

Highcliffe School Woodfuel

Innovative heating for a Leicestershire Primary School



Living with sustainable energy is now a fact of life and has also become a curriculum feature for one Leicestershire school through the simple act of replacing an ageing, coal-fired boiler with a modern, wood-fuelled version. The new boiler utilises wood chips supplied by a local farmer. However, in time, some of the fuel will come from poplar trees planted in the school grounds. As well as reducing the school's carbon footprint, the boiler will become a teaching resource to study environmental issues. Students will be studying the benefits of the new boiler including the boost to the local economy and the environmental advantages of sourcing wood from the local area.

objectives

- To reduce carbon emissions by replacing the existing ageing coal boiler with a more environmentally friendly alternative.
- To promote environmental awareness amongst pupils and the local community.
- To reduce heating system maintenance needs.

actions

- Installation of 200kW woodchip boiler to provide heating for the main school as well as the school's swimming pool.
- An additional 200kW oil boiler also installed to provide occasional heating as required and provide an emergency facility in the case of woodfuel boiler failure.
- Woodfuel is sourced from local woodlands and supplied to the school by a local farmer.
- Area of school grounds planted with poplar cuttings to eventually provide part of the school's fuel requirements.
- Study of renewable energy and the role of the new school boiler in helping to combat climate change to be incorporated into the school curriculum.

achievements

- Pupils at the school have benefited from an increased awareness and understanding of environmental issues by taking part in projects that focus on the new boiler and how it works.
- Reduction of carbon emissions and improvement in local air quality.
- Increased efficiency of the system has resulted in reduced running costs.
- A reduction in the boiler maintenance work for the school site manager.

background

The Government has set a domestic target to reduce carbon emissions by 20% below 1990 levels by 2010 and 60% by 2050. Biomass as a renewable source of energy, including woodfuel, can make a contribution to achieving these targets. The Forestry Commission, through the Woodfuel Strategy, is working to increase the use of wood as a fuel by two million tonnes (2mt), annually, by 2020.

In the East Midlands the Forestry Commission has received funding from the Regional Development Agency to raise awareness of woodfuel across the region. The East Midlands has the highest installed woodfuel capacity of all English regions, mainly due to Nottingham County Council's objective to adapt coal boilers enabling them to run on wood pellets.

In addition to supporting the local economy by buying wood from local farmers Highcliffe School has planted poplar trees within its grounds that will provide part of their future fuel requirements.

quotes

"We are very proud that we have one of the first school-based biomass heat systems in Leicestershire and it is great to be able to source our woodfuel locally. This is a big step forward for us in our aim to become a carbon neutral school". Ian Munro, Head Teacher.

"We were delighted to work with the school on this project and were very heavily involved in every aspect of it from start to finish. Our relationship with Highcliffe continues as we are part of the fuel supply process, and we are looking forward to working with them in the future to help encourage the use of biomass fuels across the country." Richard Harvey, Director of the Rural Energy Trust.

partners

Clear Skies Community Fund
Forestry Commission
Leicestershire County Council
Rural Energy Trust

funding

Clear Skies Community Fund
Leicestershire County Council

lessons learnt

The school has learnt some technical lessons with regard to how the boiler functions. Getting the moisture content in the fuel right, dealing with the ash and learning how to operate the boiler for maximum efficiency, have all been issues that the school has successfully overcome.