

CHP reduces operational costs by €1million for global eye health company.



Edina Group delivers new state-of-the-art natural gas CHP (combined heat and power) plant at global contact lenses manufacturer, Bausch + Lomb, in Ireland.

Key benefits

- Operational cost savings of approx. €1million per annum
- CHP plant supplies 72% of the sites electrical needs and 91% of its thermal energy
- CHP plant availability 97.2%
- CO2 savings in excess of 6,750 tonnes per annum
- The engine output is the equivalent of powering 5,980 homes with its electricity needs and 2,105 homes with its heating requirements per annum

Bausch + Lomb, a leading global eye health company, recently opened its new state-of-the-art CHP (combined heat and power) plant at its manufacturing facility in Waterford city, Ireland.

Officially opened on 29th June 2016 by the Mayor of Waterford, Councillor John Cummins and Angelo Conti, Vice President of Manufacturing, Bausch + Lomb, the CHP plant will supply Bausch + Lomb's manufacturing facility with 72% of its electricity needs and 91% of its thermal energy requirements, and is recognised as one of the largest projects of its kind in Ireland.

The CHP plant is part of Bausch + Lomb's energy and sustainability strategy to improve its environmental and social impacts, and reduces the plants operation costs by approx. €1million per annum.

In 2013, Derek O'Connor, Facilities Engineering and Structural Manager, Bausch + Lomb, led the company to achieve ISO50001 certification, the first Bausch + Lomb site worldwide to achieve this, by introducing a number of energy reduction projects to include LED lighting, variable speed drives and energy efficient chillers, to name but a few.

Phase two of the site's energy strategy was to install auto-production technologies. Derek O'Connor, recalls, "A number of auto-production technologies were considered such as wind and solar for the site. However, CHP technology was chosen based on its availability and return on investment potential. The chosen size and type of CHP was determined in-house and driven by the plant load demand in terms of electrical and thermal usage."



CHP technology was chosen based on its availability and return on investment potential.

Derek O'Connor, Facilities Engineering and Structural Manager, Bausch + Lomb



This prestigious and high profile contract won the attention of a large number of local and international on-site power generation providers.

Following an internal competitive tendering and detailed technical analysis process, the contract was awarded to Edina, a leading supplier, installer and maintenance provider for CHP and on-site power generation.

Edina were awarded the contract based on a number of key deciding factors.

Firstly, the MWM generator set proposed was best suited to meet the sites energy needs, offering market leading electrical and thermal efficiency, low operating and service costs and high reliability and availability.

Secondly, Edina has an extensive portfolio of delivering successful CHP installations on time and within budget across a number of industry sectors within Ireland and the UK.

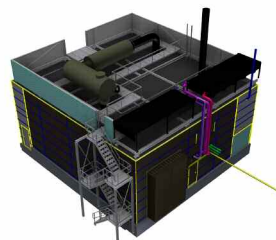
Lastly, Edina has one of the largest after-sales service teams in Ireland and was able to confidently demonstrate that the company had the necessary capabilities and infrastructure in place to support the CHP over its lifecycle.

Scope of supply

The contract included the supply, installation and maintenance of the 3.3MWe MWM TCG 2032 V12 engine, which is rated at 1000 rpm and world renowned for achieving high efficiencies and reliability.



The scope also included the construction of a purpose built energy centre which houses the TCG 2032 engine, associated ancillary plant and separate waste heat steam boiler room.



Within the energy centre, and at the request of Bausch + Lomb, a dedicated viewing platform was installed allowing site visitors to see the running engine without entering the engine room to learn more about the benefits of CHP.

On-site, the CHP plant is generating electricity at 10.5kV and interfaces directly into the sites MV ring providing power to its office buildings, research and development facilities, manufacturing process and warehouse units.

Steam is generated by passing the exhaust gases at over 400 degrees Celsius from the engine through the Exhaust Gas Heat Recovery Steam Boiler and is also used on-site.



The low grade hot water recovered from the engine jacket water is also used, distributed throughout the factory and used for process and space heating.



The commercial value of the project exceeded €3.3 million and has a calculated return on investment of 3.4 years.



This approach has resulted in a substantial reduction in our environmental impact and significant energy cost savings.

Angelo Conti, Vice President of Manufacturing, Bausch + Lomb



The engine will generate in excess of 28 million kWh in electricity, some 17.3 mega tonnes of steam and 12,483MW of low-grade hot water per annum. In addition, the annual carbon savings will be 6,750 tonnes per annum.

The engine output is the equivalent of powering 5,980 homes with its electricity needs and 2,105 homes with its heating requirements per annum.



Service, operation and maintenance

Edina will maintain the CHP plant over a 5 year Service and Maintenance contract providing routine maintenance and breakdown response support.



Scheduled major service overhauls will take place at 20,000 and 40,000 run hours with minor service interventions occurring every 4,000 run hours.



The CHP plant will be remotely monitored 24/7 by Edina via its SCADA (Supervisory Control and Data Acquisition) systems, which will automatically detect and alert Edina's service desk of any issues on-site.

As part of the service and maintenance agreement contract, the availability runtime of the engine is 95% (or 8,322 hours) per annum.

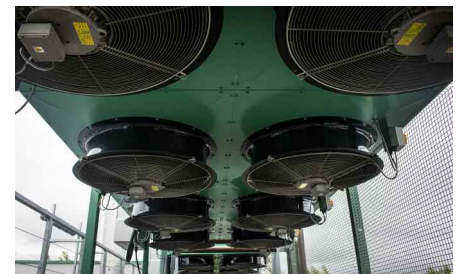
Operational since May 2016, the CHP plant is currently running at 97.2% availability and has increased CO2 savings in excess of 6,750 tonnes per annum.

Based on the data available, the CHP plant has exceeded expectations and will save Bausch + Lomb an additional €90k saving per annum, reducing the return on investment by four months to 3.1 years.

Angelo Conti, Vice President of Manufacturing, Bausch + Lomb, said, "Some years ago, Bausch + Lomb developed and launched a plan to identify and improve its environmental and social impacts."

"This included adopting a broad sustainability policy for the business, centred on understanding not only the needs of our patients and customers, but also environmental, employee and community needs."

"This approach has resulted in a substantial reduction in our environmental impact and significant energy cost savings. Bausch + Lomb Waterford has taken the ethos of this plan to heart and has dramatically demonstrated what is possible in terms of reducing the impact of manufacturing on the environment."



The project concept, detailed design and project management was conducted in-house by Bausch + Lomb and Edina, and was completed within schedule and budget.



Creativity and innovation was also a key aspect of this project between both parties in terms of the bespoke CHP building, efficient heat recovery steam generator including economiser, metering requirements, controls systems applied and the integration into the current campus infrastructure.

Colin McKibbin, Sales Manager, Edina, said, "We were absolutely delighted to win this prestigious and extremely high profile contract, once again highlighting our position as market leaders supplying CHP plant installations across Ireland and the UK. Having full in-house design, as well as a large project management resource and an after-sales service team, was critical to winning this contract. Seeing it developing from conceptual design to the stunning finished plant room that we now see has been a privilege".



Energy costs represent a significant portion of a business's standard operating cost.



In reducing these and adopting CHP technology, these cost savings can be re-invested back into the business to support R&D, innovation, growth, leading towards a more cost competitive, environmentally friendly and socially responsible future.



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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