

## Potential for Microgeneration – Study and Analysis

**client:** UK Department of Trade and Industry (DTI).

**client brief:** To analyse the potential of microgeneration in the UK until 2050 in terms of energy supply and CO<sub>2</sub> reduction.

**our solution:** Capital cost forecasting, econometric modelling, techno-economic modelling, and strategy formation.

**description:** Element Energy undertook a study to evaluate the role that microgeneration technologies could take in the UK until 2050. Microgeneration describes small scale de-centralised technologies with output powers typically less than 50 – 100 kW, and this study covered the fields of photovoltaics, small wind turbines, micro hydro, biomass heating, ground source heat pumps, solar water heating, and micro CHP – both fuel cell and Stirling engine. Microgeneration could have the potential to provide a significant proportion of the UK's energy through small domestic-level de-centralised generators whilst additionally acting as a UK growth industry.

Element Energy forecasting the capital costs and generated energy costs for a range of microgeneration technologies out to 2050. Using a number of market diffusion econometric models taking into account different consumer behaviour and incentive schemes, a prediction was made of the likely uptake rates of microgeneration technologies in the UK market. These were then used to estimate what proportion of UK energy could be supplied by these technologies and whether they can bridge the forecasted short-fall in energy supply.

This study was completed in conjunction with the Energy Saving Trust and Econnect Ltd.

**publications** The report can be downloaded from the DTI/DBERR website.

