

Background

Founded in 1895, Kelly's Resort Hotel & Spa in Co. Wexford is one of Ireland's top 4 star resort hotels. Facilities include 118 bedrooms, 3 restaurants, 2 bars, Aqua Club with two indoor swimming pools and 12,000ft² "SeaSpa". In the early to mid-2000's the cost of oil, supplying the three no. 150kW boilers, rose significantly. When considering converting to a wood chip fuelled system, Managing Director Bill Kelly had two key objectives in mind; reducing costs and improving the environmental impact of the hotel.



The Clearpower Solution

Working closely with hotel management, Clearpower engineers designed a solution which involved replacing one of the three oil boilers with a 350kW Viessman (KOB) Pyrtec wood chip boiler. The wood chip boiler was sized to meet the base heat load for the hotel with two of the existing 150kW oil boilers remaining to meet peak loads and to act as back up when the wood chip boiler is offline. A particular challenge at Kelly's Hotel was the space restriction. There was no space available at ground level to locate the wood chip store. This challenge was overcome by locating the 70m³ (15 tonne) fuel store in a raised position, above a flat roof. Clearpower also completed the capital investment grant application on behalf of the hotel, successfully drawing down €26,220 from Sustainable Energy Irelands, Bioheat Boiler Deployment Program.

Benefits

- This wood chip heating installation has reduced the hotels heating costs significantly. In 2005, prior to the wood chip installation, the hotel used 143,238 litres of oil at a cost of €76,229. In 2006, the hotel used 48,762 litres of oil at a cost of €25,356 and 323 tonnes of wood chip at a cost of €25,840. Therefore the annual fuel cost saving was €24,979.
- The capital cost of the installation was €104,880. The 25% grant from SEI reduced the capital outlay to €78,660. This resulted in a simple payback of just over 3 years.
- This boiler supports a local supply chain. The wood is grown and harvested within 50 miles of the hotel. It is stored, dried and chipped at a local depot in Clonroche, Co. Wexford. This is of direct benefit to the local economy, supporting local employment, both directly and indirectly.
- The hotel also significantly improved its environmental impact by moving from oil, which is a fossil fuel, to wood chip, which is carbon neutral. The hotel has reduced its carbon footprint by circa 252 tonnes of CO₂ per annum. This is roughly equivalent to taking 63 cars off the road.
- The hotel now benefits from improved security of fuel supply as the hotel has a dual fuelled heating system, one of which is produced locally.