

Local electricity could meet half our needs by 2050

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Research conducted by nine leading UK universities has found that up to 50 per cent of electricity demand in the UK could be met by distributed and low carbon sources by 2050.

A team of interdisciplinary energy researchers, jointly led by the University of Bath and Cardiff University, has today released Distributing Power: A transition to a civic energy future, a report published by the EPSRC-funded Realising Transition Pathways Research Consortium.

The report assesses the technological feasibility of a move from the current traditional business models of the 'Big Six' energy providers to a model where greater ownership is met by the civic energy sector. It also goes further by questioning what types of governance, ownership and control a distributed future would need.

A major driver for this transition would be a step change in the role of the civic energy sector (communities, co-operatives, local authorities, town and parish councils, social housing providers) through participation in, and ownership of, electricity generation schemes.

Currently, less than one per cent of UK <u>electricity demand</u> is met by community or local authority-owned distributed electricity generation. And, although challenging, an increase to a 50 per cent market share by 2050 is technologically feasible.



The researchers concluded a number of findings including:

- National energy planning with regional and local support for a civic energy sector would be needed, resulting in a much greater role for national and local government.
- A high-level of distributed generation would require an increase in regional, national and international interconnection, such as electricity imports from neighbouring countries. Distributed energy systems have often been equated with increased energy independence.
- The traditional business models of the 'Big Six' would be challenged as they lose market share to local generation and supply businesses.
- Much of the energy value that currently leaks out of the UK economy could be captured at local level.
- Significant reduction in electricity demand would be necessary through increasing energy efficiency and conservation; households would need to more than halve current levels of electricity consumption by 2050.
- New infrastructure, like smart-grids and emerging technologies such as in-home fuel cells, would be necessary; large-scale expansion would need to occur from 2020 onwards.
- The impact to consumer bills would be marginally more expensive in the medium term to 2030; it would be significantly cheaper in the long-term to 2050, compared to two other scenarios considered by the team.

Report co-author Áine O' Grady, Research Officer in the Sustainable Energy Research Team at the University of Bath said: "Significant environmental benefits, particular in terms of tackling climate change, could be delivered through such a distributed energy future. Nevertheless, electricity consumption would have to fall dramatically in order to reap such benefits, with households required to halve their



current electricity consumption by 2050."

Co-Leader of the Realising Transition Pathways Consortium, Professor Peter Pearson from Cardiff University added: "This report imaginatively explores an <u>electricity</u> future of a kind that none of us has experienced. It illustrates one of the ways in which the UK might seek to achieve the low carbon transition envisaged in the Climate Change Act 2008."

More information: The report can be accessed at <u>www.realisingtransitionpathway ... power_report_WEB.pdf</u>

Provided by University of Bath

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