

Background

Bicester Leisure Centre was constructed in 1974 and underwent an extensive refurbishment in 2009. Facilities at the centre include two swimming pools, a sports hall and crèche facilities. Opening hours are 06:15 to 22:30 Monday to Saturday and 07:00 to 21:15 on Sunday. The centre is owned by Cherwell District Council.

Bicester was designated as one of England's first Eco-Towns in 2009. In addition, Cherwell District Council's Carbon Management Plan had a target of reducing carbon emissions by 22% from 2009/10 levels by March 2015. In 2013 Cherwell District Council ran a public tender for the Design, Supply, Installation and Commissioning of a circa 500kW wood chip heating system at Bicester Leisure Centre.

Prior to this project, the centre was heated by two gas boilers with a capacity of 512kW each. Their annual gas use was circa 2,492,865kWh. The tender specified a circa 500kW biomass boiler designed to operate on wood chip at 30% moisture content or less to provide 1,907,042,000kWh of heat per year.

The Clearpower Solution

Clearpower won the public tender and was awarded the contract in 2013. The first step was to apply for and secure planning permission. Following planning approval Clearpower supplied, installed and commissioned a biomass heating system which included; a 120m³ wood chip store with trough and auger wood chip delivery system, a new boiler house, a 500kW Herz Biofire wood chip boiler, an 8000L buffer tank, a 500kW plate heat exchanger and heat meter. The installation commenced and was completed in 2014.



Benefits

- This RHI accredited wood chip heating installation has reduced the leisure centres heating costs significantly. Cherwell District Council reported the capital payback to be 8.6 years.
- By switching from mains gas to wood chip, which is carbon neutral, the leisure centre has reduced its carbon footprint by circa 400 tonnes of CO₂ per annum. This is roughly equivalent to taking 100 cars off the road.
- This boiler supports a local supply chain. The wood is grown and harvested within 50 miles of the centre. This supports local employment, both directly and indirectly.
- The leisure centre now benefits from improved security of fuel supply due to a dual fuelled heating system, one of which is produced locally.