LNG FLOATING POWER PLANT
A floating power plant equipped with world leading high performance Gas Turbine / Gas Engine. Reliable power supply with faster delivery to diverse locations.

Advantages

1. World leading level **electrical efficiency** and flexible operation (quick start-up, high partial load efficiency, wide operating range)
2. **Faster construction to complete** in Kawasaki’s own shipyard
3. **Lower environmental impact** by LNG fuel firing

Applications

- Distributed power source with stability and high efficiency
- Peak power source capable of quick start-up and responding to steep load fluctuation (Gas Engine type)
- Grid stabilization for various kind of renewable energy
- Towable, suitable for periodic and seasonal operation
- Heat and electrical power generation (CCPP type)

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>CCPP 80</th>
<th>Gas Engine 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine Type</td>
<td>Combined Cycle Power Plant</td>
<td>Gas Engine</td>
</tr>
<tr>
<td>Configuration</td>
<td>2GTs × 2HRSGs × 1ST GT Model : L30A</td>
<td>4GEs GE Model : KG-18-V</td>
</tr>
<tr>
<td>Power Output</td>
<td>80 MW</td>
<td>30 MW</td>
</tr>
<tr>
<td>Heat Rate (kJ/kWh)</td>
<td>6.622</td>
<td>7.273</td>
</tr>
<tr>
<td>Electrical Efficiency</td>
<td>54.4%</td>
<td>49.5%</td>
</tr>
<tr>
<td>Barge Size (m) L × M</td>
<td>110 × 48</td>
<td>120 × 36</td>
</tr>
<tr>
<td>Tank Capacity (m³)</td>
<td>11,000 (2 weeks)</td>
<td>7,000 (4 weeks)</td>
</tr>
<tr>
<td>Substation</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note

- Inlet Air Temp : 15 °C
- Atmospheric Pressure : 101.3 kPa
- Natural Gas (100% CH₄) LHV : 35.9 MJ/Nm³
- LNG FLOATING POWER PLANT
Kawasaki L30A Gas Turbine

World leading level of gross electrical generation efficiency and emission performance in the 30 MW class

- **World highest level of efficiency in the 30 MW class**  
  Electrical efficiency (Gas turbine simple cycle): 40.3%  
  Combined cycle for highly efficient power generation  
  Electrical efficiency: 54.4%

- **Low environmental impact**  
  World lowest level of NOx emission, 15 ppm or less (@ 15% O₂)

Kawasaki Green Gas Engine KG-18-V

World leading level of gross electrical generation efficiency in its class, quick start-up and wide operation range

- **World highest level efficiency**  
  Electrical efficiency: 49.5%  
  Flexible operation  
  High partial load efficiency and wide (30% to 100%) operation range

- **Low NOx emission**  
  57 ppm or less (@ 15% O₂)  
  Quick start-up  
  10 minutes from start-up to rated load

Kawasaki Technology

- Kawasaki has been a leading shipbuilder since its establishment in 1878 and Kawasaki, in 1981, delivered the first LNG carrier ever built in Japan  
- Kawasaki developed gas engines and gas turbines of world’s highest level electrical efficiency

Kawasaki Design

- Optimal design generated by a specialized team comprised of shipbuilding technicians and power generation system engineering expert that address specific client needs  
- Hull design engineered for various weather and marine conditions  
- Energy systems engineered to match continuing client demands

Kawasaki Manufacturing

- Quality management through the manufacturing of gas engines and gas turbines at our own factory  
- An ideal, comprehensive shipbuilding process from hull construction, installation of power plant to final test-run before commissioning as floating power plant, all done at our own shipyard  
- Reliable after-sales service

Kawasaki LNG Floating Power Plant will be built and completed in Sakaide Shipyard located in Kagawa Pref., Japan, cooperating with other Kawasaki’s engineering and manufacturing facilities.
Kawasaki Heavy industries, highly respected as a pioneer of LNG carrier construction and its technology, significantly contributes to safe and economical transportation of clean energy.

LNG Carriers

Kawasaki is making use of its wide array of LNG-related technologies, e.g. large size and small scale coastal LNG carriers, in the development and design of our LNG bunkering vessel to correspond to the increasing demand of LNG powered vessels in the shipping market.

LNG Bunkering Vessels

The world’s first LNG fuel powered pure car and truck carrier (PCTC) with a capacity of 4,000 cars. Environmental friendly PCTC which can satisfy the SOx and CO2 emission regulations established by the International Maritime Organization (IMO).

LNG Powered Vessels

FPSO (Floating Production, Storage & Offloading) Use Marine Boilers

FPSO use Marine Boiler covering high steam condition (more than 60 barg x more than 500 deg C). These boilers have got testimony to our proven track (more than 200 units for Marine Boiler for LNG Carriers and more than 1,200 units for Land use) and high capability, which have realized reliable and robust boilers that could operate under severe off-shore conditions.

FPSO

Our aim is to usher a large quantity of hydrogen into our society in a manner that is safe, stable and affordable to handle. As our technology moves ahead, the makings of a new road, the Hydrogen Road, will be created.