



# Bearing great fruit: GE asset performance management solution keeps greenhouse operations humming along

myPlant\* 2.0 platform powered by Predix\* protects  
Jenbacher fleet and enhances output, efficiency



## Story

The Prominent Growers Association is using GE's myPlant 2.0 platform powered by Predix, an Asset Performance Management solution, to help ensure the smooth operation of a fleet of 50 Jenbacher cogeneration systems that provide heat and power for assimilation lighting and CO<sub>2</sub> at 36 high-tech greenhouses that grow vine tomatoes.

## Situation

Fully 20 percent of Holland's vine tomatoes come from the greenhouses that the 26-member Prominent Growers Association operates in the western part of the Netherlands. To fulfill the energy demands of this project and reduce its power costs, Prominent uses GE's Jenbacher combined heat and power (CHP) gas engines to supply more than 131 MW of installed electrical capacity. The engines have a total thermal output of up to 150 MW.

Electricity from the engines lights 850,000 square meters of greenhouse space – with the excess sold to the public grid – while the thermal energy heats that space, and the CO<sub>2</sub> fertilizes the tomato crop. Thanks to the GE technology onsite, the greenhouses can maintain almost identical production levels in summer and winter.

## Location

36 high-tech greenhouses in the western part of the Netherlands

## Product

myPlant 2.0 platform powered by Predix, GE's Asset Performance Management solution



To keep the Jenbacher power plants operating at the highest possible availability, output and efficiency levels, the Prominent Growers Association has become one of the first customers of GE's myPlant 2.0 platform powered by Predix, an Asset Performance Management solution. myPlant predictive analytics are able to detect anomalies and validate probable root causes so that prompt, effective corrective actions can be taken. The solution is designed to enhance emission control system performance and gas consumption efficiency, extend engine oil life, and maintain heat and CO<sub>2</sub> with variable power when the feed-in tariff is low.

## Solution

The myPlant 2.0 powered by Predix solution employs remote 24/7 monitoring and diagnostics from GE's highly skilled technical representatives in the Quick Response Center in the Netherlands. A team of experienced OEM experts is remotely tuning the engines, including remote reset of non-critical alarms to quickly restore operation and maintain productivity. Power plant operators are notified immediately by email or cell phone SMS about engine messages, starts and stops, and real-time communication of information such as data trends and trips also is provided.

The centralized visibility afforded to the fleet operation includes the running state of all site assets, as well as asset level availability, power and operating hours. The engine fleet overview gives real-time looks at trends, events and availability, and also provides current operational and performance reports.

With its predictive analytics capability, the myPlant 2.0 powered by Predix solution is helping the Prominent Growers Association anticipate and plan for the future. Members can forecast, and hence increase, the remaining useful life of key Jenbacher fleet components and reduce unplanned downtime, and they can pre-empt problems by detecting and forecasting the future condition of those components.



## Key technical data

<b>Number of units</b>	25 x J620	19 x J616	5 x J612	1 x J420
<b>Electrical output</b>	up to 131 MW			
<b>Thermal output</b>	up to 150 MW			
<b>Emissions (according to TA-Luft based on 5% O<sub>2</sub>) / NO<sub>x</sub></b>	<500 mg/m <sup>3</sup> N			
<b>CO<sub>2</sub> fertilization</b>	COdiNO <sub>x</sub>			
<b>Energy fuel source</b>	Natural gas			
<b>Commissioning</b>	November 2003 to December 2007			



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