GE VERNOVA

GE VERNOVA'S TM2500 DLE SOLUTION

FOR FAST, MOBILE, AND FLEXIBLE POWER

The ultimate solution to the fast power challenges of the 21st century

Currently, more than 1.3 billion people globally lack access to electricity. GE Vernova, whose technologies already help deliver a quarter of the world's electricity, is working to bridge the gap through a portfolio of distributed power solutions. These technologies enable industrial businesses, developing communities, and governments to meet their energy needs by positioning power at or near the point of use. The TM2500* DLE fast power solution from GE Vernova's Gas Power business enables governments, utilities, and businesses around the world to fulfill their emergency generation requirements within days. Thanks to their modular concept, fast installation features, and quick production schedules, these units typically can be ready to enter into commercial operation less than three months after your order is placed.

>34 MW
POWER POTENTIAL ON WHEELS

>39% EFFICIENCY
LOWER GAS FUEL USE EQUATING TO LOWER CO_2 OUTPUT

140+ MILLION HOURS
ACCUMULATED HOURS OF SUCCESSFUL HERITAGE OPERATION

<3 MONTHS
FROM NOTICE TO PROCEED TO UNIT COMMISSIONING

<30 DAYS
PARK TRAILER TO COMMISSIONING

5 MINUTE START*
CAPABLE FROM COLD START TO FULL POWER

*On natural gas

The TM2500 DLE fast power solution harnesses the highly successful LM2500* aeroderivative gas turbine with more than 2,600 units deployed worldwide and more than 140 million hours of operation.

Features

Quick lead times

On-demand power plants delivered in weeks, not months

Fuel flexibility

Can operate on gas and/or distillate liquid fuel

Lower emissions

50% lower emissions than diesel generators when operating on gas

Proven technology

More than 2,600 LM2500 aero gas turbines deployed with over 140 million operational hours of experience

Enhanced design

Two-trailer footprint for high power density

Scalable, reliable power

Able to add 34+ MW blocks of power as demand increases

Distributed power

Localized power supply, eliminating the need for additional transmission and generation infrastructure

Project experience

30 years of experience in providing fast and emergency power

Quick install

Two trailer design that allows for quick install

Benefits

Dry low emissions (DLE)

This waterless solution provides fuel efficiency and lower NOx. No water infrastructure required.

Speed

The development of a new power plant could entail months of construction and commissioning. We can shorten that time from months to days under most conditions. Once on the ground, these mobile units can generate power in less than 3 weeks.

Reliability and availability

Due to its aviation legacy GE Vernova's TM2500 DLE fast power solution represents some of the most reliable distributed power units available. The LM2500 gas turbines have a very high reliability (>99.9%) and availability (>99.8%) for uninterrupted power availability.

Dual fuel capability

TM2500 DLE solutions are capable of running on both natural gas and/or distillate or liquid fuel at an output of 34+ MW with no water injection for NOx abatement.

Mobility

Mounted on a mobile, two-trailer assembly, TM2500 DLE generator sets can be transported via land, sea, and air to some of the most remote places in the world. Their mobile nature means that they can be swiftly deployed to other sites within days when they are no longer required at the original site.

Flexibility

The TM2500 DLE solution is extremely flexible with a 5-minute start cycle to full power on natural gas.

Scalability

The technology is also scalable, allowing you to purchase the number of units needed with the option of adding more power quickly as demand increases.

The TM2500 DLE solution can be deployed more than 3 to 4 times faster than other technologies

You may immediately generate incremental electricity revenue.

The TM2500 DLE solution can be in commercial operation approximately 90 days after an order is placed, but these times may vary based on project location, site readiness, permitting process, and other variables.

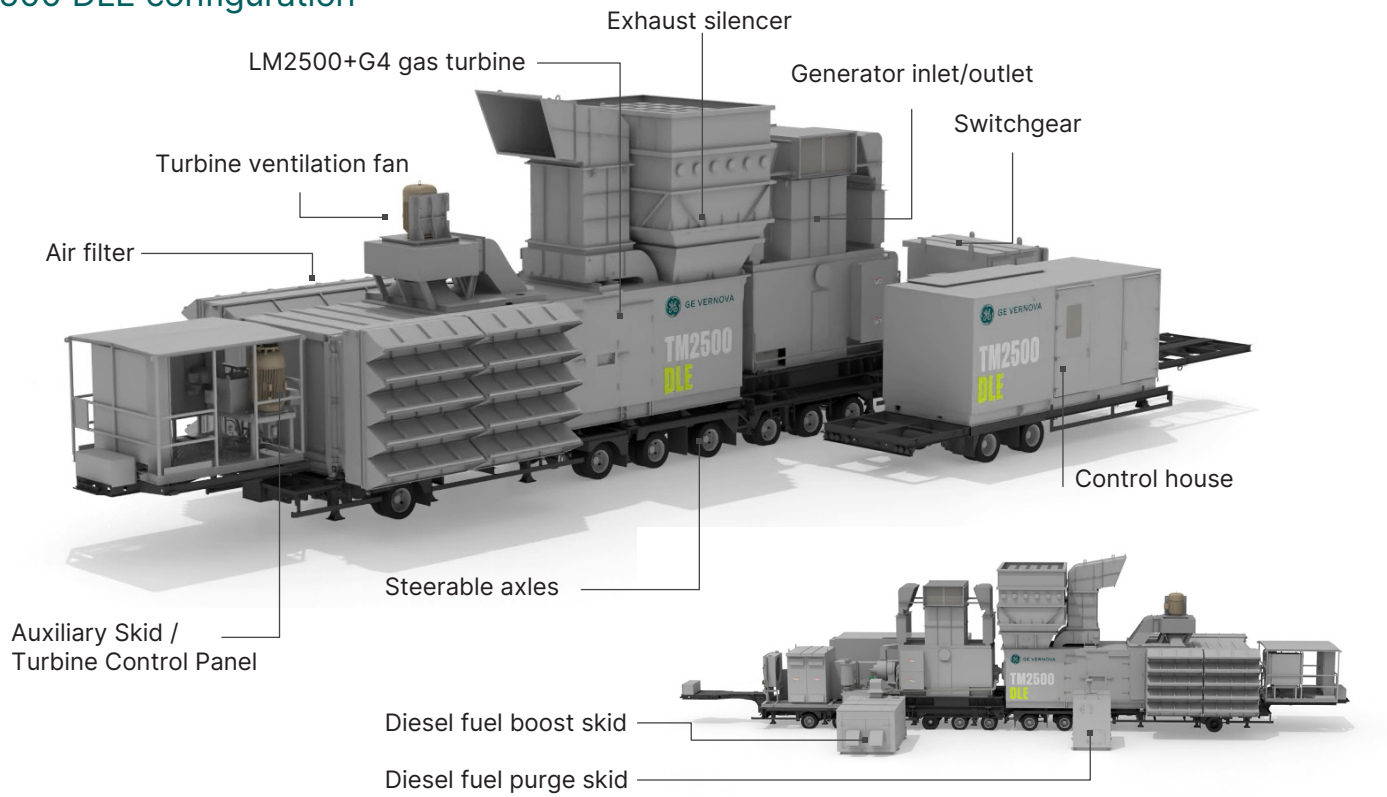
Multiple applications in a wide range of industries

The TM2500 DLE solution can solve a number of industry challenges. These include, but are not limited to, difficult access to the electric grid, an unstable grid, emergencies and natural disasters, rapid demand growth such as large construction projects, as well as escalating electricity prices and seasonal shortages.

The Challenge	Description	Potential Industries	TM2500 DLE as a solution
Limited or no access to the electric grid	Cases with challenging access to the electric grid include: • Lack of robust transmission and distribution network • Lack of access to demin water • Delayed grid access • Remote, islanded, and mobile operations	Mining General industry Power generation	**Speed, mobility, and reliability** Can deliver power where and when it is needed and bring power online within 5 minutes to stabilize the grid
Rapid energy demand growth	High and rapid demand for electricity in cases with restricted power availability such as new, large off-grid construction projects	Government Utilities General industry	**Speed, reliability** Can fulfill power demand in the face of growing needs in a fast and reliable way
Lengthy buildout of electricity generation infrastructure	Construction lead times on new generation facilities as well as unanticipated delays—meaning pressing electricity needs are not met	Government Utilities General industry	**Speed, reliability** Can bridge power until new facilities are completed and go online
Escalating electricity prices	Escalating electricity rates during seasonal or peak periods requiring technologies that enable peak shaving	Government Utilities General industry	**Fuel flexibility** Can be used as a peak shaving application to help transition off the grid during seasonal or peak periods
Natural disaster and emergencies	Cases of emergency where power generation sources are impacted and direly needed	Government Utilities	**Speed, mobility** Can provide emergency mobile power, quickly and reliably
Flare gas	Natural gas flared in oil fields leading to billions of dollars wasted and millions of tons of greenhouse gas emissions	Industrial Sector	**Fuel flexibility, mobility** Can help monetize gas flaring for power generation and help reduce diesel consumption

Performance you can count on for mobile power

TM2500 DLE configuration



Model	Frequency (Hz)	SC Net Output (MW)	SC Net Heat Rate (Btu/kWh, LHV)	SC Net Heat Rate (kJ/kWh, LHV)	SC Net Efficiency (%, LHV)	Ramp Rate (MW/minute)	Start time (cold start)	Reliability	Availability
TM2500 DLE	50	34.2	8,707	9,186	39%	20	5 mins	99.9%	99.8%
TM2500 DLE	60	34.3	8,584	9,057	39.6%	20	5 mins		

NOTE: Net Plant ratings are based on ISO conditions, natural gas, inlet and exhaust losses included and balance of plant equipment excluded. Actual performance will vary with project specific conditions, fuel and ambient conditions. 2PNRH = Two pressure, non-reheat.

ASSUMPTIONS: Expected inlet/exhaust losses, ISO conditions, air-cooled generator, with brushless excitation @ 0.90 PF (60 Hz @13.8 kV, 50 Hz @ 11.5 kV); gas fuel, 100% CH_4 @ 80F; water injection to 25 ppm NO_X @ 15% O_2.

The TM2500 DLE total solution and services support

A TM2500 DLE fast power solution project may include:

- Installation
- Commissioning
- Project management
- Consumable parts kit (filters/lubricants for operational needs)

In addition, GE Vernova offers many services to support the ongoing operation and performance of the units including, but not limited to, the following:

- On-call technical advisory services
- Maintenance planning and training
- On-site hot section, combustor, and other modular exchanges
- Depot Repair Services for scheduled overhauls and unscheduled repairs
- Performance testing

CASE STUDY

GE Vernova rolls out the next-generation TM2500 DLE

The latest innovation in TM2500 aeroderivative gas turbine technology, the Dry Low Emissions (DLE) combustion system delivers cleaner, faster, and more efficient power.

Overview: GE Vernova achieved full build, connection, alignment, and first fire readiness in less than three weeks.

The Challenge
To address the growing need for fast, reliable, cleaner power, GE Vernova set out to develop a next-generation mobile gas turbine that maintains the flexibility and rapid deployment of the previous TM2500 model while integrating a DLE combustion system to significantly reduce environmental impact.

The Solution
In late 2023, the TM2500 DLE was built at GE Vernova's manufacturing plant in Veresegyház, Hungary, incorporating all the functionality of its predecessor while adding advanced emissions control. After a comprehensive validation test—including mechanical, electrical, acoustic, emissions, and water ingress testing—the unit successfully demonstrated its 5-minute start capability on natural gas.

Once testing was completed, the GE Vernova team fully disassembled the unit and initiated Instrumentation and Control simulation testing. The team successfully completed build, connection, and alignment, achieving readiness for first fire in under three weeks.

“The TM2500 DLE is a game-changer. The ability to integrate advanced emissions control while maintaining rapid deployment and performance is exactly what our customers need for reliable and sustainable power generation.”

Midhat Mirabi
Managing Director, Aero new units, GE Vernova

OUTCOMES

- **100+ hours** of validation testing
- **Thousands** of engineering and manufacturing **hours invested**
- Achieved full assembly, alignment, and testing in **under three weeks**

The TM2500 DLE is now set to bring fast, efficient, and lower-emission power to the world—faster than ever before.

GAS POWER

GE Vernova's Gas Power business is a global industry leader in the efficient, reliable, and cost-effective conversion of a broad range of gas and liquid fuels to power. It serves diverse applications, from small, mobile, and flexible power to highly efficient, utility-scale power plants. With a rich heritage of innovation and technology leadership—and the world's largest delivered fleet of gas and steam turbines serving the power needs of more than 130 countries—our specialized plant solutions provide the increased performance, fuel efficiency, lower emissions, and operational flexibility that our customers depend on for their success.

gevernova.com/gas-power

GEA31885B (03/2025)

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