

CHP meets future energy needs for Cork hotel

Rochestown Park Hotel has invested in Combined Heat and Power (CHP) technology to fulfil its future energy requirements.



Fulfilling expanding energy requirements

Rochestown Park Hotel in Douglas, Cork has 149 guest bedrooms, a health club, swimming pools, and 12 conference and banqueting suites with the capacity to cater for 700 guests. Recent expansion at the hotel, adding 50 new bedrooms, a new bar, restaurant and a larger reception area, has meant that the energy requirements increased significantly and so Centrica Business Solutions was consulted to review its CHP system.

Benefiting from trigeneration technology

Centrica Business Solutions in conjunction with its partner, Temp Technology, installed a natural gas trigeneration system. This allowed the hotel to benefit from simultaneously producing electricity and heat, with the additional transfer of thermal energy to provide cooling for practical uses.

Heat generated from the CHP was converted using an absorption chiller to provide cold water to cool the building. By adding the absorption chiller into a CHP system, the user can increase the equipment's operational hours, maximising the energy use. This is of particular benefit in summer periods, reducing dependence on the more costly electrical air conditioning.

The results

The new trigeneration solution resulted in reduced running costs, with estimated annual energy cost savings of around €115,000 for the hotel.

Payback for the project was approximately two years following the CHP installation, based on the energy savings and an approximate investment of around €240,000.

A reduction of 33% on the hotel's emissions resulted in a decrease of 278 tonnes of CO₂ which is the equivalent of removing 150 cars from the nation's roads each year.

As the Rochestown Park Hotel generates a large amount of its electrical demand on-site, it can rely on a constant supply of electricity, even in the event of grid power outages in the region.



Annual energy cost savings



Payback on investment



CO₂ reduction per annum

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The ability to independently generate electricity on-site, at a cost almost 70% less than grid market costs, gives our business a significantly lower cost base to help us drive profitability.”

John O'Donovan, Financial Controller, Rochestown Park Hotel

Why Centrica Business Solutions?

- Offers expertise in CHP and trigeneration technologies to ensure the hotel employs the best system to meet its increased energy requirements
- Provides significant savings to the hotel achieved by generating electricity on-site
- Reduced carbon emissions as a result of the new CHP system