

CHP Helps Ryedale Leisure Centre Reduce Carbon Footprint and Energy Costs

Client: Ryedale Leisure Centre

Location: Pickering, North Yorkshire

Products & Services Supplied: CHP maintenance contracts

Overview

Ryedale District Council, Pickering, North Yorkshire, implemented a policy of reducing its greenhouse gas emissions by adopting renewable and low carbon energy sources whenever possible. As part of this plan, shentongroup was enlisted to provide Ryedale Leisure Centre with a Tedom Micro T30 Combined Heat and Power system, delivering cheaper power and helping to reduce CO2 emissions in excess of 70 tonnes per year. Coupled with shentongroup's Infinium24 CHP maintenance programme, Ryedale Leisure Centre now enjoys freedom from the National grid, as well as cheaper, greener, and more reliable continuous power.

The Problem

As is the case with scores of local and district councils throughout the United Kingdom, there is increasing requirement to implement policies that reduce carbon emissions, as well as bringing significant cost savings. As part of Ryedale District Council's 'The Ryedale Plan – Local Planning Strategy', the council identified a number of significant benefits that Combined Heat and Power (CHP) would bring to the Ryedale Leisure Centre.

Ryedale Leisure Centre, like many similar leisure complexes throughout the country, has a demand for large volumes of heated water – from heating the building, through to hot running water and showers, and of course, an energy-demanding heated swimming pool. Therefore, reducing carbon emissions and reducing energy costs at the leisure centre formed a significant part of the council's plan.

Solution

shentongroup was approached by council staff and following thorough consultation, specifying and planning, supplied and installed a Tedom Micro T30 Combined Heat and Power system. The Tedom Micro T30 is powered by less-expensive and greener natural gas and produces a maximum electricity output of 30Kw, 400V three-phase, 0.78 power factor, 50Hz at 1500rpm. It has a maximum hot water output of 62Kw and standard water off temperature of 90°C.

Since the Tedom CHP system is fully water-cooled, it required no duct work. The installation necessitated gaining access to a small basement plant room. However, as the T30 CHP unit has a compact footprint, it enabled far easier access than a standard CHP system.

shentongroup Sales and Marketing Director, Curtis Meek, commented on the suitability of the Tedom Micro T30 CHP unit; "As the UK's sole supplier of Tedom CHP units, the T30 is an ideal unit for leisure centres like Ryedale. We were able to demonstrate to the project's consultants our ability to supply a compact and adaptable cogeneration system and we then worked closely with the project's consultants to provide design advice to integrate



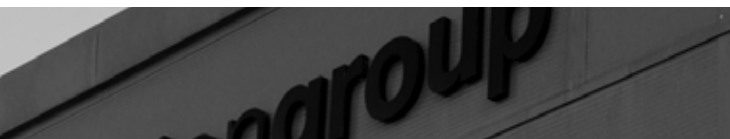
 Power Therm

 Power Care

the CHP unit with other systems in the building".

As part of the council's 'The Ryedale Plan', and installed as part of the same project, the CHP system had to operate in synergy with an additional installation of solar panels. "Daily thermal demands fluctuate at Ryedale Leisure Centre, due to the performance of the solar panels. The Tedom CHP system is able to modulate its thermal profile to keep in step with site demand. This increases energy savings by extending the use of the unit", added Curtis Meek.

To guarantee system performance and to avoid any breaks in leisure centre services, Ryedale Leisure Centre opted for a CHP maintenance contract. shentongroup's Infinium24 programme is a scientifically-designed and monitored "perpetual renewal protocol" that constantly renovates and re-engineers components before their projected replacement date. Remote monitoring technology running 24 hours per day means that all critical data is logged and sent to shentongroup via the internet. Infinium24 CHP maintenance is a fixed-cost service which covers all parts, labour, travel fuels and engineer expenses.



shentongroup
Shenton House
Walworth Road
Walworth Business Park
Andover
Hampshire
UK

t: +44 (0)844 888 444 5
f: +44 (0)844 888 444 6

e: info@shentongroup.co.uk
w: www.shentongroup.co.uk



“Rydale Leisure Centre’s Tedom Micro T30 system delivers cheaper power throughout the complex”

Outcomes

With better control over its own continuous power supplies, Rydale Leisure Centre’s Tedom Micro T30 system delivers cheaper power throughout the complex and contributes towards a reported reduction in CO2 emissions of circa 70 tonnes per year.

As well as the obvious savings in power costs and CO2 emissions, the leisure centre also benefits from peace-of-mind that there will be no break in its services, thanks to a shentongroup Infinium24 CHP maintenance contract.

About shentongroup

shentongroup is the UK’s leading technical expert in standby power, uninterruptible power supplies, and combined heat and power supplies. The company provides continuous power supply solutions to organisations spanning key sectors including; healthcare, finance, telecoms, manufacturing, retail, education, government, utilities, and of course, sports and leisure.

With the flexibility to support both inside and outside applications, shentongroup is a leading force in the provision of Combined Heat and Power solutions and supplies a range of CHP systems under its Powertherm label. CHP is increasingly becoming the energy choice for projects that require large volumes of hot water. Generating power from a number of sustainable fuels, including less-expensive natural gas, the heat generated from this process is channelled into heating, hot water supplies and even air conditioning, proving to be a more affordable, greener alternative. CHP reduces overall energy consumption and thereby enables commercial and industrial customers to offset gas and electricity consumption. The system’s very low exhaust emissions ensure that Powertherm complies with, or exceeds UK regulations.

Tedom is one of Europe’s leading CHP manufacturers. As their sole UK and Ireland authorised supplier and servicing specialist, shentongroup installs

and maintains scores of Tedom CHP systems each year.

shentongroup’s comprehensive CHP support and maintenance service, Infinium24, monitors the CHP system 24 hours a day. With a number of depots throughout the UK, shentongroup engineers can be onsite in a matter of just 4 hours. An 8,000-hour support contract charged at a fixed hourly rate covers all parts, labour, travel, fuels, and engineers expenses. There is a minimum annual charge of 2,000 hours, therefore making predictable budgeting much easier, and as each year passes, clients are likely to save even more money – this is because mains power and fuel prices typically rise, whereas your good-as-new Powertherm CHP generator will be performing just as well as when we first installed it.

About Rhydale Leisure Centre

Rydale Leisure Centre offers a variety of facilities and sports activities for local residents. The centre offers both indoor and outdoor activities for adults, children and those with disabilities. The sports centre has a gym and fitness suite offering a comprehensive array of modern equipment. The centre’s swimming pool boasts a broad programme of aquatic activities and features that include; rookie lifeguard, diving, water polo and synchronised swimming.



shentongroup
Shenton House
Walworth Road
Walworth Business Park
Andover
Hampshire
UK

t: +44 (0)844 888 444 5
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e: info@shentongroup.co.uk
w: www.shentongroup.co.uk