

# Waterside Hotel & Leisure Club

## Hospitality



### The Challenge

Located in the heart of Didsbury along the banks of the River Mercey in Manchester, Waterside Hotel & Leisure Club is a distinctive, independently-run hotel with 45 en suite rooms, leisure club and thermal suites for their guests' comfort and relaxation.

The hotel wanted to reduce some of its operational costs and looked at installing a clean energy solution that could efficiently provide electricity as well as heat and hot water.

In May 2016, Pure World Energy (PWE), Capstone's partner in the U.K. commissioned a clean energy solution for the hotel, which delivers guaranteed savings over a 15-year period.

"As a business we have reviewed all areas of expenditure and have invested a significant amount of time in understanding our energy demands. After discussing our needs with PWE we took a view that whilst we can control many things within the business, we needed assistance in the flow and cost of energy and I'm confident we have found a good partner to work with," said James Lyne, Proprietor of Waterside Hotel & Leisure Club.

### The Solution

At the heart of the combined heat and power system (CHP) is a Capstone C65 ICHP microturbine, which supplies roughly 40% of the hotel's electricity and 65% of the heating for hot water for the pool and domestic hot water needs. The highly efficient system ensures that the hotel's 40+ rooms, plus the adjoining leisure facility's 25-meter swimming pool and 130-station gym, are all supplied with reliable power. The system is also designed to capture the waste heat produced by the microturbine in order to provide heat and hot water.

PWE's team overcame spatial limitations and restricted access to the existing pool plant room, which resulted in the creation of an external 4m x

## Power Profile

### Customer

Waterside Hotel & Leisure Club

### Location

Didsbury, Manchester, England

### Commissioned

May 2016

### Fuel


Natural Gas

### Technologies

■ 1 C65 ICHP Microturbine

### Capstone Turbine Distributor

Pure World Energy (PWE)

A wide-angle photograph of an indoor swimming pool. The pool is filled with clear blue water and has lane lines. The background shows a brick wall and some equipment.

"Waterside is leading the way within the hospitality sector, with a progressive energy management strategy, and we look forward to further developing our relationship and driving down their energy costs."

— Sean Fitzpatrick, CEO  
Pure World Energy (PWE)

*Reliable power when and where you need it. Clean and simple.*



*A C65 ICHP microturbine solution provides a clean energy CHP solution for the Waterside Hotel & Leisure Club, which delivers guaranteed savings over a 15 year period.*

3m (13ft x 10ft) wooden compound to contain the 65 kW CHP system. This unique design encompassed additional requirements to route new pipework, cabling and containment. It also provided new plant room controls, to improve efficiency and integration with the site's existing low voltage switchboard.

With guest experience a priority to hotel operators, the microturbines' relatively low noise level (<65 dB) ensures a tranquil ambiance and guest experience. Along with delivering operational protection to both heat and electrical demand, the CHP system and integrated control solution ensures optimum efficiency of the entire plant room while taking up minimal space.

## The Results

Clients of energy services companies (ESCOs), like PWE, typically achieve annual savings of 7-12% on the electricity and heat produced by a CHP system like the one installed at Waterside—all while making zero capital investment. The Waterside system annually generates 215,000 kWh of electricity or approximately 40% of the site's total load. It also provides 520,000 kWh of heat per year.

Use of a Capstone combined heat and power microturbine to generate on-site heat and power has significantly reduced Waterside Hotel & Leisure Club's energy costs. With the CHP's high efficiency and use of captured waste heat for heat and hot water, the facility saves over 115 metric tons of carbon per year, which is the equivalent of taking 25 cars off the road each year. The C65 energy solution has also reduced their reliance on grid supply while simultaneously providing back-up power should it be required.

Sean Fitzpatrick, PWE CEO, concludes: "Waterside is leading the way within the hospitality sector, with a progressive energy management strategy, and we look forward to further developing our relationship and driving down their energy costs."

In fact, PWE and Waterside will be moving forward with an upgrade to a C200 microturbine, which will handle increased demand from a new extension of the hotel. Once completed later in 2020, the system will be supplying 65% of the hotel's electricity and 85% of its thermal energy. ■

## Capstone C65 ICHP Microturbine



**A C65 provides up to 65kW of electrical power while the UL-Certified C65 ICHP provides up to an additional 150kW of thermal power for CHP and CCHP applications.**