

LANDFILL GAS POWER GENERATION PROJECT

Delivers renewable, low-emission power
and wins praise



Background

The Chengdu Chang'an Landfill Gas Comprehensive Utilization Project is a landfill gas power generation facility jointly invested, constructed, and operated by Chengdu Oasis City Appearance Environment (Group) Co., Ltd. and New China Water (Nanjing) Renewable Resources Investment Co., Ltd. The project collects, purifies, and generates electricity from the landfill gas in the first and second phase landfill areas of Chang'an Landfill in Chengdu city in China's Sichuan province. The project is one of the largest single-unit landfill gas power generation projects in China.

A low-emission solution

Covering an area of about 6,700 square meters, the project includes an efficient landfill gas collection system, landfill gas pretreatment system, landfill gas fueled gensets, landfill gas flare, and power output system as well as a clean development mechanism (CDM) metering system—for earning certified emission reduction (CER) credits—and auxiliary systems.

The project's first phase, completed in May 2017, installed 14 of INNIO's Jenbacher J420 gensets running on landfill gas. Rated at 1,487 KW each, the gensets provided an installed capacity of 20.82 MW. In November 2018, the second phase of the project added six more Jenbacher J420 units, bringing the total installed capacity of the project to 29.74 MW.



Results

It is expected that the project's annual power generation output will be 240 GWh, and all the generated electricity will be uploaded to the local grid, providing enough power to meet the annual electricity consumption needs of 70,000 Chinese households. What's more, this renewable power solution cuts approximately 1.28 million tons of CO₂ emissions each year.

Since the Chang'an Landfill project was officially put into operation, it has been continuously recognized and praised by industry experts. The project won the "2016-2017 Environmental Sanitation Industry Excellence and Innovation Series Commendation Activities Selection" medal organized by the China Urban Environmental Sanitation Association 2017 Solid Waste Exhibition Organizing Committee. In September of the same year, the project's company was awarded the "Chengdu Green and Low-Carbon Demonstration Enterprise" by the Chengdu Leading Group for Energy Conservation, Emission Reduction and Climate Change.

» It has been exciting to be part of this massive renewable energy effort. We are successfully capturing and treating landfill gas, then using it to fuel 20 Jenbacher gensets that are delivering greener power to the region. The project will help our city meet emission reduction targets, and it already has earned impressive environmental awards.«

Peijun Zhou, General Manager,
Chengdu Oasis New Renewable Energy Co., LTD

Customer benefits

- Centered on 20 Jenbacher J420 gensets, the Chang'an Landfill project provides 240 GWh of reliable, renewable power to the region each year.
- The J420 gensets are highly efficient, delivering a total efficiency of approximately 41.7% operating on landfill gas.
- The plant significantly reduces greenhouse gas emissions in the region—cutting CO₂ emissions by as much as 1.28 million tons annually.

Key technical data

Installed engines	20 x J420
Electrical output	29.74 MW
Electrical efficiency	41.7%
Energy source	Landfill gas
Year of commissioning	Phase I: 2017 Phase II: 2018



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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, INNIO offers 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. We are individual in scope, but global in scale. With our flexible, scalable, and resilient energy solutions and services, we are enabling 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 ESG Risk Rating places it number one of more than 500 worldwide companies in the machinery industry assessed by Sustainalytics.

For more information, visit INNIO's website at www.innio.com

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