

CASE STUDY - ENERGY KNOWLEDGE EXCHANGE

October 2016 - November 2017

Access for innovators to **energy knowledge** without borders, by enabling web access to knowledge across the innovation spectrum, from academia to industry.

Activities:

- Creating an online solution to aid knowledge sharing between energy knowledge providers.
- Identifying data types and developing delivery processes for each type.
- Working with data owners, stakeholders and knowledge partners to identify and expose data sources.
- Working with partners to integrate technical solutions with their existing online resources.
- User testing of proposals, wireframes and live solutions.

The solution was developed using a large variety of industry leading technologies including leveraging machine learning platforms and built using a NodeJS stack. James worked closely with development teams across stakeholders to implement solutions on a variety of website hosting platforms.

We also played an integral role in designing and participating in regular stakeholder forums, demonstrating the solution and supporting stakeholders in producing requirements for the successful exposure of their data.

We designed and developed an innovative solution to knowledge sharing between disparate energy organisations, working closely with technical and non-technical leads within each organisation involved in the project.

The screenshot shows a web application interface for 'Solar PV'. At the top right is a 'Search' button. Below it is a navigation bar with tabs for 'Pages', 'Data', 'People', 'Organisations', 'Funding', 'Events', 'Social', and 'Local'. The main content area displays three articles:

- Maximisation and optimisation of solar PV generation with limited grid capacity through the adoption of new technologies**
To achieve the UK's target of reducing carbon emissions by 30% of 1990 levels by 2050, it is widely accepted that the decarbonisation of the UK's electricity network is the most cost-optimal route.
● energyhubuk.org | 2017-07-28
- Whole System Impacts and Socio-economics of wide scale PV integration (WSBE PV)**
This project is associated with the EPSRC Solar Energy Hub. It sets out the scientific, technical and socio-economic grand challenges of wide scale integration of photovoltaic systems (PV) into electric power systems with particular focus on the UK. This challenge is interdisciplinary and the research required to address it requires a range of interdisciplinary skills. The academic team comprises internationally recognised experts in electrical power systems, social sciences, environmental and techno-economic assessment. PV materials and devices from the Universities of Manchester, Bradford, Loughborough and Oxford Brookes Solar PV plays a modest role in the UK Pathways to 2050 articulated by DECC. Although the Government's feed-in tariff programme has led to a total PV installed capacity (for up to 50kW installations) exceeding 1.2GW, equivalent to 1.6% of the total installed generation capacity in Great Britain, its current is... (truncated)
● energyhubuk.org | 2017-07-28
- [News] Advancing the efficiency and production potential of excitonic solar cells (APEX), Phase-II**
UK and India are both rising stars in the promotion of Solar Energy via direct generation of electricity from the Sun called photovoltaics (PV). In the UK, PV is seen as a key technology to reduce the carbon footprint of electricity generation. It is also a necessary future building standards are to be met, which will require on-site generation. PV is the only way to meet this to date. DECC has announced recently 'The Solar Strategy' which promotes the deployment of solar technologies on the existing buildings. In India PV has the added benefit that it is a highly scalable technology that can be deployed to support the grid infrastructure and indeed can be built possibly faster than conventional power plants through terrestrial solar