

MAKE MORE PROFIT WITH TWICE THE EFFICIENCY

At sites with high temperature or low temperature, a lot of energy is wasted on heat recovery. HYUNDAI's Combined Heat & Power(CHP) Modules help the heat recovery and increase the efficiency up to twice as much.

CHP & Hybrid



Why CHP

The economics of engines in on-site power generation applications often depend on effective use of the thermal energy contained in the exhaust gas and cooling systems, which generally represents 60 to 70 percent of the inlet fuel energy.

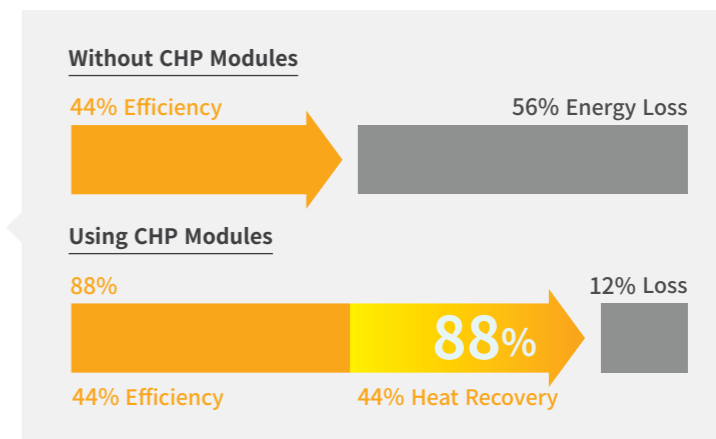
Most of the waste heat is available in the engine exhaust and jacket coolant, while smaller amounts can be recovered from the lube oil cooler and the turbocharger's intercooler and after cooler(if so equipped).

Why Are They Good?

1. MORE PROFIT WITH BETTER EFFICIENCY

The fuel efficiency can grow about twice as much when using CHP modules.

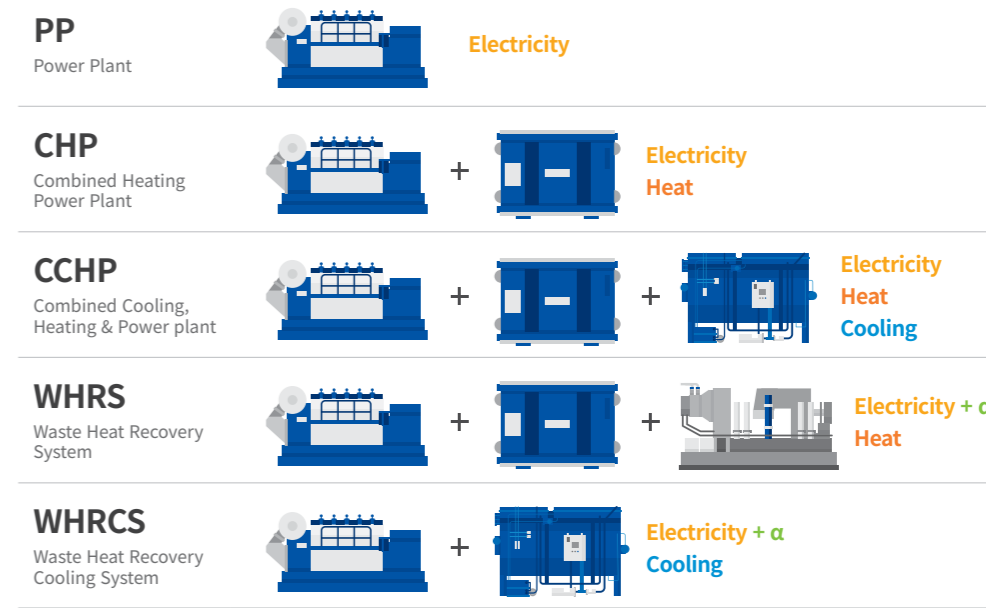
Efficiency can be more than **88%**



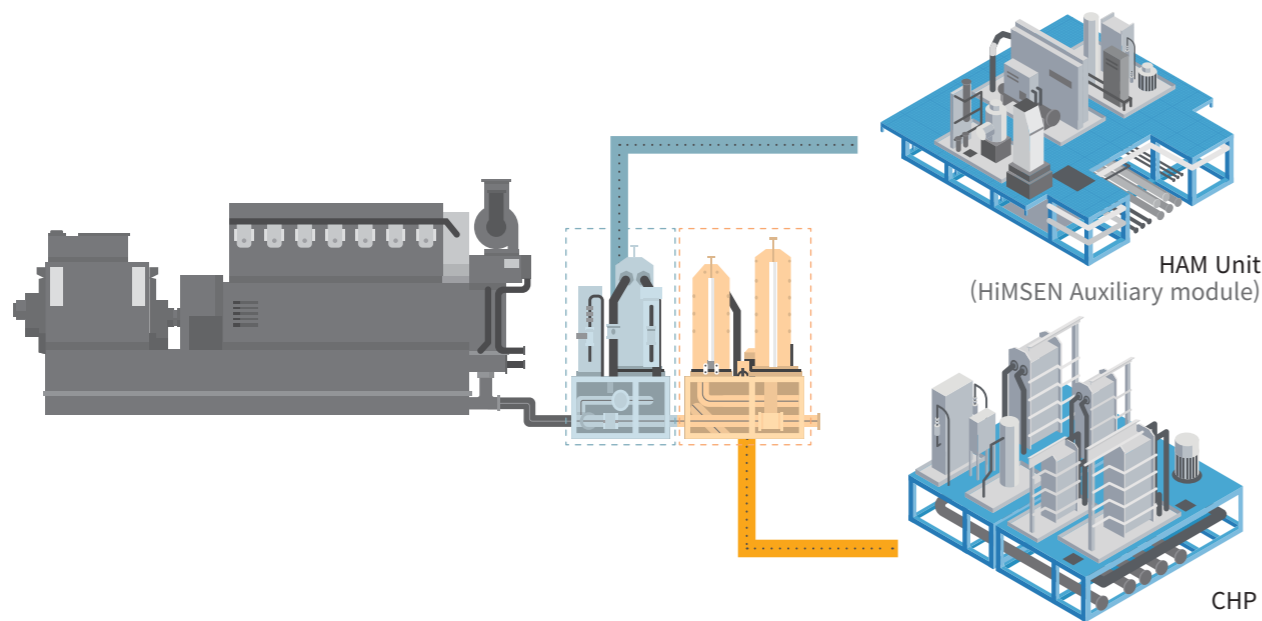
2. EASY AND FAST INSTALLATION

The units are carefully modularized so that transportation and installation can be easier and provided faster. Also, the CHPs are pre-designed, so that they can be instantly provided upon request.

3. EASY CUSTOMIZATION

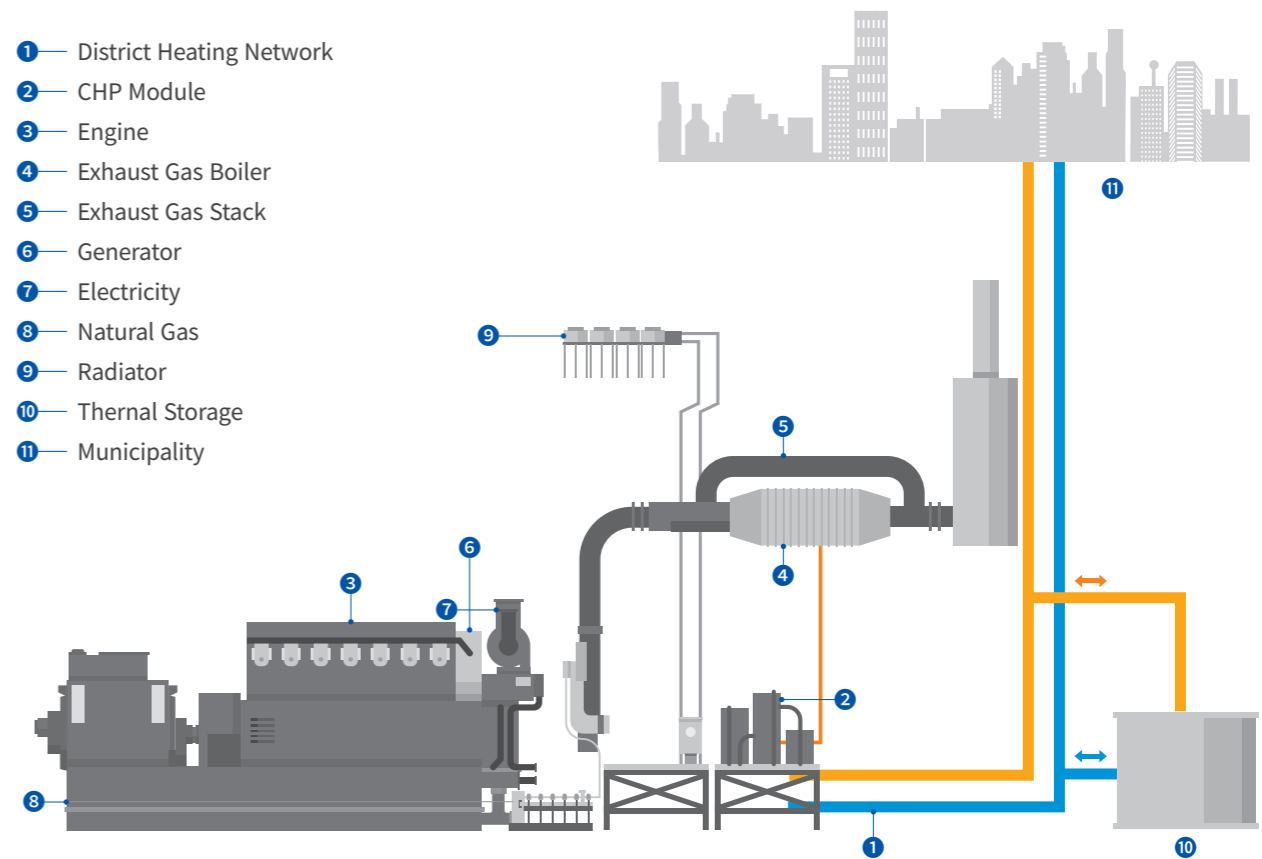


Combined Heat & Power Modules



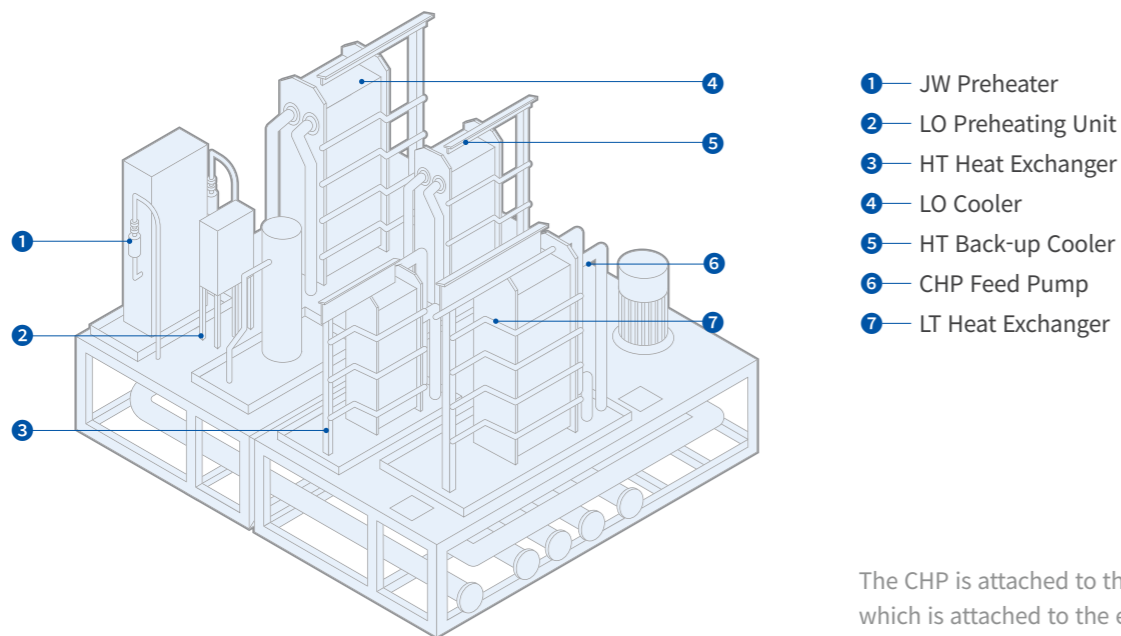
Operation Flow of CHP

- 1 — District Heating Network
- 2 — CHP Module
- 3 — Engine
- 4 — Exhaust Gas Boiler
- 5 — Exhaust Gas Stack
- 6 — Generator
- 7 — Electricity
- 8 — Natural Gas
- 9 — Radiator
- 10 — Thermal Storage
- 11 — Municipality



CHP takes the exhaust gas through the WHRB(Waste Heat Recovery Boiler) which has the Cooling Water compartment and Heat exchanger

The Components of CHP Modules



- 1 — JW Preheater
- 2 — LO Preheating Unit
- 3 — HT Heat Exchanger
- 4 — LO Cooler
- 5 — HT Back-up Cooler
- 6 — CHP Feed Pump
- 7 — LT Heat Exchanger

The CHP is attached to the HAM module which is attached to the engine.

The Return Temperature Depending On The Supply Temperature

- 82% - 84%
- 84% - 86%
- 86% - 88%
- 88% - 90%
- 90% - 92%

