

GE technology helps power Cameroon poultry hatchery

Poultry hatchery Agrocam, a member company of the JS Noutchogouin Group, located in Douala, Cameroon, has purchased one of General Electric's (GE) Jenbacher J316 gas engines to address the fundamental challenges related to long-term power outages which have a significant impact on poultry breeding in Cameroon.



GE's Jenbacher J316

A severe shortage of essential electrical infrastructure in Sub-Saharan Africa is making it difficult for efforts aimed at achieving more rapid social and economic development. According to the International Energy Agency, natural gas will be the fastest-growing fuel in use for [power generation in Africa](#). Given the critical nature of poultry hatcheries, a half-hour power outage can completely cripple a business, leading to a complete overhaul of the hatchery installations - since all eggs in the incubator would perish as a result of improper storage temperature control and ventilation.

To help meet the demand for alternative energy supply to stabilise and rebuild, Agrocam previously used a diesel generator for backup to the grid to ensure routine operation of its hatchery, which proved to be costly given the prolonged hours of grid power outages in addition to the environmental pollution associated with diesel generators.

A stable, reliable and cost-effective source of power

"More than ever before, Agrocam believes that a stable, reliable and cost-effective source of power is crucial to reviving the poultry business in Cameroon, which suffered a big hit from the 2016 avian influenza (or bird flu) outbreak that paralysed poultry farmers in Douala and the surrounding areas. Energy currently represents 50 percent of our operational costs," said Noutchogouin Jean Samuel, board chairman, Agrocam.

“GE’s natural gas-fired Jenbacher gas engine will produce a nominal electrical output to power the hatchery and egg tray production facility, providing a highly efficient, economical solution to meet our needs and realise substantial annual savings,” said Noutchogouin Philippe, managing director, Agrocarn.

GE’s Jenbacher J316 gas engine will produce 813 kilowatts of power. Heat will be recovered from the hot exhaust gasses of the generator in the form of hot air and will be injected into the ovens of the egg tray production machines for drying. This will save the cost of fuel currently burned for drying and, therefore, it will increase the efficiency and allow for the optimum use of the gas generator.

Meeting growing energy needs

“Long service intervals, a maintenance-friendly engine design and low fuel consumption ensure a high operating efficiency, while enhanced components prolong service life,” said Ali Hjaiej, business development director, Africa, Clarke Energy. “As Agrocarn battles local power outages from Cameroon’s unstable grid, GE’s proven, cost-effective, Jenbacher gas engine technology provides Agrocarn with a solution to help meet the growing energy needs of the region while increasing the efficiency and reliability of the customer’s grid.”

GE’s [Jenbacher Type 3 gas engines](#) offer proven savings on service and fuel consumption as well as excellent efficiency. Two-stage mixture cooling enables high flexibility, while the turbocharger bypass evens out extreme operating conditions. They are also suitable for a range of applicable gas types including natural gas, associated petroleum gas, propane, biogas, sewage gas, landfill gas, coal mine gas and other special gasses such as coke, wood and pyrolysis gasses. In addition, the gas engines increase efficiency levels and reduce industrial emissions. The gas engines are designed for 80,000 full-load operation hours before a major overhaul.

“With an installed base spanning several countries in Africa, we are powering the continent with our scalable and modular solutions across various applications, particularly renewable and waste-to-energy, industrial power generation and cogeneration/CHP (combined heat and power) and oilfield power generation. In a CHP configuration, our Jenbacher gas engines can deliver electricity and heat at efficiencies of more than 90 percent,” said Oluwatoyin Abegunde, sales director for the Sub-Saharan Africa region for GE’s Distributed Power. “By working with Clarke Energy on this important project, we are able to meet the needs of our customer and Cameroon for a more sustainable supply of electricity.”

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