

Digitalising Local Area Energy Planning

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Tim Sammon & Dr Noah Miller

tim.sammon@sse.com & noah.miller@advanced-infrastructure.co.uk



RESOP

Planning Optimisation



Scottish & Southern
Electricity Networks



RESOP OVERVIEW

Problems being addressed

As part of the Energy Transition, hundreds of thousands of assets need to connect to the Distribution Network and the network infrastructure we'll need to be put in place to support this rollout.

Local authorities find it challenging to drive and deliver decarbonisation plans. Limited data, limited tooling and a costly planning processes inhibit progress.

Energy network operators face the challenge of predicting future infrastructure rollout requirements and engaging with local authorities to understand and engage with decarbonisation plans.

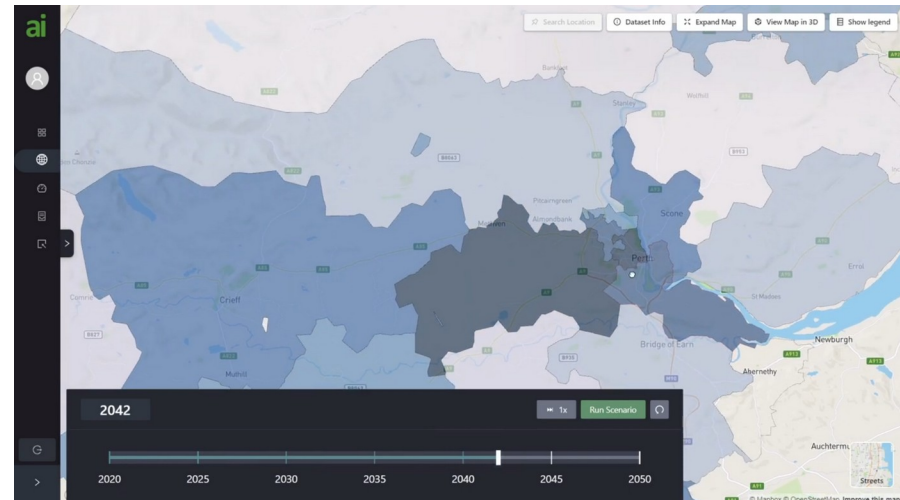
Objectives

1. Develop a standardised process that can be used with different local authorities to create decarbonisation plans (LHEES & LAEPs).
2. To create energy plans for the two trial areas
3. To determine how to reflect the local energy plans in the DFES used for network planning purposes
4. To develop a tool to support automated analysis of LV network connections (utilising NAVI & LAEP+)
5. Provide local authorities with a digital tool and planning data via LAEP+: LV network capacity, low carbon technology opportunity sites, gas network, water network, building fabric data, etc.
6. To explore using planning data to inform network investment strategies



RESOP in RIIO-2

- Stakeholder response to the RIIO-1 NIA project has been very positive.
- We are extending the work in a new RIIO-2 NIA project to;
 - Add gas network operators
 - Add heat network partners
 - Expand the geographic area to SSEN's network patches
 - Further develop the LAEP+ platform and use cases





Use Case 1: Optimising EV Infrastructure Rollout

The Committee on Climate Change estimates that 300,000 EV charge points will be required by 2030. There are currently 38,000.

Accelerating and optimising electric vehicle charging infrastructure across pilot region has been supported through a digital tool LAEP+.

- ❖ Network headroom
- ❖ Pavement suitability for on street chargers
- ❖ Off street parking
- ❖ Traffic intensity
- ❖ Vehicle ownership
- ❖ Public Transport Accessibility



<https://youtu.be/3KRNunrT6QM>



Use Case 2: Decarbonising Heat

Fewer than 2% of homes are currently heated with low carbon heat sources.

Unlocking action and finance requires on reliable data which can be used to identify optimum heat decarbonisation pathways.

Oxfordshire County Council have used LAEP+ across a number of infrastructure projects, including the heat pump ready programme. This utilises data layers such as:

- ❖ Air Source and Ground Source Heat Pump Suitability
- ❖ Building Heat Demand
- ❖ Potential for Insulation Improvements
- ❖ EPC Data

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<https://youtu.be/wRPO7MnASSI>





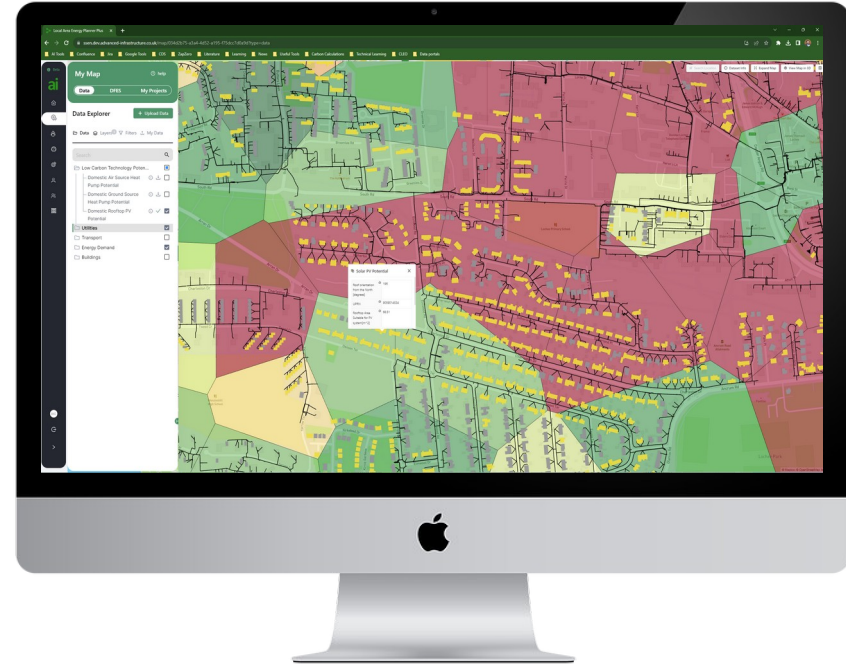
Use Case 3: Distributed Generation

45.5% of electricity was generated from renewable sources in the UK in 2022.

“At the current pace of change, the UK is set to fail to hit its target of decarbonizing the power sector 2035”.

Accelerating and optimising distributed generation is also possible using LAEP+

- ❖ Network headroom
- ❖ Building datasets
- ❖ PV Rooftop Suitability
- ❖ Irradiation and weather data
- ❖ Electricity Demand



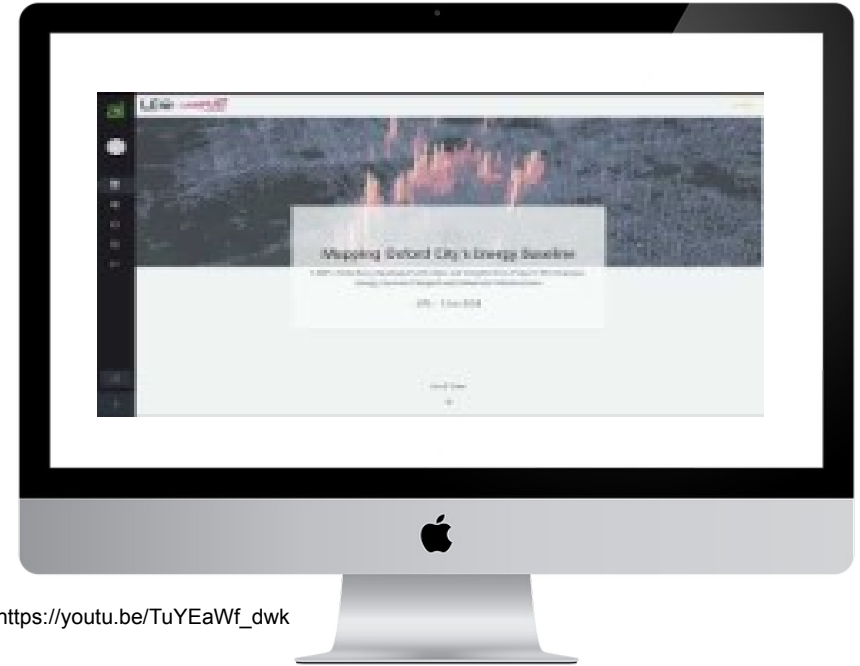


Use Case 4: Digital LAEPs & LHEES

LAEP+ is used to create Local Heat and Energy Efficiency Strategies (LHEES) and Local Area Energy Plans (LAEPs).

Multiple components address each stage of generating these plans.

- ❖ Progress tracking and stakeholder engagement to collaborate with stakeholders and residents more easily than traditional report-based information
- ❖ Project planning and scenario modelling to build concrete rollout plans
- ❖ Feed back plans into Distribution Future Energy Scenarios to support future forecasting of infrastructure needs.



https://youtu.be/TuYEaWf_dwk