Edina CHP ensures security of power for famous Ice Cream manufacturer

R&R Ice Cream commissioned Edina UK Ltd to install CHP (combined heat and power) technology at its production facility to ensure security of power in order to meet expanding production requirements for long term growth opportunities.

Key benefits

- Ensures security of power
- Energy savings of £440,000 per year
- Reduce CO2 emissions by 4,800 tonnes per year
- Energy savings reinvested back into the business
- Grow production capacity

Home to famous brands including Kelly's Ice Cream and Fab Lollies, R&R Ice Cream installed two MWM TCG 2020 V20 natural gas engines (pictured below) at their production facility plant based in Northallerton, North Yorkshire as part of their expansion aspirations.

Due to the restrictions on the amount of electricity that was available to be imported, R&R Ice Cream decided in early 2012 to consider the installation of a CHP plant to provide greater independence from the national grid supply.

This proactive approach to maintaining profitability in a sustainable manner has since significantly reduced their energy costs, carbon emissions and, as such the energy savings made have been re-invested back into the business.

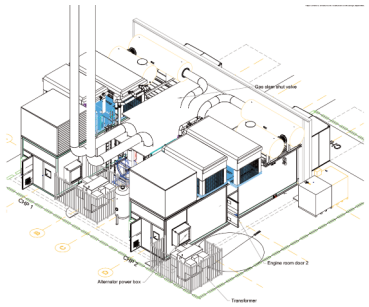
With a combined electrical output of 4MW, the two MWM TCG 2020 V20 gas engines are configured for both Low Temperature Hot Water (LTHW) and steam generation, and formed part of an innovative on-site development, resulting in the largest CHP installation in a UK ice cream factory.

Working within R&R Ice Cream's technical requirements, both MWM engines were containerised at Edina's manufacturing facility based in Lisburn, Northern Ireland.

The modular containerised off-site construction of the package units, significantly reduced the on-site construction time, reduced on-site waste and reduced the commissioning process, all resulting in an overall programme improvement.

The initial design was to incorporate the CHP plant within an existing site building, and further examination deemed the building unsuitable from a construction and operation basis.

As such a new Energy Centre was constructed in the place of the previous building. As with the CHP Plant, this Energy Centre was constructed on a modular basis to reduce disruption to site.



The on-going maintenance and control of the energy centre was the key design requirement for the Energy Centre. The CHP could be augmented, or changed to complement changes in energy usage or new technologies as they become available.

Edina's design team and R&R Ice Cream's site production staff worked together to review existing site load data, plan an upgrade to the gas connection required for the CHP, and assess the layout and integration with the existing thermal and electrical infrastructure. The efforts and experience of the two teams meant that external consultation was not required for the project.

The load balance control was critical to the project as this forms an integral part of the production process. This requires balance control between the provision of power, LTHW and steam.

Security of power supply is a key feature of the installation. Prior to the installation of CHP the site was at its maximum imported power supply and had regularly suffered with power outages.

The project was commissioned in June 2014 and the site is under a fully inclusive 10 year service, operation and maintenance contract.

The CHP plant will save R&R Ice Cream an estimated £440,000 per year on its energy bill, reduce CO2 emissions by 4,800 tonnes per year and provide an overall CHP engine efficiency of 86.9%.

With the potential rise in energy prices, the sustainable application of CHP can positively impact the bottom line and redirect much needed revenue back into the business to grow and compete on the world's stage.

In a press release issued in December 2015, R&R announced that its £2million investment in an additional CHP allowed them to increase their production capabilities by more than 20 per cent.

Installing the CHP plant has led to significant savings in energy costs and R&R estimates the £2million cost of the plant will be repaid in just over three years.

About Edina

Edina is a leading supplier, installer and maintenance provider for energy efficient CHP (combined heat and power) solutions for natural gas and biogas applications, providing complete turnkey and containerised plant and control panel systems manufactured in-house.

Edina is the sole distributor in the UK and Ireland for leading efficiency MWM manufactured gas engines, world renowned for achieving maximum electrical and thermal efficiency, low operating and servicing costs and high reliability and availability.

With over 30 years' experience in providing flexible power generation solutions, Edina works closely with its customers to understand and meet their requirements, from initial contact to long term maintenance support.

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