Distributed Energy

Powering the North East's Economic Future

Autumn 2018

Powering Performance

Powering Resilience

Powering the Future

Centrica is helping organisations take advantage of intelligent, end-to-end solutions so they can monitor, manage and optimise their energy to power performance, resilience and growth.

See inside for what this means for key sectors of the North East's economy and how your area could benefit.

centrica
Business Solutions

We have calculated the potential savings from distributed energy solutions across all non-domestic electricity consumption in the North East to be **£112.5 million.**

This figure is based on a reduction of 15 per cent on bills – which we have found to be achievable from sites where we have installed these technologies.

Our analysis suggests that if just 50 per cent of three key sectors utilised distributed energy solutions it could deliver the following for the sectors in the North East:

Industry

£23m
per annum

Industrial

- Reduce energy costs by £23 million per annum
- Contributing £598 million for the North East GVA

Healthcare

£6m
per annum

NHS the North East

- Reduce energy costs by £6 million per annum
- Contributing £45 million for the North East GVA

Hospitality and Leisure

£13m
per annum

Hospitality and Leisure

- Reduce energy costs by £13 million per annum
- Contributing £164 million for the North East GVA

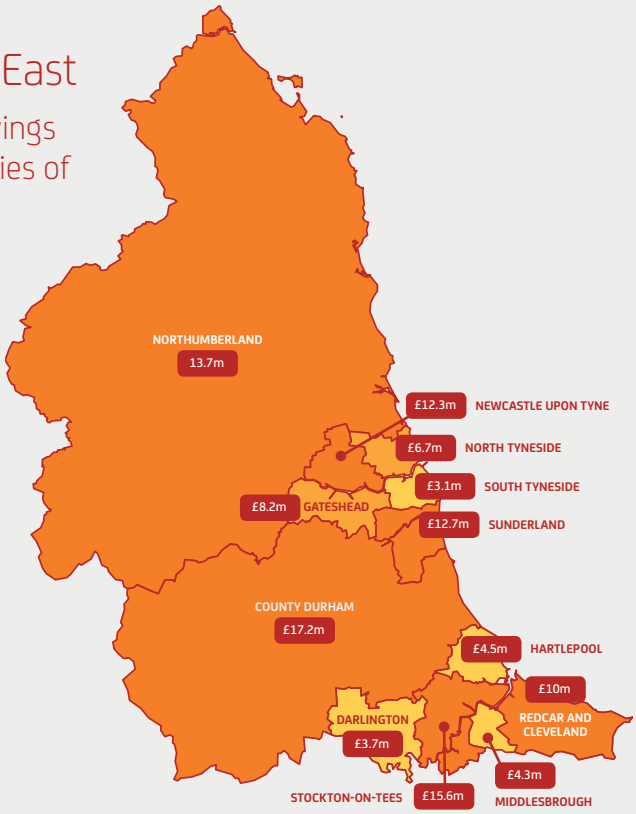
These three sectors alone then would add £807m to the GVA of the North East, supporting an estimated 11,400 jobs.

Powering the North East

Breakdown of projected savings across the 12 local authorities of the North East

Key

- £10m – £20m
- £5m – £10m
- £5m or less



CASE STUDY:

Gateshead Council plugs in

The Gateshead District Energy Centre is a ground-breaking scheme designed to deliver energy to the local area. It aims to bring together multiple energy sources to generate cost savings and strengthen energy resilience.

The Centre includes a pair of 2MW combined heat and power (CHP) units, which generate enough electricity to power 3,000 homes. Gateshead Council wanted to supplement CHP with battery storage that would give them more flexibility over how to manage their energy. Centrica Business Solutions has installed one of the UK's largest commercial battery storage schemes for the council to meet this ambition.

With a capacity of 3MW, the state-of-the-art battery scheme holds the equivalent of one million AA battery cells.

Centrica is managing the project under a 10 year contract, providing various flexibility services for the grid which help keep the national electricity network in balance. In time, it will be used to help meet peaks in local demand, providing electricity through a private wire to council-owned buildings and well-known Tyneside buildings including Gateshead College and Sage Gateshead concert venue.

> "This is a bold, imaginative scheme that means we can also store and release energy when we choose, as well as supporting the National Grid, which helps raise more income to support council services."

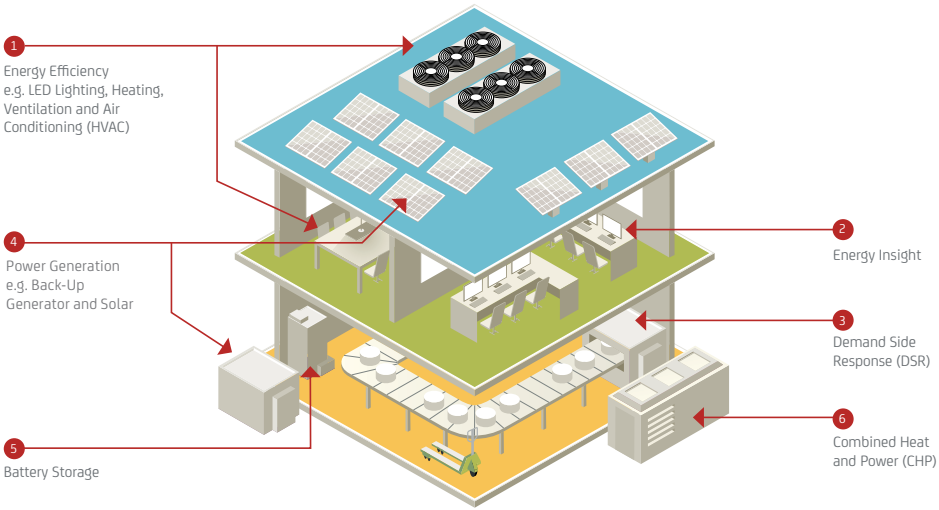
Cllr John McElroy, Cabinet Member for Environment and Transport, Gateshead Council

What is distributed energy?

The first step in understanding the potential of distributed energy solutions is understanding what the term means.

The World Alliance for Decentralised Energy defines this as "electricity production at or near the point of use, irrespective of size, technology or fuel used – both off-grid and on-grid." We believe that this is a good start, but is too narrowly defined.

Distributed energy should also cover a much broader range of solutions, including energy efficiency, monitoring and on-site generation, that can help organisations to take control of their energy and turn it into an opportunity.



1. Energy Efficiency

Reducing costs by upgrading or improving a range of energy-consuming processes.

2. Energy Insight

New technology is available that allows larger energy users to accurately monitor their energy use across all equipment and devices. For example, Centrica Business Solutions' own Panoramic Power technology.

3. Demand Side Response (DSR)

Revenue streams are available for energy users if they are able to reduce, or even increase, their energy consumption at times when the grid demands it. New technology allows energy users to respond to these changes in demand quickly and easily and without putting security of supply at risk.

4. Power Generation

A range of small-scale power generating technologies can provide on-site generation; delivering back-up power and the ability to sell excess energy back to the grid.

5. Battery Storage

Lithium-ion battery storage systems can be charged at cheaper times and then used when prices increase to better manage energy costs. They can also work alongside renewable technologies, which on their own are intermittent, and can be used to support the grid, which will create new revenue.

6. Combined Heat and Power (CHP)

CHP plants work by converting gas into both electricity and heat in a single process. It's one of the most efficient sources of energy and allows significant amounts of energy to be produced on-site, improving the resilience of supply, reducing costs and helping to reduce carbon emissions.

This summary has been compiled from our Powering Britain report, which you can see here: www.centrica.com/news/powering-britains-economic-future
For more information about distributed energy solutions and case studies of some of our projects: centricabusinesssolutions.com