

# 01 How are we using new technologies?

New technologies are becoming central to the way we generate, consume and manage electricity. These technologies form part of a wider digital transformation of the energy networks – the Internet of Energy – where network operators use smart energy technologies and data to manage the electricity grid.

The Open Networks Project is key to ensuring these changes benefit the public, businesses and everyone.

## Generate

Huge amounts of electricity are now being generated from renewable energies in the UK, with record amounts being connected at a local network level.

The Open Networks Project is simplifying and standardising the connections process for local city councils, community energy schemes, and industrial and commercial businesses.

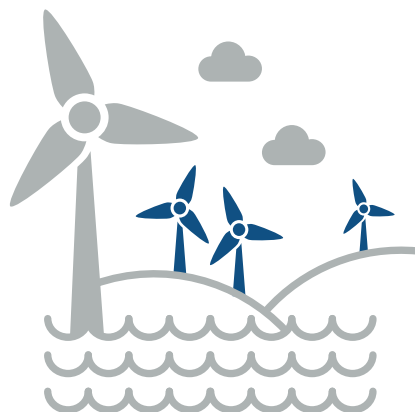
# 40%

Approximately 40% of total installed generation capacity in the UK comes from renewable energies.<sup>1</sup>



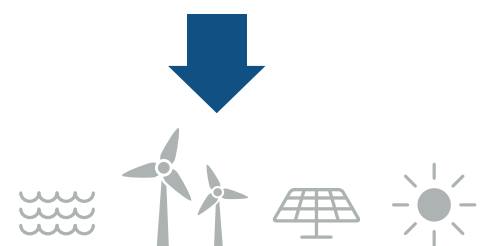
# 30%

Renewable energy projects generated approximately 30% of electricity in the UK in 2017.<sup>1</sup>



# 30<sub>GW</sub>

More than 30GW of generation is connected to the local electricity networks in Great Britain.<sup>1</sup>



# +85%

with over 85% of this from renewable energies.<sup>1</sup>

<sup>1</sup> Government's digest of UK energy statistics, 2018  
<sup>2</sup> National Grid Future Energy Scenarios July 2018.

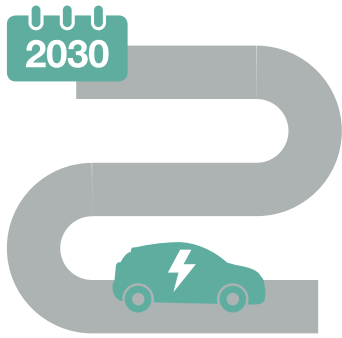
## Consume

The public is adopting smart new technologies and energies at home, such as electric vehicles, smart meters, smart thermostats and solar panels.

The Open Networks Project is creating opportunities for people to buy, sell or trade their excess electricity to generate additional income.

# 11mn

By 2030, there could be as many as 11mn electric vehicles on the UK's roads powered by local and national electricity networks.<sup>2</sup>

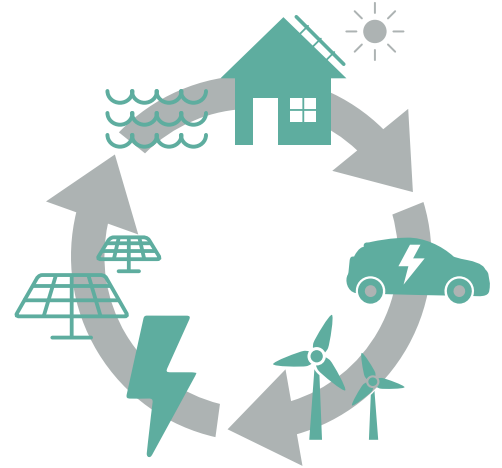


# 13GW

There is 13GW of solar PV connected at the local network level in the UK, coming largely from household rooftop solar.<sup>1</sup>



In the not-so-distant future, smart grids and artificial intelligence-driven algorithms will improve flows of energy across the system and within local communities.



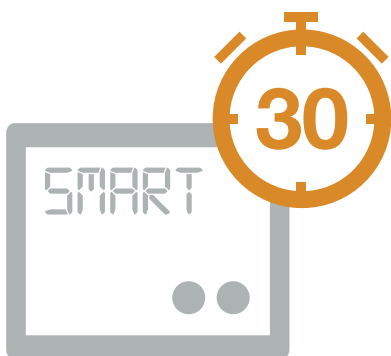
## Manage

Smart energy technologies are providing flexibility services which together with data can be used to manage the grid smarter and more efficiently. The Open Networks Project is helping to establish market places for

these new smart energy technologies while keeping the costs of the network low for the public, integrating low-carbon energies and creating new opportunities for everyone.

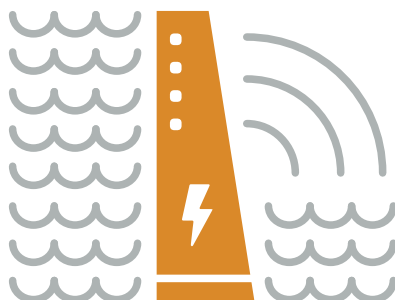
# 30MINS

Local network operators are now able to collect and process smart meter readings and consumption data every 30 minutes.



# 3.3GW

There is 3.3GW of storage capacity operational in the UK, including hydro projects and battery storage systems.<sup>1</sup>



# 320MW

ENA estimated that more than 320MW of flexibility services would be contracted by the end of 2018, equivalent to 10% of the capacity of Hinkley Point C nuclear power station.

