



THE POWER TO DO MORE.

Cat[®] Gas Generator Sets

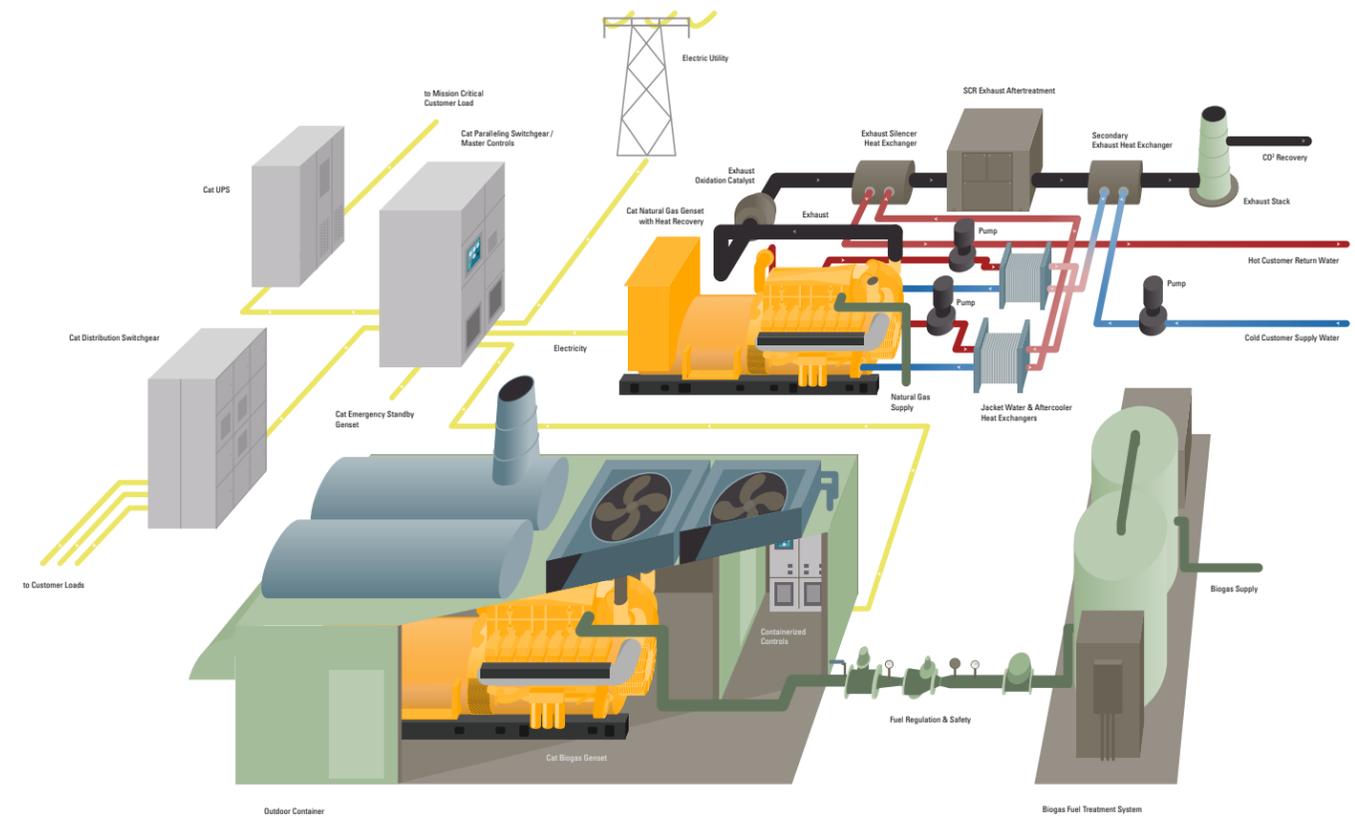
BUILT FOR IT.™



SMARTER ENERGY SOLUTIONS

Your power demands are unique and it's our job to build better ways to meet them. Choose from natural gas combined heat and power (CHP) systems, alternative biogas electric power options, distributed generation and ready-to-run turnkey units. All of our generator sets come backed by ongoing Cat® dealer support – from installation to planned maintenance.

ADVANCED SYSTEMS



Combined Heat and Power (CHP)

Whether your operations require steam, hot water or even hot air, we're offering CHP modules that recover heat from the engine jacket and aftercooler water circuits, and/or from the exhaust gas. Select from standard or customized CHP designs to match your needs with the cooling configuration, system pressures and temperatures associated with each of our gas engines.

Controls and Switchgear

Select switchgear controls that match your regional requirements for generator sets operating on natural gas, biogas or manufactured gas. Our paralleling, control and monitoring systems serve in UL specification markets in the Americas or International Electrotechnical Commission (IEC) standards in Europe, Russia, the Middle East, Asia and Africa.

All controls are microprocessor-based with redundant backup master controls via the individual generator control processors. Full monitoring and control are offered locally via a 5.7 to 17 inch (145 to 432 mm) color touch screen interface.

Fuel Systems

From natural gas projects requiring simple fuel pressure regulation and safety, to biogas generator sets requiring filtration of hydrogen sulfide and siloxane contaminants, get fuel train equipment to meet the need. For low energy fuels, your Cat dealer will analyze your fuel sample to ensure compliance with Cat engine fuel requirements over time.

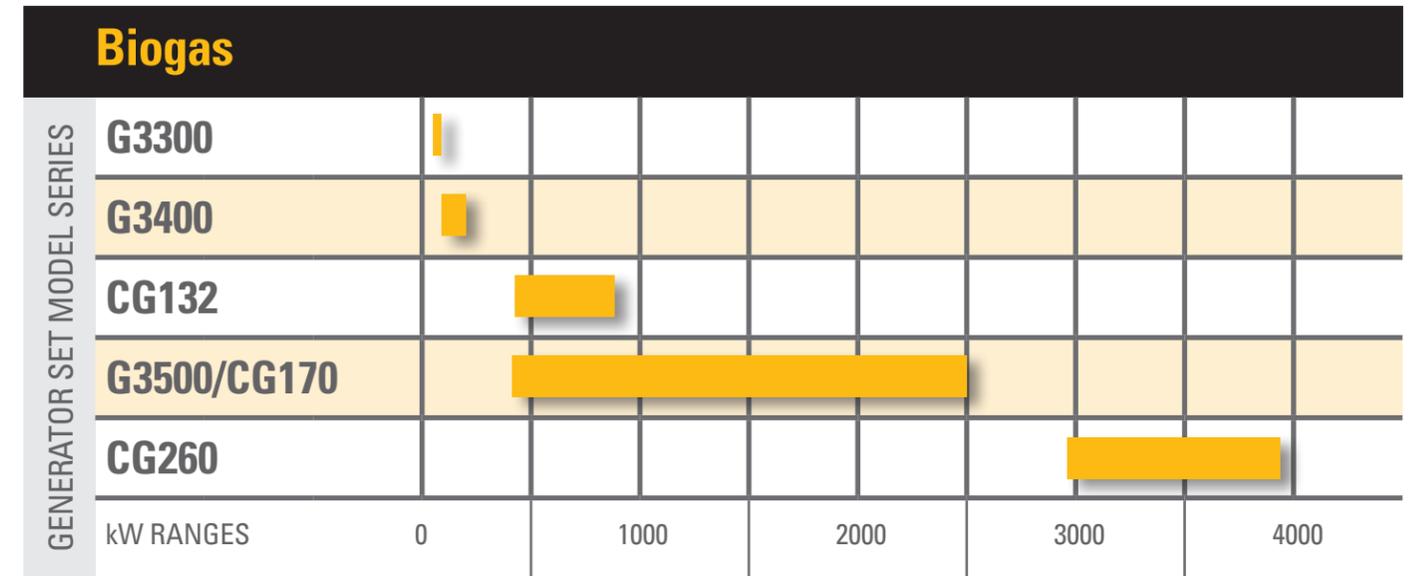
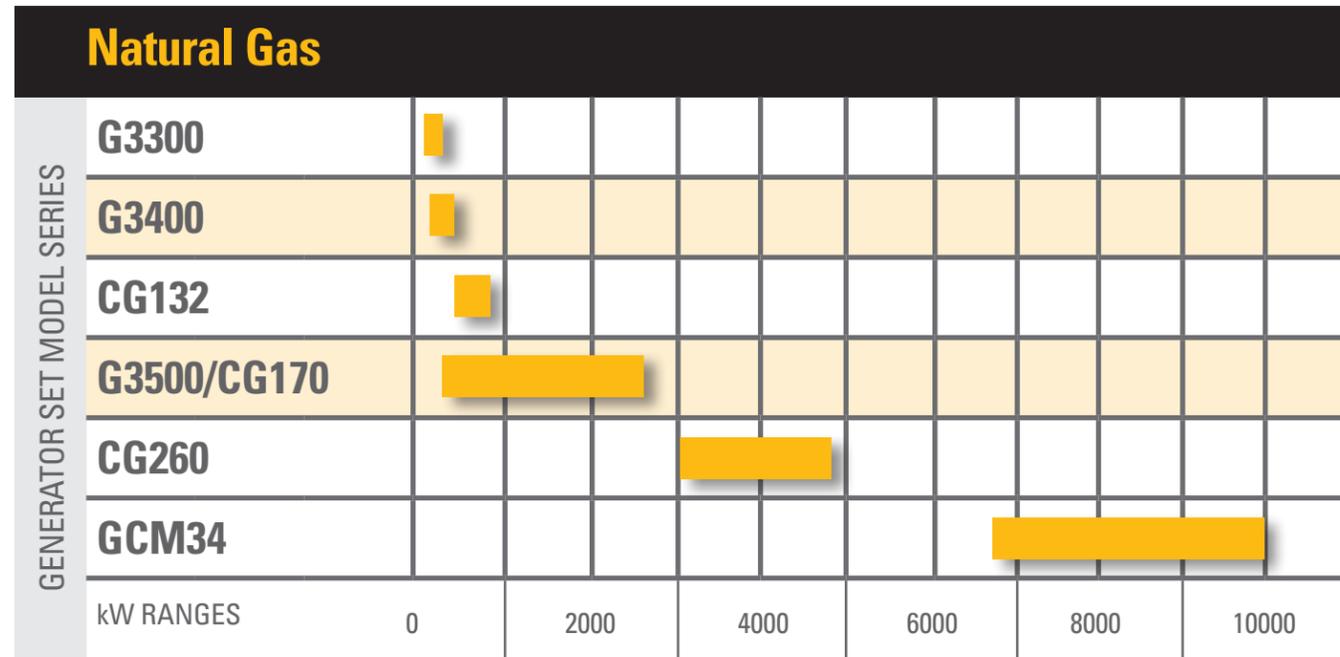
Exhaust Aftertreatment

We're engineering exhaust aftertreatment equipment tailored to your regional requirements, whether you're applying a lean burn engine oxidation catalyst to simply lower CO emissions, or applying a urea-based SCR system to all but eliminate NO_x for greenhouse fertilization.

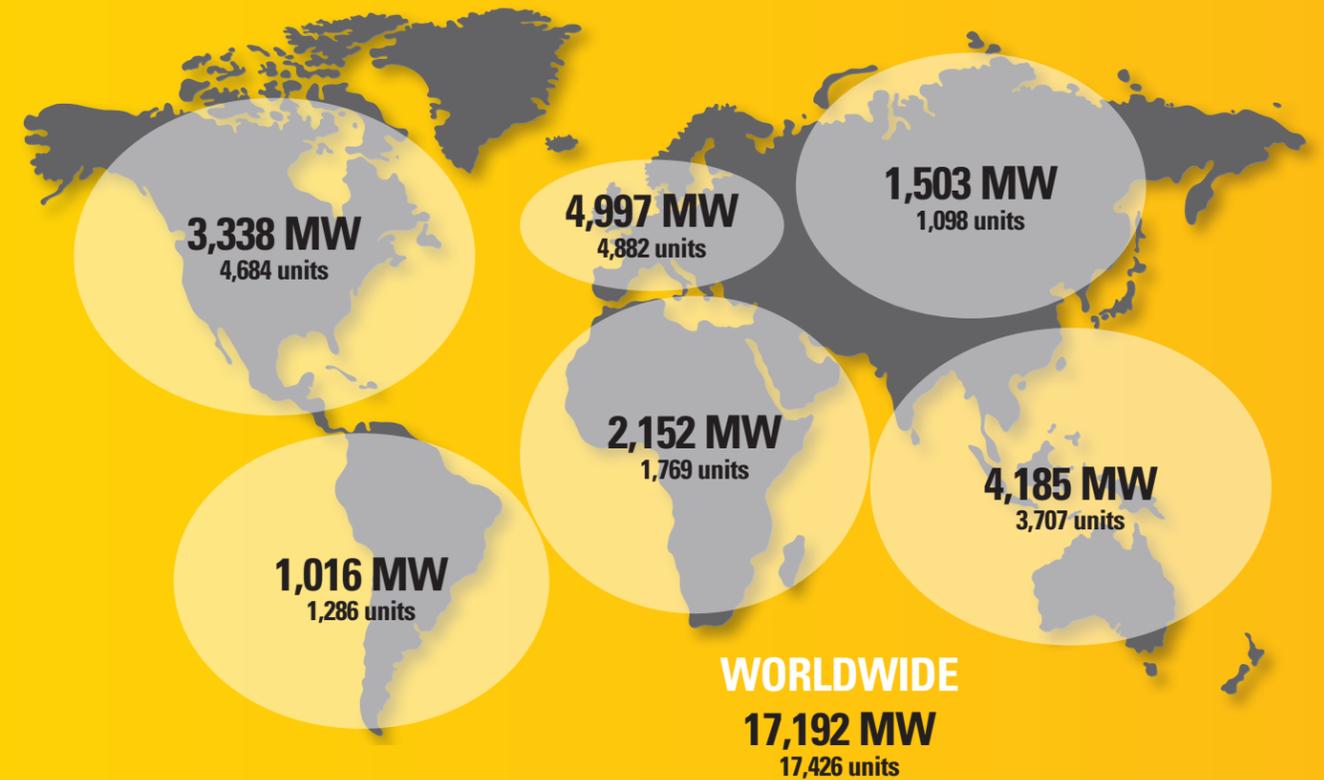
Containers and Enclosures

For both natural gas and low energy fuel applications, we've crafted containerized power plants that include complete generator sets, paralleling controls, cooling system, oil system and ventilation for various ambient environments. Custom containers are offered for arctic grade -40°C (-40°F) and high ambient project locations up to 50°C (122°F).

POWER RANGES



INSTALLATIONS (1995 – 2014)



INDUSTRY APPLICATIONS



COMMERCIAL AND INDUSTRIAL FACILITIES

Reduced operating costs with CHP

Refineries, resorts, high-rises, shopping malls, hospitals, universities, data centers and even district heating plants are minimizing operating costs with a Cat CHP system. We've engineered our systems to produce energy, use waste heat to warm a building and run on accessible, pipeline natural gas.

GREENHOUSES

High-efficiency power with CHP

Our CHP systems not only meet greenhouse energy demands, they also warm greenhouses with waste heat from the engine and produce an organic fertilizer by recycling carbon dioxide from the engine exhaust.

CHP systems can also create a revenue stream for a facility when the electricity produced exceeds its demand.

Many countries are incentivizing high-efficiency electric power generation via production credits.

UTILITIES

Meeting base or peak loads with natural gas

Our gas generator sets are engineered to continuously serve base electrical loads in the absence of a reliable centralized power plant, or where the economics and availability of natural gas fuel are key drivers.

They're also used to economically address peak utility demands, occurring daily or seasonally.

AGRICULTURE AND FOOD PROCESSING

Sustainable power using biogas

Our gas generator sets are specifically designed to operate on biogas, a byproduct of many agricultural, food processing and industrial processes, which reduces total operating costs. And we've engineered them to adjust to the variations in methane content.

Cat switchgear and master controls parallel the generator set to the local electrical grid to export renewable power at a premium to the local electric utility. Otherwise, power can be distributed and used locally. For more remote installations, the power produced can be consumed by the facilities on site.

ANCILLARY SERVICES

Providing reliable grid stability

Single or multi-engine power plants utilizing our reciprocating engine gas generator sets can be strategically located to feed into distribution systems. Our scalable and modular designs allow for efficient future power plant expansions. Advantages of reciprocating engines include fast and multiple daily starts, fast ramping (up and down), limited efficiency de-ratings and rapid responses to grid movement, make the technology a perfect solution for grid stability.

Generating capacity provides for typical ancillary services such as regulation, spinning and non-spinning reserves.



LANDFILLS

Renewable power with landfill gas

Landfill gas, composed mostly of methane and carbon dioxide, is produced naturally from the decomposition of organic waste. Driven by carbon reduction goals, modern sanitary landfills capture this gas for use as a renewable fuel in our specially configured power systems. These systems are delivering reliable and environmentally sound electricity to the local community.

WASTEWATER TREATMENT PLANTS

Power production with sewage gas

Many wastewater facilities use waste methane gas, comprised of methane and carbon dioxide generated by wastewater digesters, as a fuel source.

Cat gas generator sets use the fuel to provide the treatment plant with electricity and heat to serve its thermal loads and accelerate wastewater treatment processes.

COAL MINES

Mining with natural and coal mine methane (CMM) gas

Cat natural gas power plants can reliably support the operations associated with mining minerals such as copper, iron ore, gold and silver in the absence of a reliable centralized electric utility. Our mining power systems are designed to handle transient load cycles.

For coal mining operations, we've developed generator sets to run specifically on CMM gas, a byproduct of coal formations in subterranean coal seams.

PLANNED AND UNPLANNED OUTAGES

Maintaining power with standby generator sets

Our power generation units supply backup power to facilities or sites during an electric utility power outage. We offer several rating options to meet power needs during typical power outages. Meeting standby power needs with natural gas is an increasingly popular choice based on low exhaust emissions and reduced fuel maintenance.

ADDITIONAL APPLICATIONS

Improving sustainability with specialty fuels

Global population growth is increasing the demand for new sources of electric power generation. At the same time, an increasing focus on efficiency and reduced waste is encouraging the use of alternative gaseous fuels.

Today, we're collaborating with dealers and customers around the world to develop generator sets that can operate on specialty fuels such as syngas, coke oven gas, blast furnace gas and high energy gas, despite a large variation in the composition and contaminants.



For more about the markets we operate in, visit www.catgaspower.com

ONGOING SUPPORT



Coverage

From a 12-month basic warranty and scheduled oil sampling to a 12-year Customer Support Agreement (CSA), your local Cat dealer can help you select from a range of maintenance and repair options. For generator sets and switchgear, Cat Insurance offers various Extended Service Coverage (ESC) plans to protect against parts and labor costs associated with unplanned repairs after the standard warranty period. In addition, 1- to 5-year Overhaul Protection Coverage (OPC) is offered on both parts and service associated with an engine overhaul.

Finance

Cat Financial is a full service finance company offering both loans and leases at competitive interest rates and flexible terms on equipment and projects powered by Cat engines. Construction and term project financing is available for up to 80 percent of the total project cost, including engineering, equipment, permitting and soft costs.

Cat Rental Power

Sometimes temporary electric power solutions are required to meet power demands during major construction projects, utility power shortages, or expansions of commercial or industrial operations. Cat Rental Power offers containerized, mobile generator sets that can operate on natural gas fuel, individually or paralleled together, on a monthly or annual contract basis.

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For more information, please visit www.catgaspower.com