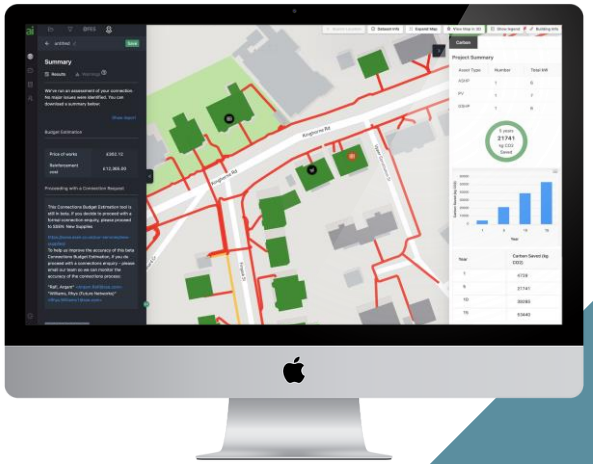
Digitalising Local Area Energy Planning

October 2023

Rhys Williams & Lily Cairns Haylor
Rhys.williams1@sse.com & lily@advanced-infrastructure.co.uk



RESOP
Planning Optimisation

Scottish & Southern Electricity Networks

WHO WE ARE: SSEN

Our electricity distribution networks carry electricity to over 3.8 million homes and businesses across the north of Scotland and central southern England.

Our skilled teams live and work in the communities they serve, supported by engineering and customer service teams in centres like Reading, Portsmouth, Perth and Inverness.

We provide a valued and trusted service for everyone in our communities: working 24-hours a day, 365 days a year, to ensure our networks are safe, reliable and responsive to customer needs.

Connected enough **renewable electricity to power 3.8m homes**

780,000+ vulnerable households on our Priority Services Register

over **3,500 employees** across the country

130,000km of overhead lines and underground cables

106,000 substations

100+ subsea cables powering island communities

RESOP OVERVIEW

Problem being addressed

1. Local Authority plans are difficult to incorporate into Network Investment plans.

2. Data quality used to create LAEPS is an issue and can quickly become out-dated.

3. LAEPs and LHEES are expensive and time-consuming projects.

Objectives

1. Develop a standardised process for building digital LAEPs

2. How to add LAEPs to DFES

3. Develop digital tools to support self-serve functionality.

4. Collaborate with other vectors

RESOP Development Roadmap

- Visualise & query data sets
- API with Navi Power Flow tool
- Visualise constraints

- Visualise LHEES & LAEP outputs from Arup
- Full self-serve functionality proof of concept
- Gas/Hydrogen/District Heating Use Case development & Visualisation

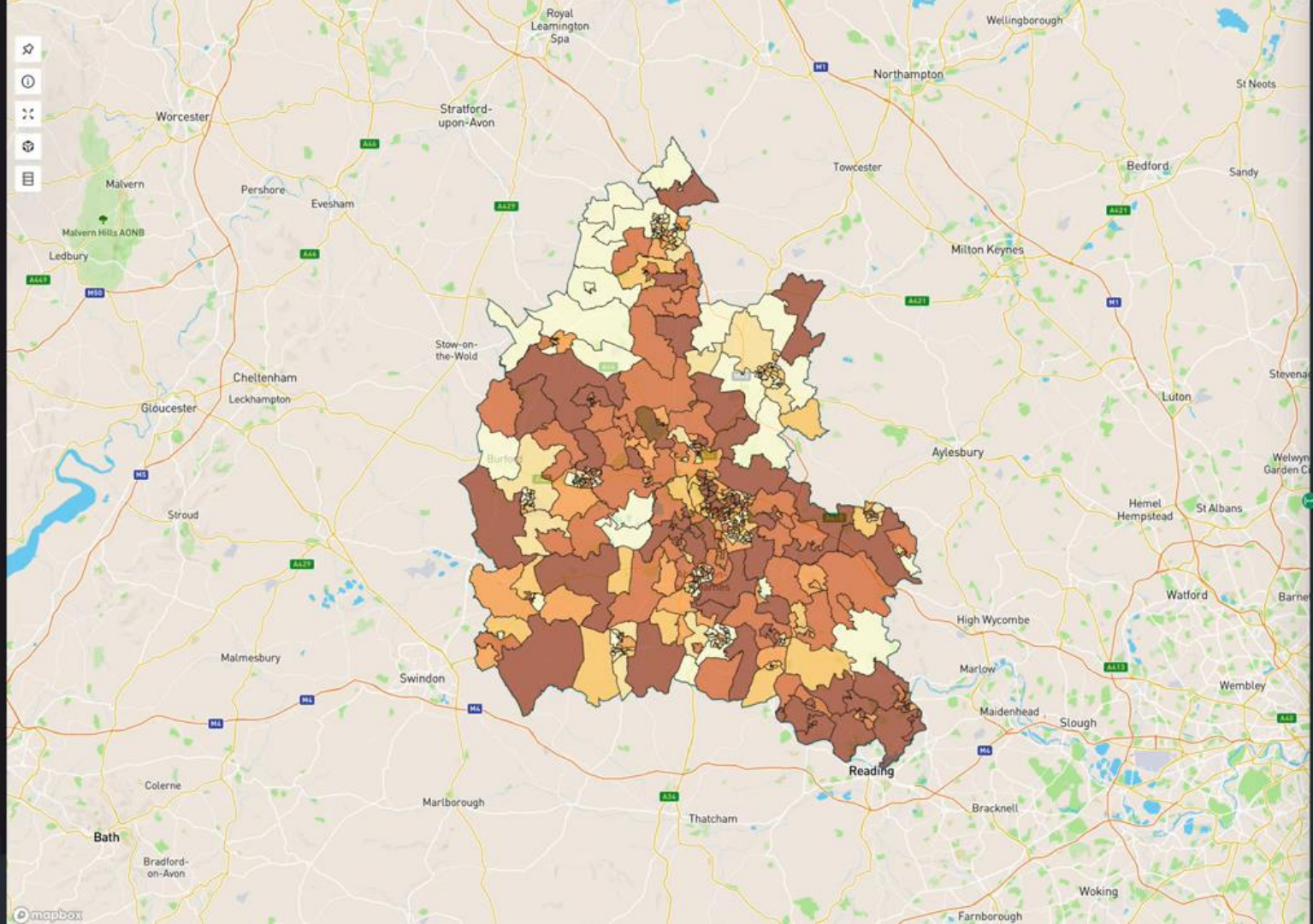
RIIO-ED1

RIIO-ED2

- Basic self-serve connections functionality
- Visualise Primary DFES
- Ongoing support for 7 Local Authorities

- LHEES and LAEP outputs made accessible to SSEN for analysis
- Ongoing support for **All** Local Authorities
- New methodology for DFES data acquisition & linkage with LAEPs
- LAEP & LHEES Roadmap Wizard (beta)
- Synergies with UKPN and NGED

Use Case 1: Decarbonising Heat



Project LEO Map

DFES

Explorer

Upload Data

Categories Layers 1 Uploads

Search

- Boundaries
- Environment Layers
- Archaeology Layers
- Aerial Photography
- Energy Statistics
  - Domestic Electricity De...
  - Non-domestic Electricit...
  - Domestic Gas Demand (...
  - Non-domestic Gas Dem...
  - Estimated Percentage o...
  - Estimated Annual Gener...
  - Fuel Poverty LSOA
- Potential for Renewable Energ...
- Planning
- Installed Technologies
- Transport/EV
- Network
  - Primary Substation Loa...
  - Substations Point Locati...
  - Other Network Assets
    - Distribution Transforme...
- Future Energy Scenarios - Lea...
- LEO Data Layers
- Demographic

LEO | advanced infrastructure

Use Case 2: Digital LAEPs & LHEES

Beta

ai

SCENARIOS

Scenarios | Cost Template

Create New Scenario | help

Scenarios is a tool that automatically schedules the rollout of selected technologies based on local renewable potential and your own input parameters, such as net-zero targets, budget, and local priorities. Get started by clicking 'Create a new scenario'.

No data

Click the button 'Create New Scenario' to create a new scenario.