

# Kilbush Nurseries rises to energy challenge with CHP

Kilbush Nurseries produces over 1,000 tonnes of tomatoes each year. Its facilities encompass over two hectares of tomatoes under glass, in state of the art commercial greenhouse units, with integrated packing and transportation facilities.

**T**his family business started in the 1930's and has gone from strength to strength by innovating and anticipating trends in the market garden sector.

In order to deliver a quality product competitively, the Foley family looked at ways of making their operations environmentally friendly as well as less expensive.

Kilbush Nurseries have been at the forefront of technical and environmental advances in the Irish horticultural sector in recent years, and have led the way in improving the efficiency of glasshouse heating in Ireland through the use of hot water storage to meet peak heating requirements, and the installation of thermal screening to conserve energy in the glasshouse heating process. Local firm Enviroeye, acting as consultants on energy efficiency are keen protagonists of CHP and this led to Edina's involvement with the project.

After investigating the feasibility of various means to reduce their energy costs and achieve optimum energy performance, Kilbush Nurseries decided to install a fully integrated CHP Unit with the added bonus of recovering the CO<sub>2</sub> from the exhaust gases to increase crop yield. The CHP type being supplied by Edina is the highly efficient MWM TCG2020V16 natural gas fuelled unit, with it being coupled to a "state

of the art" ECO2-Pro CO<sub>2</sub> Recovery System developed and supplied by Steular in Holland, the world leader in the associated technology.



TCG 2020 engine from MWM has been used for glasshouse CHP throughout the world.



Typical CHP Installation

The new CHP system will also meet the thermal requirements for Kilbush Nurseries while in addition providing a valuable income stream from the sale of electricity generated back to the grid to bring the overall energy efficiency of the Kilbush operation to over 96% and provide an economically and environmentally sustainable solution to the energy needs of the nursery for the next 15 years.

#### Main Technical Data

- Engine type: MWM TCG2020V16
- Electrical output: 1560kW
- Thermal output: 1912kW
- Electrical efficiency: 43.3%
- Thermal efficiency: 53.1%
- Total efficiency: 96.4%

CHP has also been adopted by major pharmaceutical companies such as MSD at Brinny and Covidien in Cork, to cut costs and emissions at their production premises, with monitoring and maintenance by Edina.

The Edina group of companies has specialised in onsite power generation for over 25 years. With over 140 qualified staff operating at 5 locations in 2 countries "true" national coverage for all service and maintenance requirements is provided. The spectrum of fuel sources are catered for in the product range, diesel, natural gas, bio-gas and synthetic gases. Edina offers design, supply, hire and full turnkey solutions and constructs the container and all related operational products at its manufacturing premises in Lisburn, Northern Ireland. ■