

Nuneaton Town Hall

Building heating and hot water

Main CHP project indicators

Heat capacity (total)	kW _{th}	12.5
Electrical capacity (total)	kW _{el}	5.5
Technology	Motor engine	
No. of units	1	
Manufacturer	SenerTec GmBH (Dachs)	
Type of Fuel	Natural gas	
Heat: yearly generation	MWh	34
Electricity: yearly generation	MWh	15
Year of construction	2006	
Total investment costs	EUR	127 000
Financing	Own funds	
State support	/	
Return of investment (payback period)	Years	7
Location	Nuneaton United Kingdom	

as the lead boiler for heating and hot water. The building energy management system ensures that the boilers only operate when required to provide additional heating and hot water capacity.

Success factors

The overall design realised and achieved the desires to enable the heating plant boilers to fully shutdown for the annual seasonal period of June 1st and until October 1st. The small-scale CHP will undertake all of the required HWS provisions during this period and therefore has a run demand all year round.

The CHP supports also the 'invest to save energy' policy of the Nuneaton & Bedworth Borough council. The result is a Display Energy Certificate with an exceptional high score, reduced CO₂ emissions, real and ethical confidence to the building's staff & visitors and an energy saving best practice initiative to other organisations.

Main barriers

The main barrier was in the design and build process, where the technical objectives and integration of heating equipment with the building management system had to allow a priority run demand for the small-scale CHP to achieve a continuous operation and therefore an uninterrupted electrical energy generation for the Town Hall's working day. This most important aspect and driver of the work specification was successful achieved.

Comparison: before and after

The boiler house heating system was badly dilapidated. Seven gas-fired boilers and two gas-fired water heaters are replaced by a DACHS micro-CHP unit and four new condensing boilers.

Conclusions

Success story because 7 years after the investment the installation is already paid back and meanwhile the CHP delivered an important CO₂ emission reduction.

Picture



General description of the case

A Dachs micro-CHP and four new condensing boilers provide heating and hot water. The Dachs, which is based on reciprocating engine technology, has been sized to deliver the base load for the building. The CHP operates