Greenhouse
Maxburg BVBA, Belgium

The 30th greenhouse with Rolls-Royce

Since 2005, no less than 52 combined heat and power systems with installed capacity of more than 270 MWe has been supplied by Rolls-Royce for greenhouses in Holland, Belgium, Russia and the UK. Maxburg Meer in Belgium, is the 30th greenhouse for which Rolls-Royce has delivered a complete CHP solution.

Since the beginning of 2017, two Rolls-Royce combined heat and power (CHP) systems have been supplying energy, heat and cleaned CO2 to the new Maxburg tomato greenhouse in Meer, Belgium. Both are powered by two B35:40 V12 AG2 gas engines, with an electrical capacity of 5,650 kW and a thermal output of 6,545 kW each. For greenhouses in Belgium, the engines are operated at maximum 5 kW due to grid regulations.

For the owner, John Vermeiren, this was his third greenhouse powered by Rolls-Royce. Back in 2008 and 2010, two CHP plants went into operation in Loenhout and in Merksplas in Belgium. He said: “The high level of efficiency of the medium-speed gensets and their reliability impressed us so much that we decided once again in favour of Rolls-Royce for the energy supply of our third greenhouse in Meer.”

For the Maxburg greenhouse, Rolls-Royce has delivered generating sets, sound enclosures, exhaust gas systems including SCR and heat recovery systems, control and protection systems.

The electric power is used primarily for the greenhouse grow lights and, as required, exported to the public grid. The greenhouse, which cover an area of 10.2 hectares, use the heat extracted from the exhaust gas and the engine’s cooling system. Cleaned CO2 from the engines is injected into the greenhouses to boost plant growth. In total, this results in an efficiency level of more than 96 per cent.

John Vermeiren expects to achieve an annual production of 7.5 million kilogrammes of tomatoes at the new greenhouse, and has entered a long term service and maintenance agreement with Rolls-Royce to help ensure the availability of the CHP systems.
Bergen Engines is a subsidiary of Rolls-Royce Power Systems, supplying medium-speed gas and liquid fuel engines for a broad range of power generation applications. Bergen Engines supports your business with reliable power solutions from 1,400 kW to 9,600 kW per engine, and complete power systems that can deliver an output of beyond 200 MWe.

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