



PTE Turbofan Power Systems

20 MW of aviation-grade, containerized power — deployed in 24 hours, at full output in under 10 minutes

EXECUTIVE SUMMARY

Power, not land or capital, has become the binding constraint on growth. Data centers, industrial sites, ports and remote operations are waiting years for utility interconnects while demand accelerates. **PTE Power (Portable Turbines Energy)** solves this with a patented, aero-derivative turbofan generator that packages a full 20 MW power plant into two standard 20-foot ISO containers. Built on Rolls-Royce turbine components and protected by U.S. Patent 9,920,648 B2, the system ships anywhere, installs in under a day and delivers grid-grade electricity in minutes. Green Technology Global delivers PTE as a turnkey offering alongside its data center, water and energy platforms.

20 MW Output per system	<10 min Cold start to full load	<24 hrs Mobilization & install	99.8% System availability	-40° / +60°C Operating range
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THE TECHNOLOGY

PTE adapts proven aircraft propulsion to stationary power. Unlike a turbojet, a **turbofan-derived** engine adds a large intake fan that bypasses air around the core, which raises thermal efficiency, lowers specific fuel consumption and reduces noise. That makes it well-suited to variable loads such as microgrids and hybrid systems. Module 01 houses the turbine core; Module 02 houses the generator, power conditioning and protection. The system runs grid-connected, as a microgrid, or fully standalone, with integrated voltage and frequency regulation.

COMPETITIVE ADVANTAGES

- **Speed to power.** Mobilized and commissioned in under 24 hours, reaching full output in under 10 minutes. Projects start generating revenue instead of waiting in an interconnection queue.
- **Power density.** 20 MW from two containers. The equivalent diesel fleet needs many units, a large pad and extensive fuel storage.
- **Lower cost per kWh.** Aviation-grade thermodynamics consume up to 20% less fuel than traditional generators, cutting operating cost over the life of the asset.
- **Fuel flexibility.** Runs on natural gas, diesel, propane, ethanol, flare gas and green hydrogen, so buyers can hedge fuel price risk and follow a decarbonization path without replacing equipment.
- **Proven reliability.** Rolls-Royce components, heavy-duty high-temperature alloys, multi-layer air filtration and 99.8% system availability, tested from -40°C to +60°C.
- **Predictive operations.** 24/7 IoT monitoring with AI algorithms that flag failures before they happen, reducing unplanned downtime.
- **Portable asset value.** Containerized units can be redeployed as needs change, preserving capital value that fixed plants lose.
- **Community-ready.** Meets federal, state and local sound limits applicable to conventional generators.
- **Defensible IP.** Patented system design (U.S. Patent 9,920,648 B2) creates a barrier to direct imitation.

HOW PTE COMPARES

	PTE Turbofan System	Diesel Generator Fleet	Grid / Utility Interconnect
Time to power	Hours (<24 hr install)	Weeks (multi-unit install)	Often years for new large loads
Footprint for 20 MW	Two 20-ft ISO containers	Many units, large pad & fuel storage	Substation & line build-out
Fuel options	Natural gas, diesel, propane, ethanol, flare gas, hydrogen	Diesel only	N/A — tied to grid mix & pricing
Fuel economy	Up to 20% less fuel vs. conventional generators	Baseline	N/A
Relocatable	Yes — truck, rail, or ship	Partially	No
Monitoring	24/7 IoT + AI failure prediction	Varies; often manual	Utility-controlled

WHY NOW

- **Grid congestion:** large new loads such as AI data centers face multi-year waits for utility capacity; on-site generation is becoming a requirement, not a backup.
- **Resilience mandates:** extreme weather and aging infrastructure are pushing operators, municipalities and governments to secure independent power.
- **Energy transition:** a hydrogen-capable platform lets buyers deploy today on natural gas and move to lower-carbon fuels over time.

TARGET MARKETS

- **Data centers & digital hubs:** bridge or prime power while grid capacity is built; integrates with UPS and microgrids.
- **Industrial, oil & gas:** monetize stranded or flare gas while powering operations off-grid.
- **Ports & logistics:** scalable, continuous power for high-demand maritime infrastructure.
- **Military & government:** secure, transportable power for remote and temporary bases.
- **Disaster response:** immediate power for hospitals, emergency services and communications.
- **Emerging grids:** rapid, scalable electrical infrastructure where grid access is limited or absent.

THE GTG ADVANTAGE

Green Technology Global pairs PTE power with its data center design-build, atmospheric water generation and FLUX distributed power platforms. Customers get one partner for power, water and infrastructure — scoped, delivered and supported as a turnkey solution.

DEPLOYMENT MODEL

Every engagement follows a clear path: **(1) Energy audit** of load profile, site and fuel supply; **(2) System design** sized in 20 MW blocks for bridge, prime or standby duty; **(3) Mobilization** by truck, rail or ship with commissioning in under 24 hours; **(4) Operations** backed by 24/7 remote monitoring and predictive maintenance.

NEXT STEPS

Request a no-cost energy audit to size a PTE deployment for your site, load profile and fuel availability. [greentechnologyglobal.com](https://www.greentechnologyglobal.com)