

## **Case Study 8 – Microgeneration with Solar Panels and Wind Turbine**

**Client:** Bloor Homes

**Project:** Renewable Energy Options Report

### **Project Outline**

Bloor Homes are domestic housing developers who were developing a housing estate of 29 two, three and four bedroom houses. As part of the planning requirements (Merton Rule), each house is required to generate 10% of its annual energy consumption from renewable energy sources.

### **Renewable Energy Consultants Role**

Renewable Energy Consultants were employed to provide an “options report”, to recommend the best way to satisfy the 10% renewable energy target. The options considered were:

- Photo-voltaic roof tiles
- Solar collecting roof tiles to heat water
- Each house having a roof mounted micro wind turbine.

The first part of the assignment was to assess the annual energy consumption for each type of house. This figure was then used to calculate the amount of energy that each dwelling would need to generate annually from renewable sources.

The recommendations took into account the following:

- Whether the option could produce the required amount of energy
- Capital cost of installation and running cost of the equipment
- Pay-back period
- Planning consent restrictions
- Availability of the equipment.

The report also assessed the viability of using a micro CHP system.

The report concluded that there are three methods by which the 10% renewable energy target could be met. These are:

- Photo voltaic roof tiles
- Solar collecting roof tiles to heat water
- Roof mounted wind turbines.

Of the three methods, solar collecting roof tiles to heat water was the most favourable because of relatively low capital cost and minimal visual impact.