



Alton Towers Resort

Alton Towers Resort is the largest theme park in the UK. Its CHP unit reduces annual energy costs, cuts carbon levy and future-proofs energy pricing



Reduce energy costs and improve sustainability

Alton Towers Resort is more than a theme park. The 550-acre site now includes four hotels, a conference center and Europe's largest waterpark. The hotels can accommodate 2,500 guests, with 400 staff on site.

This presents a sizable energy challenge. The facilities team must ensure there is power in every room, the waterpark needs to heat 1,000m³ of water and pump 66m³ of air/second. Plus, the rural North Staffordshire location means the buildings retain little latent heat.

Centrica Business Solutions acts as manufacturer, installer and service provider

With the resort generating a stable demand for energy, Warren Critchley, Head of facilities at Alton Towers Resort began to investigate combined heat & power (CHP) options: "It became clear CHP would be the perfect model for energy reduction, energy savings, utility cost reduction and carbon reduction."

Centrica Business Solutions provides a consolidated package, acting as manufacturer, installer and service provider. A CHP unit was installed on site, alongside the waterpark, generating up to 850kWh. If there are any issues with the CHP, Centrica support ensures they are dealt with quickly.

The results

The Centrica CHP generates energy savings of 12% per annum. Because the unit generates power at source, literally alongside the waterpark, conference center and largest hotel, there is very little transmission loss. Critchley estimates an energy efficiency of 80%.

"Long term, we have the capacity to accommodate further demand," says Critchley, "and we've protected our future energy costs."



CHP unit achieves 80% energy efficiency



850Kw of power



The benefit of working with Centrica Business Solutions is that they are the manufacturer, the installer and the service provider. They've got the incentive to keep the machine running because if the CHP doesn't work, they're not selling us energy, and they're not making money. It de-risked the whole project."

**Warren Critchley, Head of Facilities,
Alton Towers Resort**

Why

Combined Heat & Power Unit

- Combined Heat and Power unit generating 850kw
- Variable speed drives to allow better control of the site
- State-of-the-art monitoring system providing cloud-based analytics