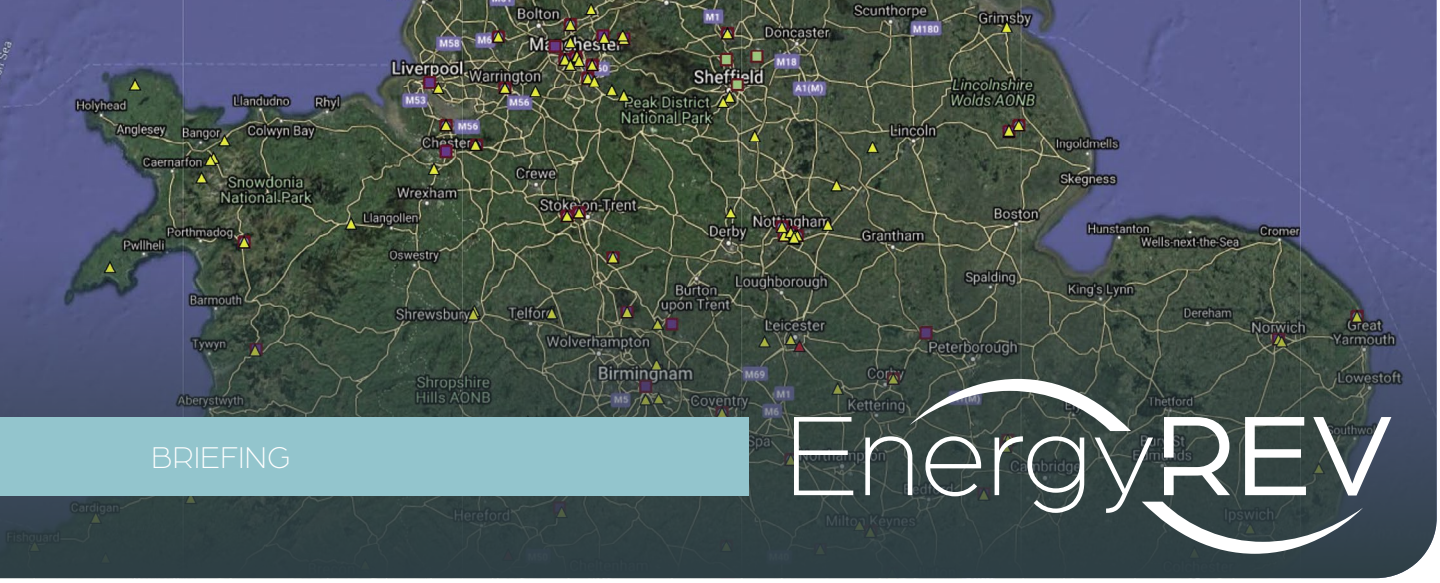

BRIEFING

EnergyREV

The EnergyREV UK local energy map: User guide & summary

Callum Rae, Sandy Kerr & Mercedes Maroto-Valer | October, 2021

This summary document accompanies the publication of the UK interactive local energy project database and map. It explains how to use the interactive map and provides further information about why and how this resource was created.

How to use the map

Go to the interactive map.

Navigation instructions:

- Zoom in/out: this can be done by either using your mouse scroll wheel or the +/- buttons located in the top left of the screen.
- Pan left/right/up/down: this can be done by clicking and dragging the mouse anywhere on the map.

Selecting a project:

A project can be selected by left-clicking on a project icon on the map (coloured triangles, circles and squares). This will open the project information box, which displays the available information held for the project in question. The project information box can be closed by clicking the 'x' in the top right of the box, by clicking elsewhere on the map.

Legend and filters:

The map includes a number of filters that can be applied to the map so that only projects which share a specific characteristic are displayed. Filters can be applied in two ways:

1. Using the legend filters. These are displayed in a box on the right-hand side of the map, with a list of categories and their corresponding icons. To remove a category of project from the map, simply deselect the item from the list so that the checkbox is not checked.
2. Using the additional filters. These additional filters can be found down the right-hand edge of the screen, and include:
    - » Project start/end date sliders. These can be used to ensure that only projects which ran before/after/during a specific date range are displayed (note that if no specific date data is available for a given project then default start/end dates of 1997 and 2023 will be displayed in the project information box and the project will not appear in the results of any date slider filtering).
    - » Project information level filter. This can be used to ensure that only projects with a high level of available information are displayed.

» Country filter. This allows only projects within specific countries to be shown.

Why has this been created?

As part of ongoing research into the barriers to upscaling faced by Smart Local Energy Systems (SLES), EnergyREV researchers at Heriot-Watt University recently conducted a review of existing and previous examples of local energy systems and projects in the UK.

Recent decades have seen a marked increase in the number and variety of local and community-scale energy projects in the UK. These include renewable generation deployment, building fabric improvements, energy efficiency and demand reduction initiatives. The rapid growth of the sector and the changing policy and incentive landscape makes compiling and maintaining a comprehensive, centralised list of projects a challenging prospect. While there are a number of organisations which attempt to do so, the projects which are included within them are dependent on the definitions and criteria for inclusion chosen by the compiling organisation, or only include projects or initiatives which have benefited from their support or involvement. These databases therefore may not provide a complete representation of the sector as a whole.

There is therefore a need for a combined database which is sufficiently broad in scope to include different types of local and community energy projects and initiatives. Given the potential value of such a resource for both current and prospective future stakeholders in the sector, it was decided to publish the results of our review in the form of an interactive map and underlying database, which combine publicly available project information from a number of relevant existing databases and past reviews (see below for further discussion of data sources).

Who is this resource for?

As part of our research into the barriers to the upscaling of SLES, it has become apparent that current knowledge sharing and dissemination practices are not effectively communicating the experience and results of local energy projects. Typically, it is intermediary organisations – such as Community Energy Scotland/England and Wales – who assume responsibility for providing information and support, particularly during the early project phases of project planning and development. The creation of a combined database does not address all the limitations associated with current reporting and knowledge sharing practices, nor does it contain every single relevant project which exists. Instead, the aim is to build on the work of these organisations by bringing together a number of different databases and the information they contain within a single resource.

The database is intended to serve as a source of information for current and potential stakeholders in the local and community energy sector including consumers and current and prospective project partners from industry, local government and academia. The map can be used to explore previous and existing applications of certain technologies, with the underlying data providing some high-level information that will enable further investigation by providing links to projects and support/funding organisations. For those wishing to review the community and local energy sector as a whole, the map allows for targeted analyses by allowing projects to be filtered according to vector, country, date and scale (provided such information has been made publicly available elsewhere). The underlying database upon which the interactive map is based is also available for those wishing to carry out their own more detailed analyses.

How was the database compiled?

The database of projects and associated information which underpins the interactive map was created by combining a number of existing, publicly available databases. Download the database.

As discussed above, there are a number of such databases, typically provided by support organisations such as Community Energy Scotland/ England and Wales or by funding bodies such as Local Energy Scotland.

The content of existing databases is determined by the priorities of the compiling organisation and the criteria they set. Consequently, the motives behind their development vary and there is no standard approach taken. In some instances, databases are compiled by providers of funding or other forms of project support. These datasets are essentially a record of the projects that have been supported, and used to communicate the activities of the funder.

The aim of the source database selection process was to ensure that as many relevant projects as possible were included, whilst minimising the number of less relevant – but energy related – schemes and initiatives included. As the focus of our research is on energy systems, we have prioritised projects which involve energy generation, sustainable transport and energy management (through smart systems or retrofit). As a result, databases which feature schemes and initiatives which take a broader approach to addressing sustainability issues e.g. by emphasising education or the behavioural aspects of energy consumption, or which lack a significant proportion of projects with a 'hardware' component i.e. local generation or storage, were not included.

This approach is dictated by the time and resource available, with a project-by-project approach being deemed too time-intensive given the number of projects and initiatives which exist. This approach means that some projects which do meet our chosen criteria, but are listed on databases which are comprised mostly of projects that don't, may not be included. Conversely, projects which do not meet the criteria, but which appear in databases in which the majority of projects do, may be included. Again, this is a result of the selection process and of the time and resource available.

The source databases selected are as follows:

1. **UKERC Review of UK Energy System Demonstrators**. Conducted by the Energy Systems Research Unit at the University of Strathclyde in 2018, this independent and systematic review used a strictly defined set of inclusion criteria to identify local energy demonstration projects in the UK. The result is a targeted list of projects (n=119) which were then subject to further analysis as part of the review, conducted on behalf of the UK Energy Research Centre. The project information compiled during this review includes dates, locations, descriptions, funding/budgets, partners involved, energy vectors and technologies, project scales, details of outputs etc. However, the strict application of the specific criteria means that some areas of the sector – such as projects which occurred pre-2008 – are excluded.
2. **Additional Local Energy Demonstrators** (EnergyREV). In order to supplement the list of projects provided by the UKERC review above, a total of 30 additional projects were added. These projects were identified as part of ongoing research being conducted by the EnergyREV consortium, and have been used as a combined dataset with the UKERC review database as part of other research activity within EnergyREV.
3. **The Community Energy Scotland online database**.[1] This database documents all the projects which have received CES support and was compiled following a client satisfaction survey in 2016. This database provides some high-level information for each listed project, including project status, the funding bodies involved and project characteristics such as the types of technology involved.
4. **Community Energy England and Wales, State of the Sector 2020 database**. Community Energy England and Wales' State of the Sector reports are based on a broad ranging survey of the community energy sector which is conducted annually. The resulting reports provide in-depth analysis of the sector and identify current issues and emerging trends.

1 Online database undergoing redevelopment at time of writing.

INDUSTRIAL STRATEGY UK Research and Innovation

A number of other databases were identified but not included. Notable examples include the "Community Energy in the UK" database compiled by DECC, which was excluded due to its breadth of scope and the subsequent inclusion of a significant number of projects and initiatives which did not meet our selection criteria.

The database of community and locally owned renewable energy compiled by Local Energy Scotland is not available publicly and therefore not available for inclusion. This database includes many of the projects already included through the Community Energy Scotland database. More information on this database can be found at Local Energy Scotland.

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- Access the interactive EnergyREV UK local energy map.
- Access the underlying database.

About EnergyREV

EnergyREV was established in 2018 (December) under the UK's Industrial Strategy Challenge Fund Prospering from the Energy Revolution programme. It brings together a team of over 50 people across 22 UK universities to help drive forward research and innovation in Smart Local Energy Systems.

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