

INTEGRATING A MICROGRID WITH SOLAR POWER FOR ENERGY SELF-SUFFICIENCY

A U.S. airport is making history as the 1st in the country to get 100% of its power from a microgrid

Background

As part of its ongoing sustainability efforts, an airport in Pennsylvania decided to create a power generation microgrid to make the facility more resilient to grid outages.

Its new microgrid employs virtually net-metered solar panels supported by five Jenbacher gensets that run on pipeline gas, offering an economical power alternative to the public grid. With black start and island mode capability, the microgrid delivers on its promise of greater reliability and resiliency while also cutting emissions.

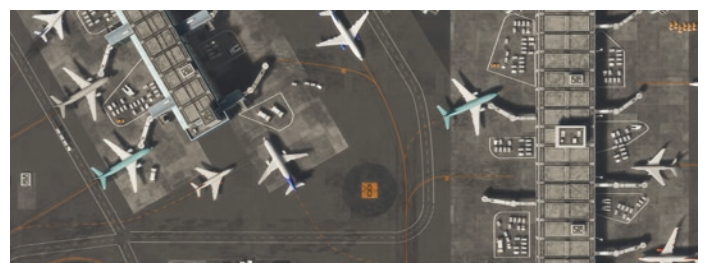


A greener solution

The airport's new power plant is owned by Peoples Natural Gas, the largest natural gas distribution company in Pennsylvania. The solar array at the plant is owned by IMG Energy Solutions—a Pennsylvania-headquartered company that addresses the evolving needs of its customers for reliable, innovative, and environmentally conscious energy solutions. Together, Peoples Natural Gas and IMG own the microgrid. Key to the project's success was a IMG's focus on offering a distributed portfolio of highly efficient, reliable, pipeline gas-fueled power generation assets along with a swiftly growing portfolio of solar energy solutions.

Peoples Natural Gas and IMG turned to INNIO's authorized distributor Northeast Energy Systems (NES-WES) to provide and integrate the microgrid, centered on five Jenbacher J624 gensets. Selected for the project due to their high electrical efficiency, the Jenbacher units contribute approximately 4.4 MW of electrical output each to the new 21.8 MW plant.

NES-WES provided engineering, field project management, and commissioning support during the project design, installation, and startup. The plant was commissioned in May 2021. NES-WES continues to provide planned and corrective maintenance activities for the plant.



Results

Delivering black start and island operation capability, the new microgrid provides all of the energy needed for the airport. In fact, because the microgrid generally generates more power than the airport needs, excess energy is fed back into the public grid. This energy self-sufficient solution is bringing added reliability and resiliency to the U.S. transportation sector while also reducing environmental emissions in the region.

The project has reduced CO₂ emissions regionally by approximately 6,000,000 pounds in 2022.*

*according to the customer



Key technical data

Installed Engines	5 x J624
Energy Source	Pipeline gas
Electrical Output	21.8 MW
Electrical Efficiency	44.7%
Year of Commissioning	2021



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Video:
 Jenbacher powered microgrids - When reliable power supply is key

Customer benefits

The new microgrid is delivering substantial benefits including:

- Significant energy cost savings of about \$1 million annually. Plus, the ability to sell excess energy back to the public grid
- Excellent overall plant efficiency of nearly 45%
- Enhanced reliability, availability, and resiliency
- A greener solution that significantly reduces CO₂ emission regionally
- Service team with fast response for spare parts and repairs as needed

INNIO is a leading energy solution and service provider that empowers industries and communities to make sustainable energy work today. With our product brands Jenbacher and Waukesha and our digital platform myPlant, we offer innovative solutions for the power generation and compression segments that help industries and communities generate and manage energy sustainably while navigating the fast-changing landscape of traditional and green energy sources. INNIO is individual in scope, but global in scale. With our flexible, scalable, and resilient energy solutions and services, we enable our customers to manage the energy transition along the energy value chain wherever they are in their transition journey.


INNIO is headquartered in Jenbach (Austria), with other primary operations in Waukesha (Wisconsin, U.S.) and Welland (Ontario, Canada). A team of more than 4,000 experts provides life-cycle support to the more than 55,000 delivered engines globally through a service network in more than 100 countries.

INNIO's improved ESG Risk Rating again secures the number one position across more than 500 companies globally in the machinery industry assessed by Sustainalytics.

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