



BRIDGING THE POWER GAP

A Global Leader in
Rapid-Response Mobile Rental Power

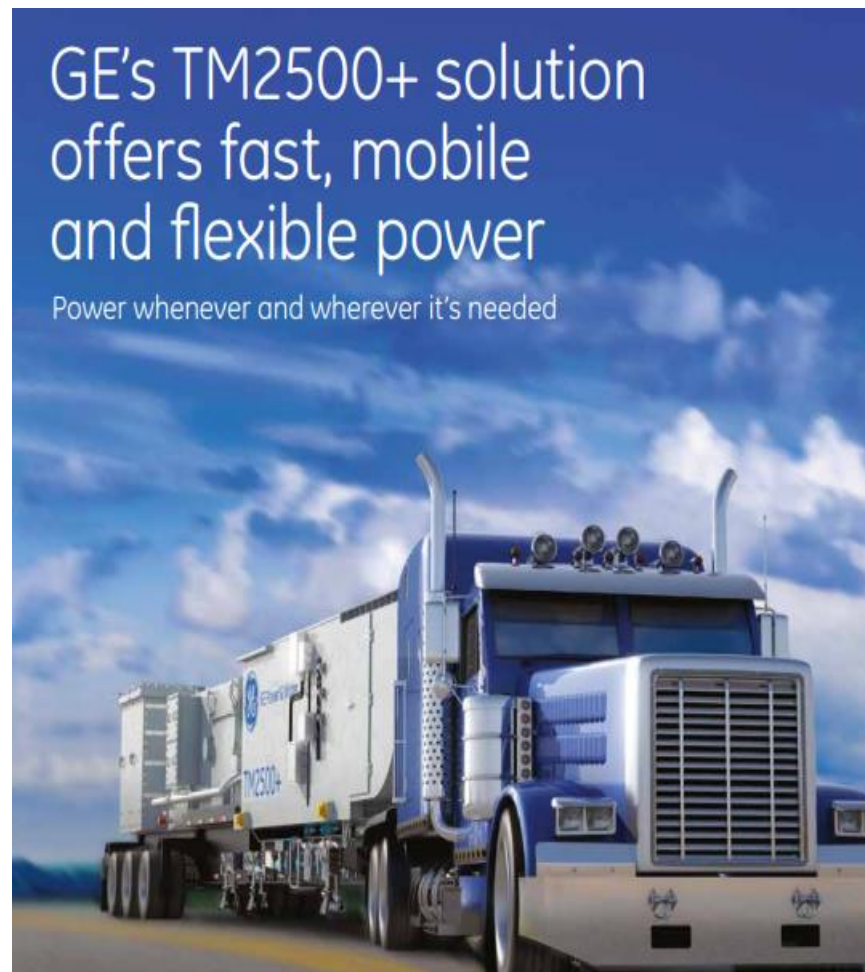
Company Presentation



About CTG



- ❑ **CTG Power Solutions LLC (CTG)** is a private and wholly owned subsidiary of **CTG Power Systems International** operating as a rapid response energy management services company focused on the deployment of short- and long-term fast-track gas turbine mobile rental power solutions anywhere in the world.
- ❑ We are a company that prides itself on a proven 30-year record of achievement providing engineering, construction, project management, logistics, startup, commissioning, plant operations and maintenance anywhere temporary power is needed.
- ❑ CTG provides clients more than 100 years of combined finance, operational, technical acumen and project management team experience in the power generation sector.
- ❑ At the forefront of our core business mission is adding value to our customers' bottom line.



Meeting Global Demand

CTG specializes in customizing its mobile power rental solutions for a wide variety of emergency, utility backup, grid stabilization, renewable, industrial and commercial applications.

Our various power solutions are designed to be competitive, scalable and tailored to meet energy production deficiencies of any customer worldwide.

CTG offers rapid response turnkey rental options and competitive pricing utilizing GE's 35MW Aeroderivative TM2500+ 50/60Hz. Dual Fuel Mobile Gas Turbine Package.

Whether you require immediate or more lasting power, our flexible solutions deliver dependable and efficient electrical power when, and where you need it, for as long as you need it.



Loading TM2500+ for Air Transport

Mobile Turbines – Backbone of CTG’s Rental Fleet

GE Power 



GE’s Power Plant on Wheels

- Quick to Dispatch:** delivered in **weeks**—up to **six times faster** than other technologies.
- Easy to Assemble:** can be installed in as little as **two weeks**.
- Black Start Capability:** acts as an **emergency generator** during a power outage.
- 10 Fast Start:** full power in **ten minutes** or less.

GE Power 

DID YOU KNOW? The TM2500 has **dual-fuel capability** and can operate on a wide variety of fuel types

LIQUID FUELS:

- Ethanol
- Biodiesel
- Diesel

GASEOUS FUELS:

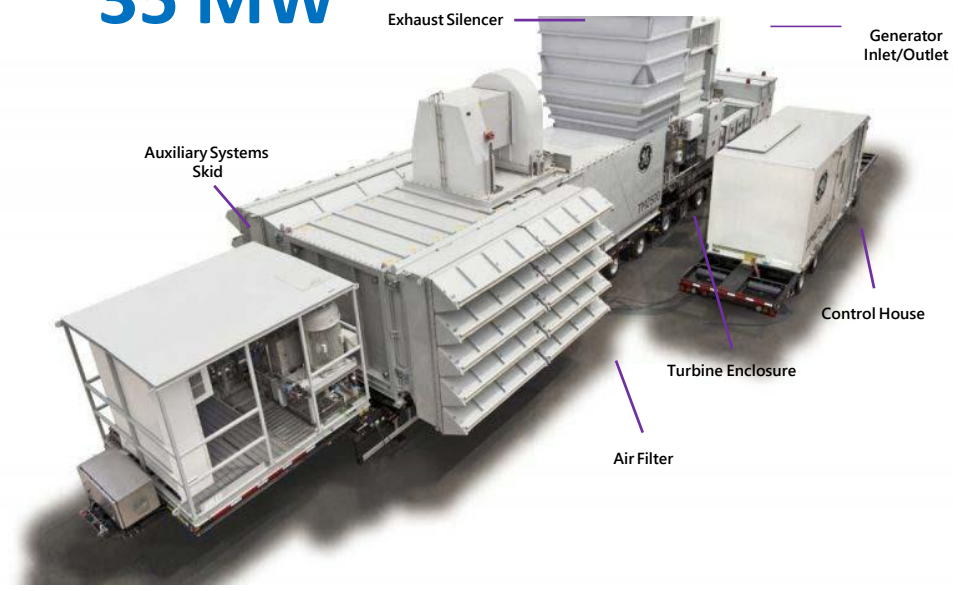
- Natural Gas
- Propane
- LNG
- Landfill/Biogas
- Coal Bed Methane



FUEL FLEXIBILITY

GE TM2500+ Mobile Gas Turbine Package

35 MW



[Click Here For TM2500+ Video Presentation](#)

The TM2500+ is a proven power solution for providing a baseload bridge to permanent power installations or for generating backup power in the wake of natural disasters, plant shutdowns, grid instability or isolated locations. Get the power you need—fast—with GE’s TM2500 mobile aeroderivative gas turbine generator set. CTG’s mobile solutions—including trailer-mounted gas turbine generator set and containerized balance of plant—can put power on the grid within 30 days of contract execution.



Simple Cycle Mode / Technical Data*	Comparative Data Operating on Natural Gas			
	TM2500+ Gen 8 Mobile Unit 60HZ.		TM2500+ Gen 8 Mobile Unit 50HZ.	
	None	Yes	None	Yes
Water injection (NOx= 25 ppmvd@15% O2)				
Net Output (MW)	33.387	35.020	30.860	30.860
Heat rate (Btu/kWh)	8,859	9,301	9,312	9,783
Heat rate (kJ/kWh)	9,347	9,813	9,825	10,322
Efficiency (% , LHV)	38.52	36.69	36.64	34.88
Pressure ratio	22.9	24.3	22.1	22.3
Power turbine speed (RPM)	3,600	3,600	3,000	3,000
Exhaust flow (lb/sec)	200.9	209	200.4	204.3
Exhaust flow (kg/sec)	91.1	94.8	90.9	92.7
Exhaust temp (F)	997.4	950.0	1,002.1	940.4
Exhaust temp (C)	536.3	510.0	539.0	504.7
Plant Turndown - Minimum load (%)		36.0%		35.0%
Ramp Rate (MW/minute)		30		30
Startup Time (RR Hot, minutes)		30		30

Assumptions:

* ISO Conditions

* 60 Hz based on a Brush air-cooled generator w/brushless excitation @ 0.90 PF, 59°F cooling air, 13.8 kV (50 Hz @ 11.5 kV), Ambient air: 59°F, 60% RH, Sea level

Simple Cycle Mode / Technical Data*	Comparative Data Operating on Diesel No. 2			
	TM2500+ Gen 8 Mobile Unit 60HZ.		TM2500+ Gen 8 Mobile Unit 50HZ.	
	None	Yes	None	Yes
Water injection (NOx= 25 ppmvd@15% O2)				
Net Output (MW)	33.387	35.020	30.860	30.860
Heat rate (Btu/kWh)	8,859	9,301	9,312	9,783
Heat rate (kJ/kWh)	9,347	9,813	9,825	10,322
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Providing Customers With Scale, Purpose and Versatility

Mobile Turbines Serve Versatile Uses

Emergency Response

Natural disaster aid – rapid become essential response times and deployment capability

Bridging Power

Supporting construction of a permanent power plant and infrastructure development

Peaking Power

Extra capacity during peak demand times to satisfy shortfalls and avoid blackouts

Long-Term Stable Power

Solving grid instability and providing standalone power for remote locations

Renewables Support

Enabling microgrids and filling gaps created by intermittent renewable energy sources like solar, wind & hydro

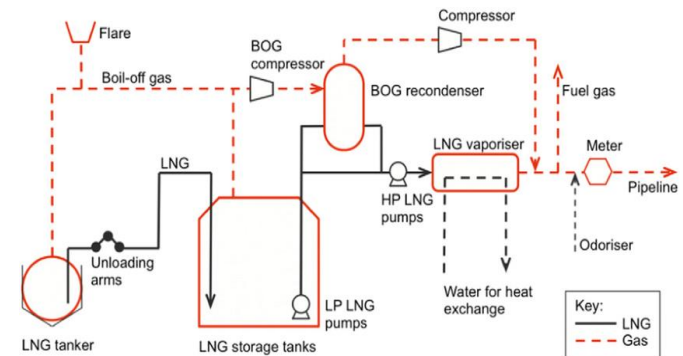
Mobile Turbines Are Easily Scalable

CTG's Mobile Units are Scalable to 300MW+



Fuel to Power - Using Liquefied Natural Gas (LNG)

- Global energy demand is increasing. At the same time, CO₂ emissions must be reduced. The first step is towards a less carbon-concentrated future is using natural gas. Many power plants have no access to natural gas. With CTG's LNG solutions not only can we provide for fuel in remote locations or as an alternative to diesel and heavy fuel oil, we can also provide for the safe storage and on-site regasification of natural gas (LNG) where it is needed.



- Clean-burning natural gas is a critical element transitioning to a carbon-neutral future, as it requires cost-effective operation and improved use of existing gas infrastructure. The LNG proposition is a cost-effective way to transition to lower carbon power production. And, when renewables are being integrated into a grid, the flexibility of LNG can improve demand fluctuations.
- Our fuel-to-power solutions are based on flexible dual fuel or gas fired engines using highly efficient gas turbines to deliver any quantity of MW capacity. CTG will work with you on specific aspects of an LNG-to-power project by bringing the full turnkey solution. From consultation on LNG logistics through to supply contracts, unloading, storage concepts, regasification and conversion to power, we've got you covered.

Anchoring for Renewable System Efficiency

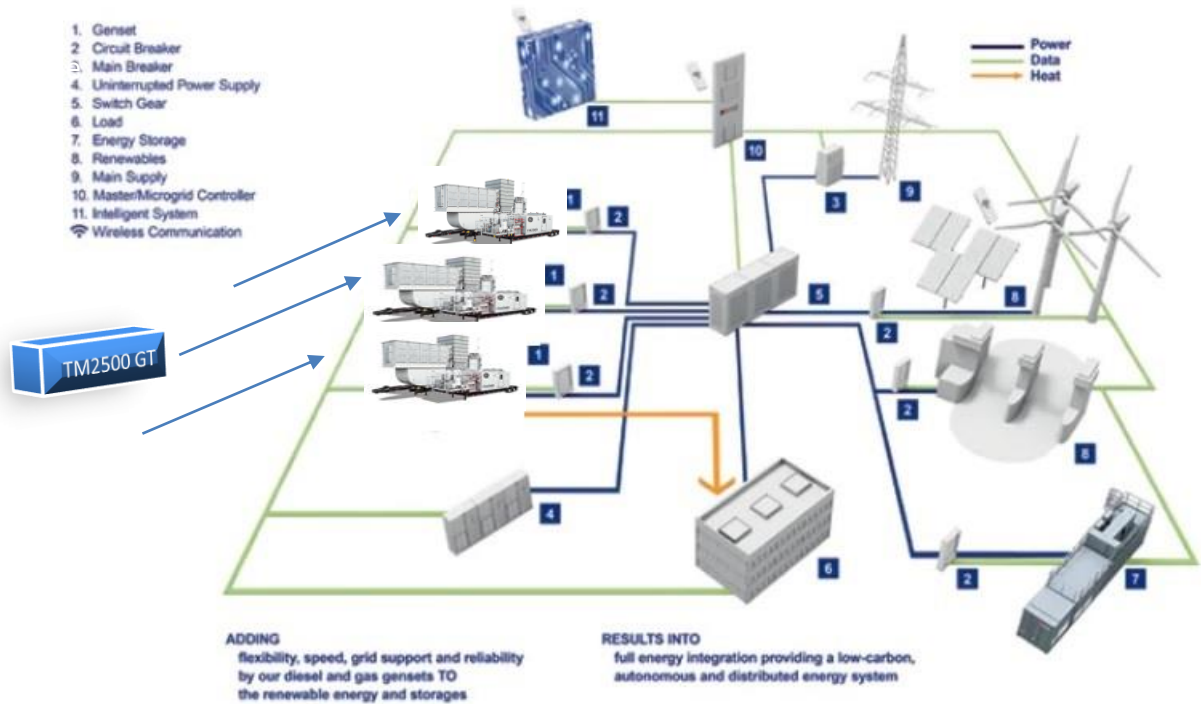
The rise of solar, battery and wind power has led to an accompanying decrease in reliability and security of supply on the grid, the need for a dispatchable quick ramp up solution is clear.

Wind and solar are typically non-dispatchable and their nameplate capacity does not always align with the grid's required power demand.

Also known as grid firming, capacity firming is a vital characteristic for any integrated microgrid power generation system. Converging market and societal forces make this the age of gas turbine microgrids

With the growth in renewables and the expected retirement of large baseload coal-fired power stations an opportunity is created to utilize the GE's TM2500+ Mobile Gas-fired technology to provide flexible, capacity firming solutions.

Integrated Microgrid



"The TM2500+ gas turbine can serve as the anchor of many microgrids. If the plant has the ability to island, which essentially makes it a microgrid, the gas turbine is a critical part. It is key to load control, frequency control and voltage control. It is the heart behind the microgrid." ¹

Source: 1. Daniel Fingleton, program manager for strategic growth and special projects at Solar Turbines.

Seamless Turnkey EPC and O&M Services

Expert Engineering



CTG Engineering provides feasibility design, civil, structural, mechanical and electrical engineering services for all mobile power generation projects.

Operations & Maintenance



CTG provides customized O&M lifecycle services that meet the immediate and long-term operational and capacity needs of your facility.

Construction



Working with our project and world-class partner installation teams, customers are assured of field services, safety and quality management.

Project Management



CTG's project management expertise rises to the occasion on every job site assuming an integral leadership role exceeding client satisfaction.

Balance of Plant (BOP)



CTG delivers a full menu of seamless turnkey solutions including specifications for total project procurement of all BOP.

Long Term Service Agreements



CTG provides customers comprehensive long-term service solutions enabling our operators to optimize plant operations and minimize maintenance costs.

OUR TEAM

OUR STRENGTH IS IN OUR VALUES AND OUR PEOPLE



A GREAT TEAM

Our workplace is global with our company composed of a multinational team of industry-leading engineers, technicians and professionals, who not only have the right skills, but the right attitude.

PROVIDING MORE THEN A SOLUTION

Our goal is to provide intrinsic value, going well beyond the boundaries of just the project to include personal dedication and problem solving empowering our team to deliver a positive client experience.

WE PURSUE EXCELLENCE

The relentless pursuit of invention and superior service is the philosophy that drives CTG's corporate culture. A commitment to excellence places the needs of our clients at the core of our business decisions.

ITS ALL ABOUT TEAMWORK

Working collaboratively, our client relationships are built on transparency, trust and integrity allowing us to deliver on our promises on time and on budget, regardless of the scale or complexity of the project.



.....and working together for the common good of improving the lives of people worldwide by providing reliable access to efficient, cost-effective energy.



We Thank Our Previous Customers & Partners
For Their Trust & Confidence In Us



THE CHUGOKU ELECTRIC POWER CO., INC.



CTG combines real world experience with seamless project execution and client satisfaction. It's all about trust, commitment and partnership. A better way to do business.



For Short- or Long-Term Mobile Rental Power Generation, Let CTG Exceed Your Expectations

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Mobile Rental Power
is the Smarter Solution