

# POWER PROFILE

Customer: LCL Data Centers

## Location:

Aalst, Belgium

## Customer Business Issue:

Reliable backup power as part of a corporate sustainability strategy

## Solution:

13.5 MVA standby system fueled by 100% hydrotreated vegetable oil (HVO)

## Cat® Dealer:

[Eneria](#)



*Playing a central role in supporting the growing Belgian economy, LCL has made a deep and growing commitment to supporting sustainability across its operations.*

## POWER NEED

Founded in 2002, Belgium's [LCL Data Centers](#) has quickly grown and is located at five independent locations in Antwerp, Aalst, Diegem, Huizingen, and Gembloux. Its customers include multinationals, small- and medium-sized companies, governments, internet companies, and telecom operators, who may choose from more than 40 providers and the LCL Cloud Exchange for optimal connectivity.

While playing a central role in supporting the growing Belgian economy, LCL has made a deep and growing commitment to supporting sustainability across its operations. In 2021, LCL joined the [Climate Neutral Data Centre Pact](#), a self-regulated initiative by dozens of European data center operators and trade associations to achieve climate neutrality by 2030. As part of this program, LCL joined the Science Based Targets initiative (SBTi) in November 2021 to reduce greenhouse gas emissions from its data centers.

This initiative is reflected in numerous ways at LCL's facilities. While all the energy currently purchased by LCL is renewable, the company is committed to generating 40% of its energy from its own green power sources by 2030. To achieve this goal, LCL recently expanded its solar park in Gembloux with 1,300 solar panels, which provide up to 30% of this site's power requirement.

To further decarbonize its energy consumption, LCL challenged Eneria, the local Cat® dealer, to confirm the performance of 100% hydrotreated vegetable oil – known as HVO100 – as a fuel for the engine-powered standby power system at its LCL Brussels-West data center in Aalst.

"It was the first time a customer asked us that question," said Tim Bisson, director of Eneria Belux, a specialist in renewable energy supply and emergency power installations in Belgium.

## SOLUTION

The Eneria team worked over several months to demonstrate that Cat generator sets offer comparable power, consumption, and operational reliability when exchanging diesel for HVO100.

Cat diesel generator sets have accommodated the use of HVO for more than a decade. HVO can be sourced from vegetable oils, fats, or used cooking oils, which is then processed by hydrotreating to remove oxygen from the hydrocarbon chain.

HVO meeting the latest version of EN 15940 specifications can be used as a drop-in replacement for diesel fuel in Cat diesel engines. Set by the European Committee for Standardization (CEN), this standard specifies the quality and properties of advanced diesel that is either synthetic or produced from renewable raw materials through hydrotreatment.

While HVO does not reduce carbon dioxide emissions at the tailpipe, switching to biofuels can reduce lifecycle greenhouse gas emissions compared to diesel. The source of the carbon is biogenic, meaning carbon emitted from burning the fuel today consists partly of carbon previously captured from the atmosphere by the fuel's plant source.

There are many variables that go into quantifying carbon dioxide reductions from using HVO, but its use can reduce greenhouse gas emissions by as much as 40% over the fuel's lifecycle when compared with diesel.

After a series of tests with traditional diesel, HVO100, and a blend of these fuels, the team determined that the power and reactivity performance of the generator sets remains virtually the same regardless of the fuel used. With HVO100, the generator sets consume around 5% more fuel due to the small difference in energy density between HVO100 and standard diesel.

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## RESULTS

Based on the test results, LCL executives moved forward to install a new 13.5 MVA standby power solution consisting of six Cat 3516B diesel generator sets at its LCL Brussels-West data center in Aalst. This solution providing N+1 redundancy operates exclusively on HVO100, making it the first data center in Belgium to use biofuels for standby power operation.

“The collaboration with Eneria went smoothly, and we thank them for their proactive attitude,” noted Laurens van Reijen, managing director of LCL.

Designed, installed, tested, and commissioned by Eneria, the standby system is part of a €15.5 million expansion that tripled LCL’s footprint in Aalst while achieving the Uptime Institute’s Tier III certifications for design and construction.

Eneria will provide ongoing maintenance and service under a Cat Customer Value Agreement (CVA). Through fully customizable CVAs, Cat dealers assume responsibility for the on-site maintenance and service of power solutions, enabling customers to focus on running their enterprises.

“We were pleased to support LCL’s commitment to reducing carbon emissions,” Bisson observed.

Propelled by the success of the project in Aalst, LCL plans to convert the standby power solutions at all its data centers to operate on HVO over the next two years.

“Our collaboration with Eneria and Caterpillar has demonstrated the viability of HVO100 in our standby power systems,” van Reijen added. “We’re strongly committed to becoming carbon-neutral by the end of this decade, and we’ve launched numerous initiatives across our operations to help us achieve this goal.”

For more information on Caterpillar’s wide-ranging support for data centers, visit [cat.com/datacenter](https://cat.com/datacenter).



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