

Job Description: Data Analyst – Local Area Energy Strategies

Background Context

To meet the UK's energy and climate change goals a major transformation of its energy infrastructure will be required. Heat is particularly significant, since it is one of the largest single demands placed on the energy system.

Homes and businesses that are primarily heated by gas today will need to switch to a new energy supply, requiring major infrastructure, homeowner and business investments.

The optimum combination of building fabric upgrades, home/commercial heating system changes and energy infrastructure investment will vary by location. This is due to factors such as heat demand density, the state of the existing building stock, the capacity of the existing network, local land prices for energy centres and the availability of waste heat resources amongst other factors. A degree of strategic alignment and consensus between key stakeholders such as the Local Authority, electricity and gas network operators and potential heat network developers will be critical.

The ETI Smart Systems and Heat programme (SSH) has developed a software design tool, EnergyPath Networks, to enable the master planning of local energy infrastructure transformations. It will deliver energy system analysis for a defined local area, enabling strategy development and supporting consensus building. It includes:

- Geographic Information System mapping of available data to characterise existing networks, buildings, potential heat sources and potential energy centre sites
- Representation of the national energy supply system into a given local area, including scenarios for the cost of electricity by time of use, cost of gas and carbon price
- Analysis of the building fabric and/or heating system upgrade options through dynamic simulation, to determine peak and average energy demand on the wider energy system
- Electricity, gas and heat network automated routing and load flow modelling to determine upgrade requirements and calculate the cost of various upgrade options
- Transformation pathway analysis, to determine the optimum package of building fabric upgrades and possible energy infrastructure transformations
- Sensitivity and resilience analysis to help inform on energy security
- Comparison of cost and performance for different options to enable consideration of the optimal balance between system performance and the cost for different social geographies.

The ETI has identified and engaged with the initial Local Authorities where Area Energy Strategies will be first developed.

The ETI has a requirement for a **Data Analyst – Local Area Energy Strategies** to enhance its capability in sourcing, managing and manipulating data and to populate the EnergyPath Networks Tool.

Role Description:

This role will put the successful applicant at the centre of a highly skilled ETI team, providing analysis and outputs from the EnergyPath Networks model to allow for the development of Area Strategies for Local Authorities by the wider SSH team. The key responsibilities are:

- To manage the collection, storage and use of data associated with the EnergyPath Networks Tool
- Assess data received and convert this data into the format required for entry into the EnergyPath Networks database (SQL data tables)
- Carry out the entry of data into the EnergyPath Networks data tables
- Provide an evaluation of any new data for consistency with previous data, and provide an assessment and analysis of any differences
- Check for gaps in data and develop options to fill them
- Research to check data consistency against known sources
- Develop and maintain records of data sources and data updates, along with any associated licencing agreements
- Liaise with commercial data suppliers and officers responsible for data within local authorities to ensure smooth data transfer and data accuracy
- Carry out test runs of EnergyPath Networks to ensure the tool has been populated successfully

For the right candidate this role could potentially mature to include opportunities to progress their modelling and programming expertise with the further development of the EnergyPath Networks Tool.

Person Profile:

Essential

- Excellent numeracy skills – comfortable analysing and manipulating large data sets
- Experienced in using a variety of software packages such as Excel, SQL, Python, Visual Basic, GStrong
- Strong communication skills and an ability to explain complex data issues to the wider team
- Ability to work in teams in a high pressure environment, with the flexibility to adapt to changing priorities

Desirable

- Candidate would ideally be a graduate in maths / physics / engineering
- Previous experience in data analysis and programming
- Knowledge of the energy industry would be an advantage

Other

- Limited travel within the UK is expected