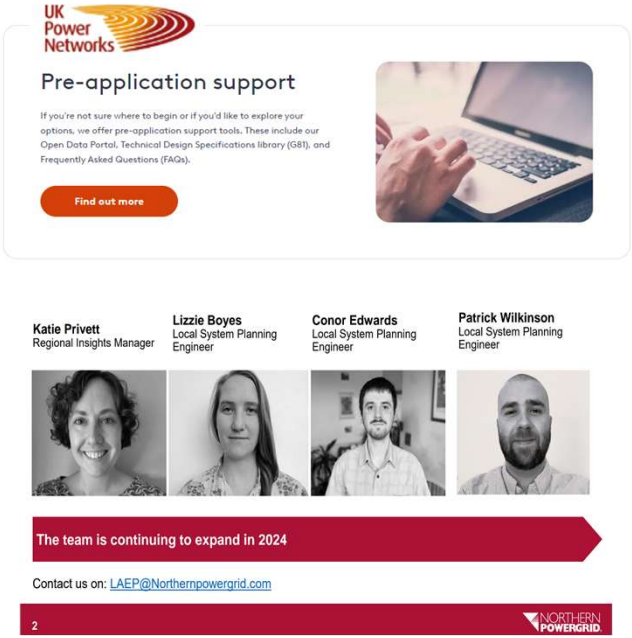
MM0

Discussing your programme of works

Using DNOs online resources



Pre-application support



Identifying 'simple' installations

What is the current heating technology?

What is the electrical rating of the heat pump?

Are there other LCTs in the home?

What is the rating of the existing DNO equipment?

How is the electrical network configured in the local area?

Slide 8

MM0 Include SPEN and SSE

Marcus Marshall, 2024-11-05T15:42:17.379

Your LCT provider and your home

Your LCT installer will be the company that will submit your formal applications and notifications to your local DNO

It helps if your installer is certified with MCS. MCS create and maintain standards that allows for the certification of products, installers and their installations

Your installer will assess your properties to:

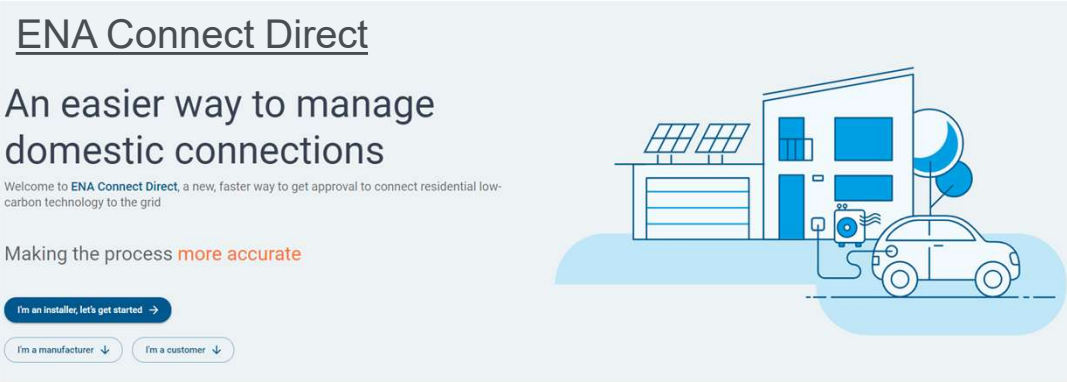
- Identify and assess the DNO equipment – it helps if they provide us high quality photographs
- Assess how much electricity is currently being used in the property
- Estimate how much additional electricity might be required following the installation of LCTs

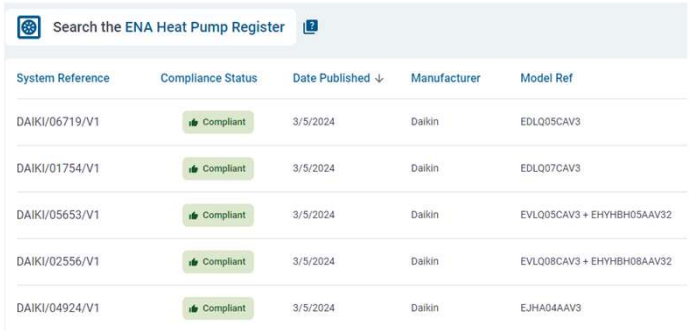
Installers will use guidance from the IET to help assess your electrical requirements. Your installer should fit a heat pump that has already been approved by the ENA.

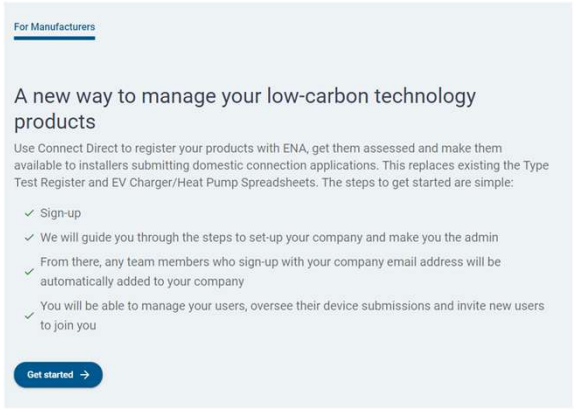
In many cases the existing electrical supply will be adequate to support your LCTs

Informing your DNO through Connect Direct

Your LCT installer can submit their applications digitally to all DNOs through one portal managed by the ENA.







Your LCT installer can submit multiple applications via a spreadsheet. Your local DNO will help you with this process.

Upgrading the electrical supply

Sometimes your local DNO will need to modify the electrical connection to enable low carbon technologies to connect.

- We will need access to the property
- Sometimes an electrician will also need to undertake works
- You may need to involve the meter operator who will be appointed by your supplier (who you pay your bills to)

There are four possible scenarios:

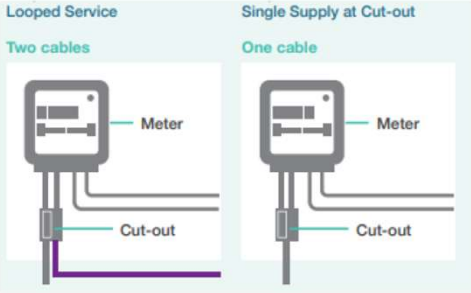
1. Change the fuse in the existing cut-out ~4 weeks
2. Change the cut-out and the fuse ~4 weeks
3. Replace the cable in your garden – more complex
4. Replace the cables for and your neighbours (looped supplies) – very complex

GB DNOs will give you what you need to decarbonise your home for free, up to a 23kVA cable

Why it is important to identify looped supplies

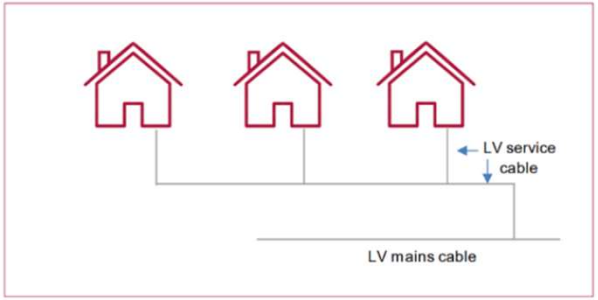
Looped supplies were installed to connect multiple properties with the same service cable as historically loads were lower.

Typically, less than 10% of houses are on a looped supply but DNO records are not 100% accurate. Often you or your installer can identify whether a service is looped by looking at the meters.

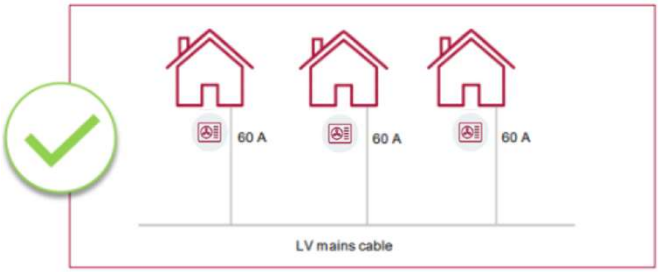


In some instances, LCTs can be installed where a supply is looped.

Removing looped supplies requires consent from neighbours. It is important we identify looped supplies as soon as possible



Historic network configuration



LCT ready network configuration

Installing LCTs in a multi-occupied building

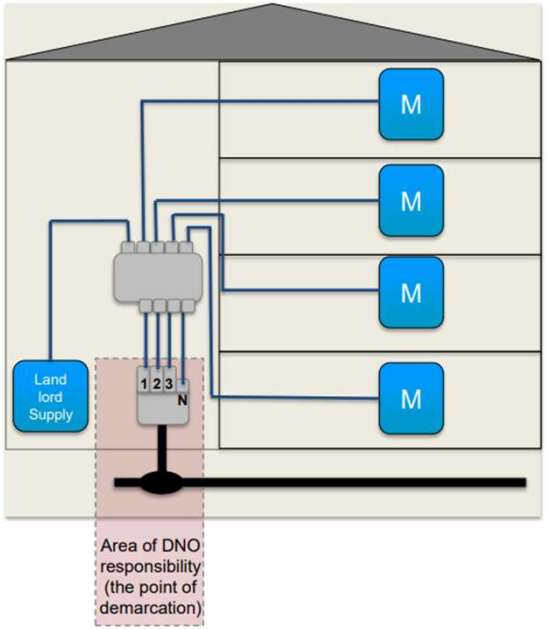
A multi-occupied building refers to a single building that has been divided into multiple premises. This can include flats and converted properties. It also includes any shared or communal areas within the building.

What is a building network operator?

A Building Network Operator (BNO) is the company responsible for owning and maintaining the electrical infrastructure in a multi-occupied building. In some cases, the Distribution Network Operator (DNO) can act as the BNO. Other examples of BNOs can include, another contracted licensed distributor or the landlord or building management company.

If your landlord applies to alter or upgrade the electricity connection for your building, we will help with the design process.

Your local DNO will verify ownership of the electrical equipment.



The building network will comply with BS 7671

Understanding what your building needs

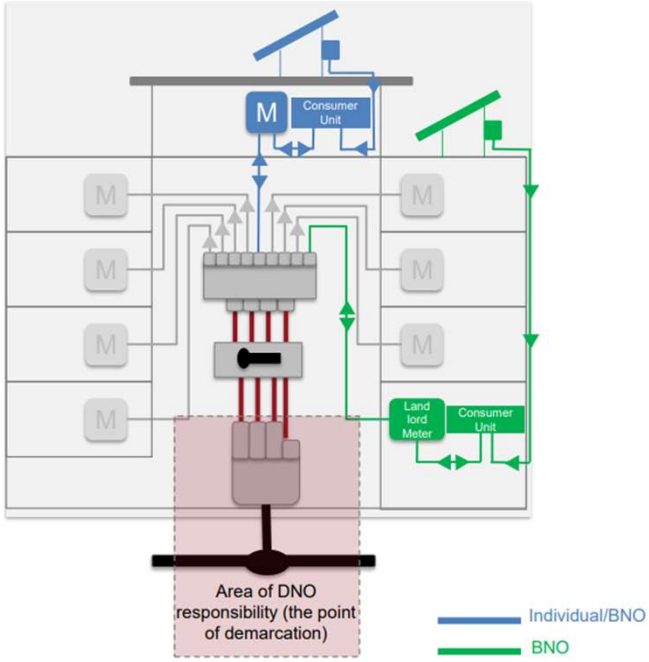
Upgrading the electricity supply in a commercial building is chargeable to the connecting customer.

It is important to check and understand:

- How much power you are currently using
- How much power you are allowed in your Connections Agreement
- Whether the new technologies that you are installing will take you over your agreed capacity
- What you can do to avoid going over your agreed capacity
- How much it might cost to increase you power supply

Your DNO can help with these questions.

You can speak to your local DNO at a Connections surgery where you can discuss your options and/or you can make a formal application to your DNO for a ‘nature of supply’ enquiry



Your DNO contacts

DNO	Contact Details
UKPN	https://www.ukpowernetworks.co.uk/ask-the-expert
SSE	businessrelationships@sse.com
NGED	wpdconnectappoint@westernpower.co.uk
NPG	Connections - laep@northernpowergrid.com Pre-applications - getconnected@northernpowergrid.com
ENWL	Connections - connectionapplications@enwl.co.uk Pre-application – PACE@enwl.co.uk
SPEN	Heat pump queries – lctapplicationsouth@spenergynetworks.co.uk Formal application – gettingconnected@spenergynetworks.co.uk Large scale programmes – strategicoptimisation@spenergynetworks.co.uk

Previous and future domestic LCT connections process

Previous process

- G98 notification
- G99 applications
- Fast-track solar and battery storage with G100
- EVCP and HP Connections form

4 forms

Better, Faster and More Accurate

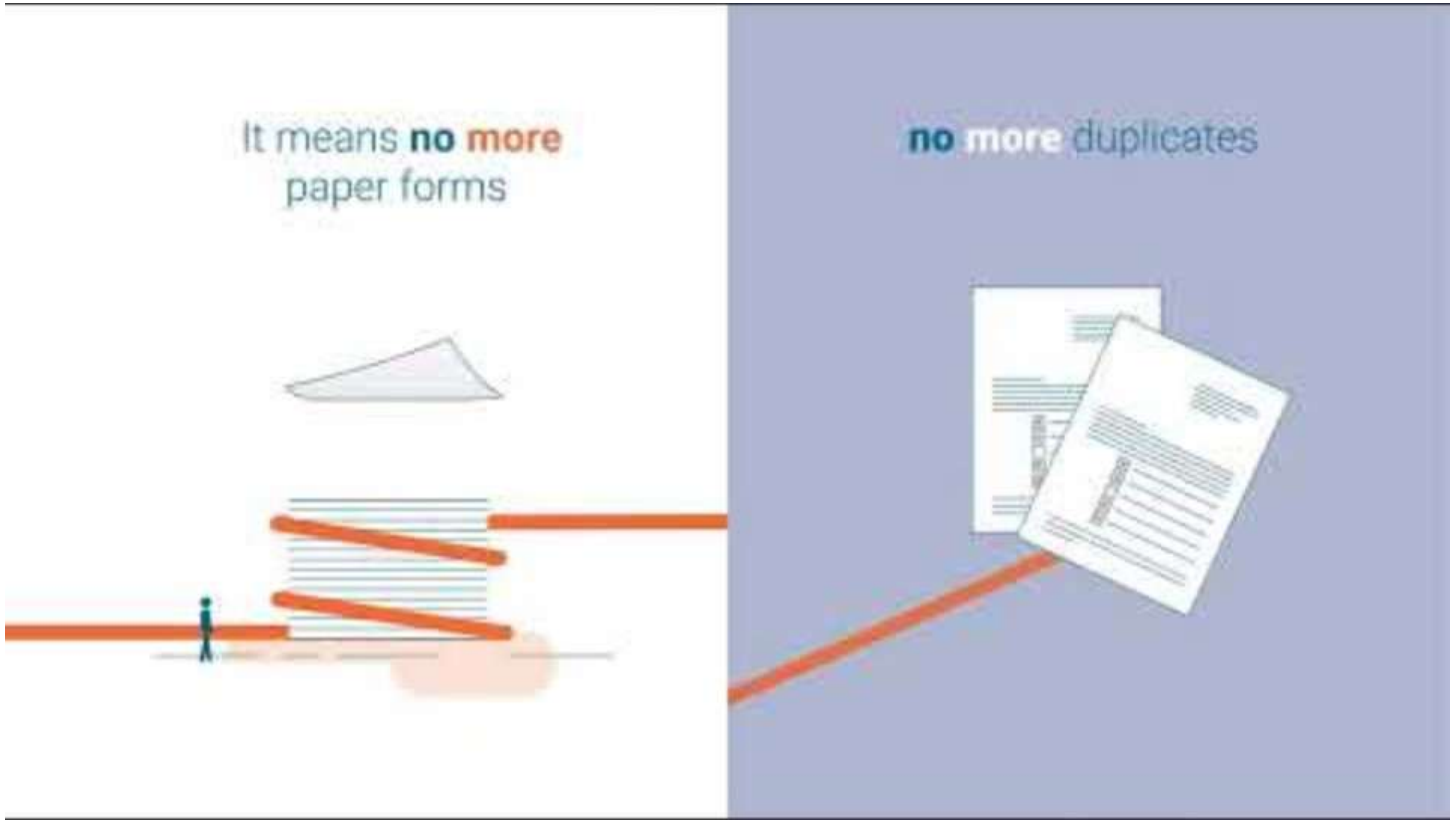
Future process

- Fully digital and automated platform
- Nationwide & for all domestic LCTs
- Access level driven security
- Compliance with customer D-Code requirements

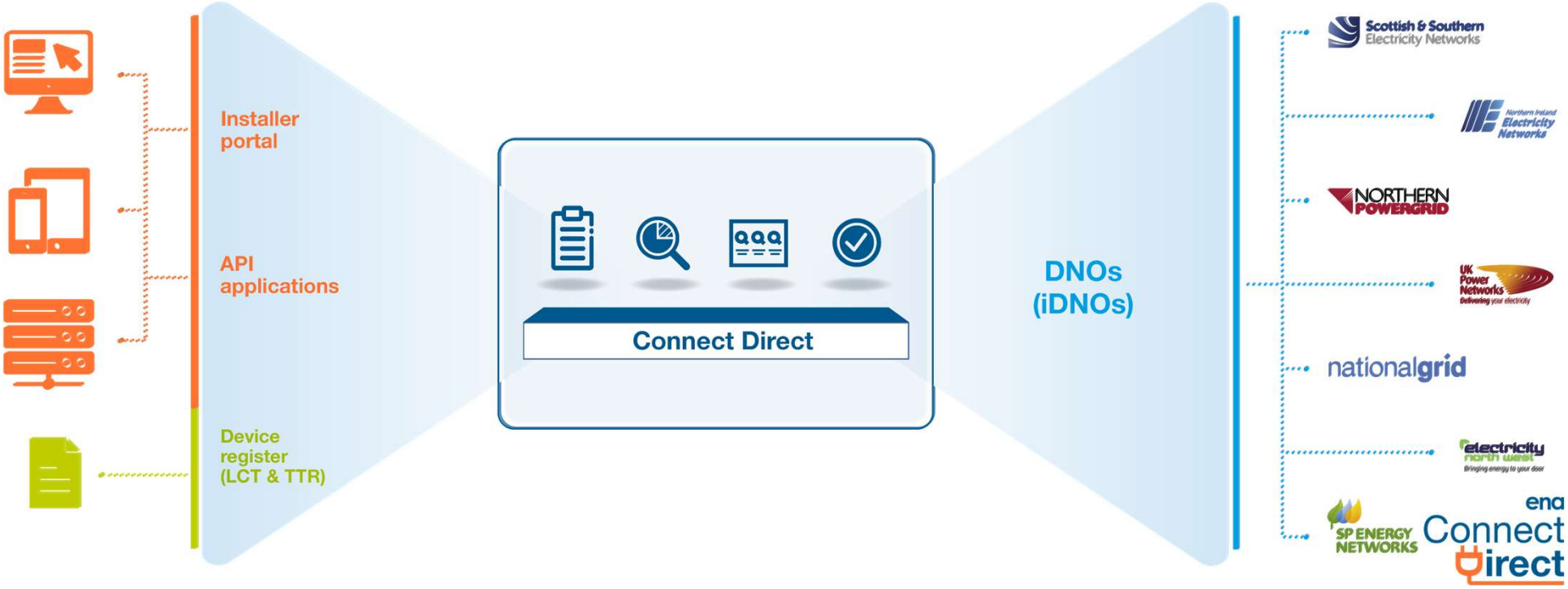
1 platform

ena Connect Direct

Connect Direct introduction



Connect Direct concept



Headline usage statistics (Full Product Launch May 2024)

>25,000 applications (1 month=1,000, 3 month=5,000)

4,000+ platform users (500 after month 1)

25+ API keys issued (10 after month 1)

Feedback installers and manufacturers

Stakeholder response has been positive!

"System looks really slick!"

" Heard positive feedback from DNO sessions!"

- DNO delivery teams

"Really easy to navigate!"

- Jo Salt, Valliant

"I Can get a quick response"

- Mo, Evergen Solar

"Easy to navigate!"

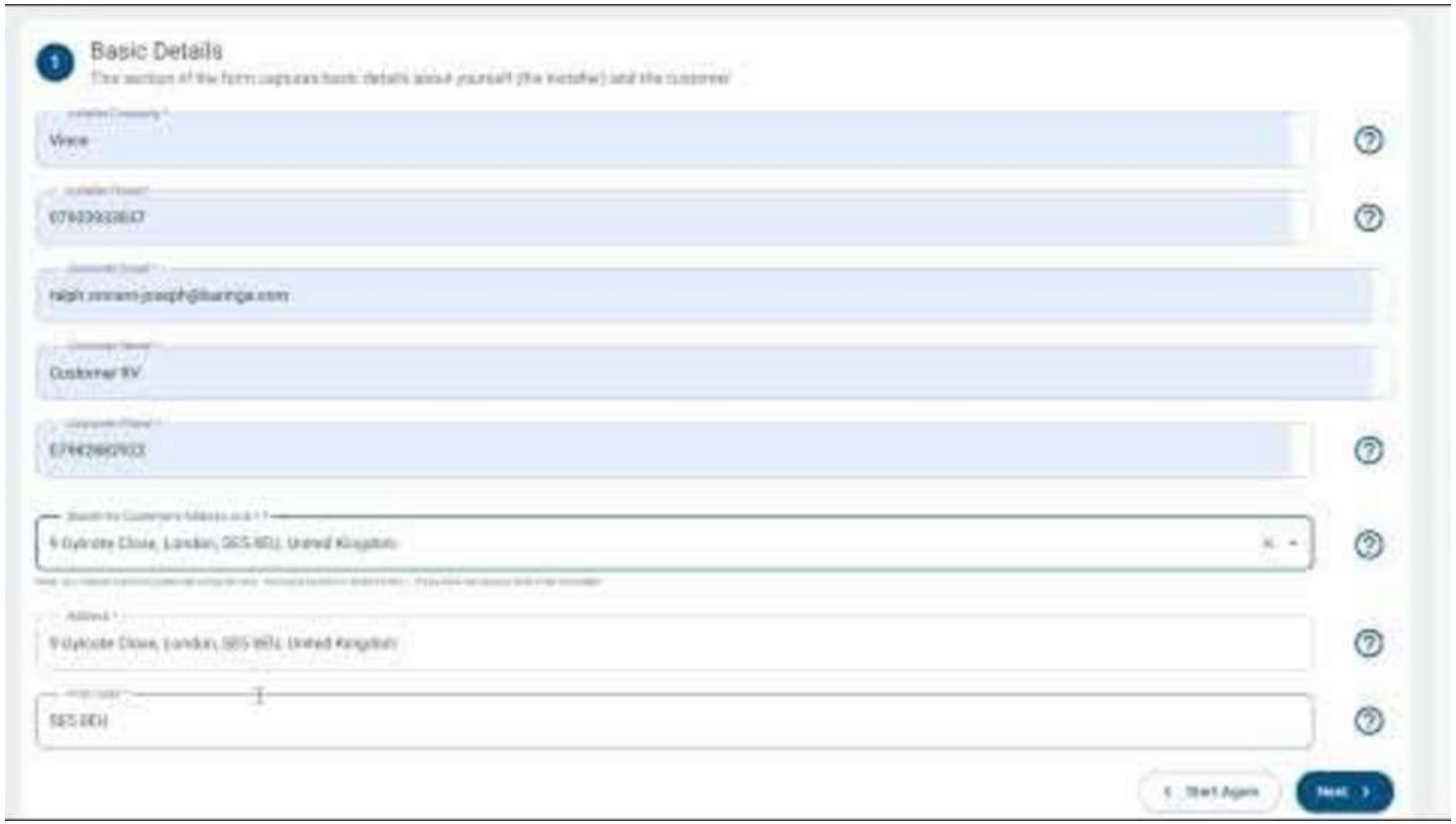
"System looks good"

This is what was needed

"New version created and additional support information added with ease"

- Jo Salt, Valliant

Submitting a domestic connection application demo



How can you get access to Connect Direct?

There are two ways in which you can get access to Connect Direct

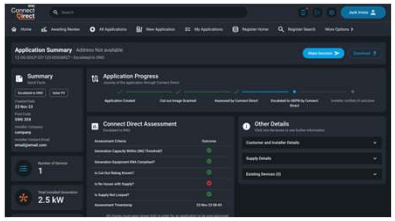
Web Portal

Who?

- Installer Companies both sole traders and those with lots of installers
- Manufacturers registering devices

How to get started?

- Sign up and create an account
- You will be set up as company admin
- Enter your company details
- Send out links to your installers
- Add any additional company admin users



API

Who?

- Installer Companies wishing to raise applications with our APIs
- Installer Companies with IT resources to develop and maintain APIs

How to get started?

- Create account and raise a support ticket asking for API access
- Get testing on the TST site
- Get production API keys and get going!

Registering for Connect Direct demo