

**electricity
north west**

Bringing energy to your door



A guide to flexible services

July 2021

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www.enwl.co.uk

Introduction



The UK is embracing a **zero carbon future**, and the way energy is generated, stored and consumed is changing rapidly

The uptake in **Low Carbon Technologies (LCTs)** such as electric vehicles and heat pumps has led to more demand being placed on our network

As we move towards **Distribution System Operation (DSO)** and more local network management, Flexible Services can balance supply and demand— helping to decarbonise our electricity supply while ensuring that our network remains resilient and reliable



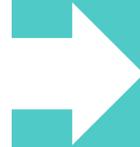
What are Flexible Services?



When the demand for electricity in an area is greater than the amount that we are capable of providing, we can utilise companies or individual customers known as Distributed Energy Resources (DERs) to alleviate constraints

This ensures a safe and reliable supply of energy

There are lots of things that can cause an increase in the demand for electricity, leading to network constraints



Electric heating in Winter



Air conditioning in the Summer



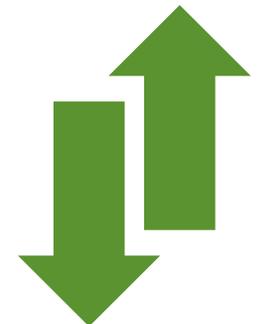
Big televised events



The uptake of LCTs

These DERs can be generators, consumers, and electricity storage connected to our networks that can increase exports (generate more) or reduce imports (consume less) when instructed

In return for providing Flexible Services, DERs will receive payment



So why now?



Increase in Low Carbon Technologies



For the UK to meet its decarbonisation targets, we expect to see a huge uptake in low carbon technologies

More demand on the network



This uptake will result in an increased demand on the network, which wasn't originally designed to cope with low carbon technologies

Reinforcement required



To be able to meet this demand, we will need to invest millions of pounds in reinforcing the network

Increased cost to customers



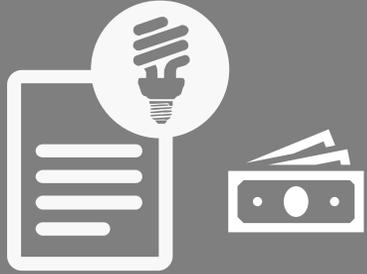
These costs are ultimately passed down to our customers through their electricity bills

Disruption



In addition, these reinforcement works have the potential to cause a lot of disruption in terms of road closures and supply interruptions

What are the benefits?



Cheaper bills for customers



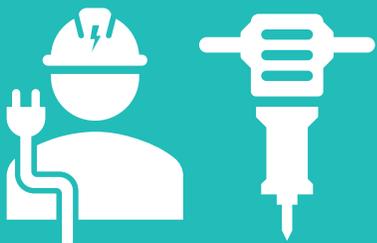
Reduces CO₂ emissions



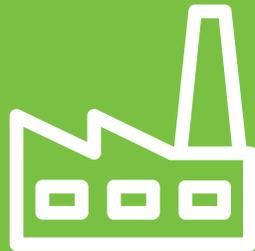
Reduction in supply interruptions



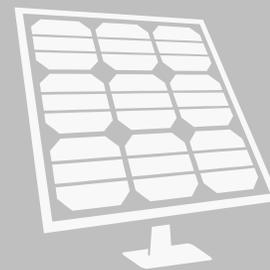
Supports community energy groups



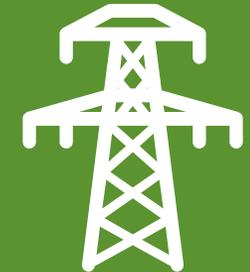
Less disruption



Supports local businesses



Encourages Low Carbon Technologies



Utilises existing assets

How we identify a Flexible Service requirement



On an annual basis, we forecast what we expect the demand to be on our network in both the near and distant future



We then take a look at each of our substations, and compare the firm capacity with the forecasted demand



Where a constraint is identified which can be alleviated by Flexible Services, we publish an Invitation to Tender



Sustain (Scheduled)

Provides a scheduled response to prevent network constraints

DERs flex their supply up or down in accordance with a schedule to help manage network constraints by providing additional capacity and capability



Dynamic (Post-fault)

Keeps the power flowing during an unplanned network event

DERs are available and provide an immediate response following a fault or unplanned network event



Secure (Pre-fault)

Provide a scheduled response to manage network loading

DERs are available at peak times to help manage the load on the networks and prevent it from exceeding its capabilities



Restore (Post-fault)

Gets the lights back on following an unplanned network event

DERs are available and provide an immediate response to help us restore supplies for customers more quickly following an unplanned network event



To participate in our tenders and receive payment in return for providing flexible services to our network, you need to:

- ✓ Have an asset in one of our requirement areas
- ✓ Be capable of adjusting how much electricity you consume or generate
- ✓ and provide a minimum of 50kW either individually or via an aggregator

1

Sign up to the Dynamic Purchasing System via [PicloFlex](#)

2

Register and upload your assets via [PicloFlex](#)

3

Complete the pre-qualification questionnaire on [our website](#)

4

Confirm your participation in our competition via [PicloFlex](#)

5

Submit a bid via [PicloFlex](#)