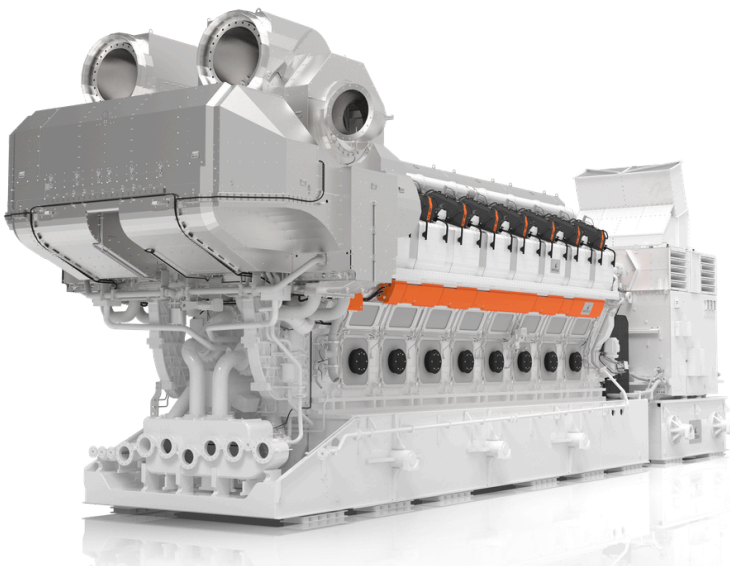




Powering Africa with Wärtsilä's Flexible Engine Technology

Engine power plants give you the flexibility to respond to any demand, the reliability to keep your whole system running, and the cost efficiency to deliver affordable electricity.



Affordable electricity starts with renewables. But when renewable sources go quiet, engine power plants provide instant backup power keeping the grid stable and electricity affordable, every single day.

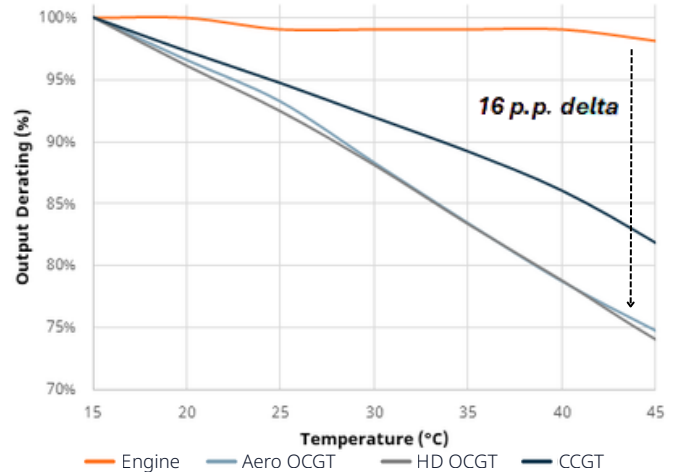
Engine power plants outperform gas turbines on flexibility, high-ambient output, and water consumption, making them the smarter choice for modern, renewable-integrated grids.

3 Key Advantages of Engines vs Turbines

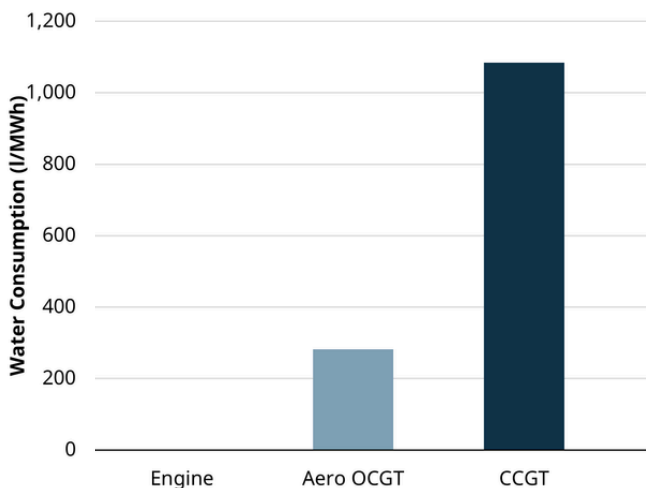
Temperature resilience: Engines hold output, gas turbines don't

In high ambient temperatures engine output stays unaffected. CCGT output drops by up to 16.6 p.p. at 45°C. No derating eliminates the need to overbuild to meet the demand.

As output is maintained costs are controlled and easily predictable.



Conditions: 60% relative humidity



Conditions: 30°C, 80% relative humidity
Note: CCGT with Dry-Low NOx and air-cooling.

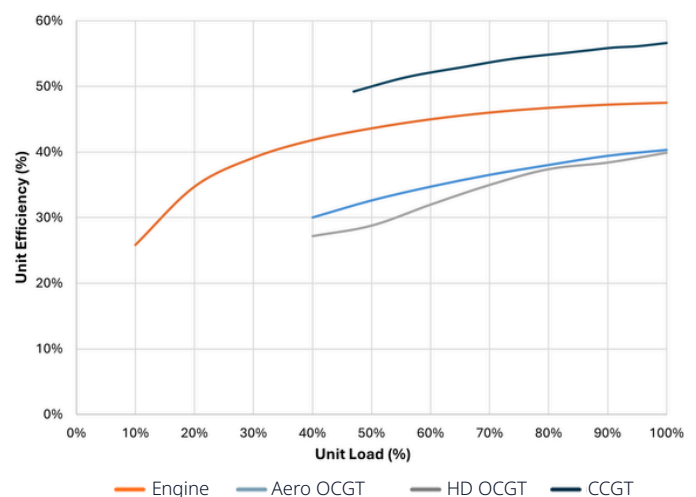
Engines consume next to zero process water. Gas turbines can demand over 1,000 l/MWh

Engines use closed-loop, air-cooled radiators eliminating process water dependency almost entirely. Turbine water demand rises in hot conditions and as plants age. In a water-constrained world, this is a decisive advantage.

Engines save fuel and give operators real-time load control

Wärtsilä engines reach full load in ~2 minutes, keeping pace with sudden demand changes. A modular engine plant runs only the units needed, matching actual demand avoiding overproducing, directly cutting fuel consumption.

Engines maintain high efficiency in a wide range of loads and provide stable power even at 10% of maximum load. Turbines lose efficiency rapidly below full load.



Conditions: 15°C, 60% relative humidity
Note: OCGT (open-cycle gas turbine), CCGT (combined-cycle gas turbine)

Wärtsilä Energy in brief

Wärtsilä Energy is at the forefront of the transition towards a 100% renewable energy future. We help our customers and the power sector to accelerate their decarbonisation journeys through our market-leading technologies and power system expertise. Our solutions include flexible engine power plants, energy storage and optimisation technology, and services for the whole lifecycle of our installations. Our engines are future-proof and can run on sustainable fuels. Our track record comprises 81 GW of power plant capacity and over 130 energy storage installations in 180 countries around the world. About 35% of our operating installed base is under service agreements.

www.wartsila.com/energy

