

Brackley Leisure Centre

Recreational Facility

The Challenge

Brackley Leisure Centre, owned and operated by Parkwood Leisure, is a major health and recreation facility located in Northhamptonshire in south-central England. In 2018, the facility underwent a major multi-million-pound expansion that included, among other amenities, a six-lane, 25-meter pool and separate learning pool, a 110-station gym, a cycle studio and a café. The increased demands on the power and heat supply provided an opportunity for the facility to implement an efficient, on-site power system that would reduce both costs and carbon emissions.

Facility leadership partnered with energy service company, Pure World Energy (PWE), to design and install a 130 kWe combined heat and power (CHP) system that would integrate with the facility's existing plant.

The Solution

The new system relies on two Capstone C65 microturbines along with all the associated pumps, valves and meters needed to deliver power and heat to the facility's various sections and services. Providing 60% of the site's power, the CHP system produces 642,000 kWh of electricity as well as 1,108,000 kWh of heat annually.

Because the facility is adjacent to a residential area, and also since the units were located directly below the gym, noise mitigation was a critical consideration during the design phase. Though the Capstone units are inherently quiet when operating—performing at just 65 dBA (decibels) at 10 meters—the PWE team took additional steps, setting up the duct work to further reduce noise to an absolute minimum level.

The Results

According to Pure World Energy, clients like Parkwood typically achieve a reduction in energy costs by 7-12% while making zero capital investment. "PWE is delighted to continue building our CHP fleet with Parkwood and together we are saving energy and reducing emissions across the UK," said Sean Fitzpatrick, CEO of Pure World Energy. In the case of Brackley Leisure Centre, the rewards kicked in upon system startup. The completion of the centre's extension transformed it into a premium leisure facility, in many ways, made possible by the efficient, reliable CHP system which also happens to reduce carbon emissions by 26 metric tons per year.

