

LNG to power solutions

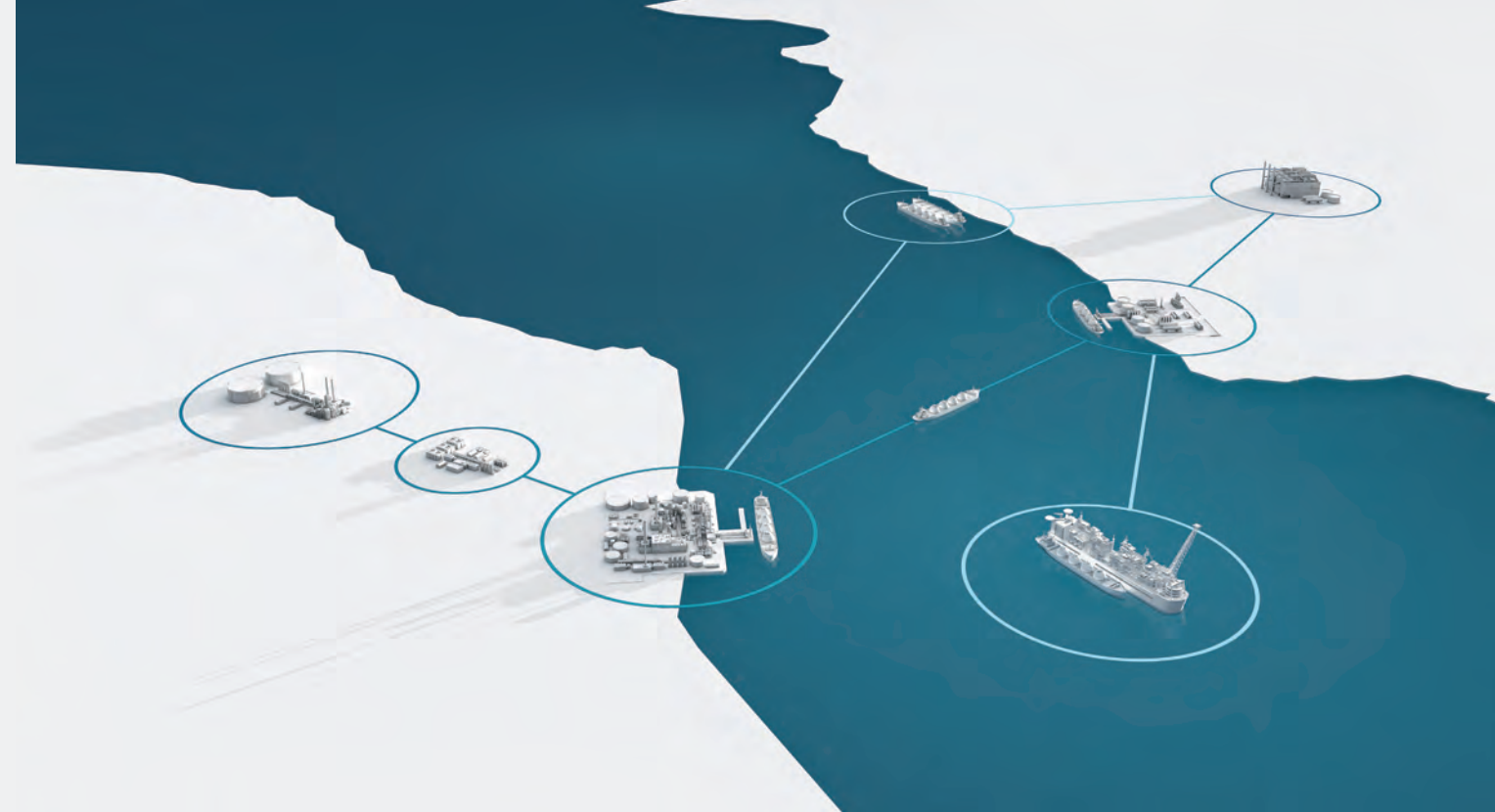
Clean-burning natural gas is a key component in our transition to a carbon-neutral future. MAN covers the whole liquefied natural gas (LNG) value chain, from consultation on LNG logistics through supply contracts, unloading, storage concepts, re-gasification and conversion to power. Our LNG to power solutions are based on flexible dual fuel or gas engines and highly efficient gas turbines and deliver an output of 10 – 300 MW.

Benefits at a glance

- Reduced emissions compared to heavy fuel oil
- Independence from gas suppliers
- Highly efficient and reliable power
- Low-cost energy production
- Flexible and decentral
- Lower maintenance costs compared to heavy fuel oil
- Modular and easy to expand
- Safe operation



The rapidly expanding demand for LNG



Searching for new energy sources

The power generation industry is facing great challenges in the form of constant cost increases, pressure on earnings and stronger competition from new providers. At the same time, environmental and efficiency-related regulations make it necessary to constantly innovate. Achieving cost-effective energy generation means choosing the right solutions, technologies and business models.

Embracing innovative technologies and combining various energy sources can help lower expenditure on the Opex side by ensuring the most intelligent energy mix. Gas to power has become a global trend, with gas-fired power generation expected to grow by more than 26 % by 2030. Independence from existing gas infrastructure or pipeline gas supply and cost-effective operation are the keys to future viability.

Ensuring your grid stability

LNG is available for power generation almost everywhere with access to the sea or a receiving LNG terminal system. Compared to liquid fuel, LNG to power solutions provide 20 % lower CO₂ emissions, 90 % lower NO_x emissions, 97 % lower particle emissions and a 100 % reduction in SO_x emissions.

Even if your grid has a high percentage of fluctuating renewable capacities and needs additional stability, MAN can easily integrate an LNG to power solution. Our scalable and modular LNG terminals are based on clearly defined modules. We assist our customers from the initial concept all the way to operational support.

General competence

MAN is a single-source provider of LNG to power solutions. We have the necessary in-house cryogenic knowledge in engineering, production and installation and can optimize the entire LNG infrastructure in line with customer needs.

We can assist customers all around the world, starting with feasibility studies and continuing with life cycle cost analysis or a full engineering, procurement and construction (EPC) turnkey solution for LNG to power. We also provide customized retrofit solutions.

System solutions

MAN offers LNG bunker facilities for all cases – a complete solution from a single source.

Small MAN LNG terminal

The small MAN LNG terminal is built next to the power plant and can be scaled to provide gas for 10 – 100 MW. The LNG is stored in vacuum-insulated bullet tanks. The tanks are refilled from trucks.

Medium MAN LNG terminal

The medium MAN LNG terminal is built next to a harbor and can be scaled to provide gas for 10 – 200 MW. The LNG is stored in vacuum-insulated bullet tanks. The tanks are refilled from small LNG vessels.

Large MAN LNG terminal

The large MAN LNG terminal is built in a harbor and can be scaled to provide gas for 150 – 300 MW. The LNG is stored in flat-bottom tanks, which are refilled from large LNG vessels.

Key components

- **Gas power plants based on dual fuel and gas engines or turbines**
Impressive fuel flexibility, efficiency, power and reliability.
- **Unloading and bunker facilities**
From LNG vessels or LNG trucks.
- **Bullet and flat-bottom tanks**
Pressurized storage tanks reduce storage costs.
- **Centrifugal pumps**
Stationary centrifugal pumps are used to transfer LNG to the vaporizer.
- **Regasification units**
Vaporizers turn liquefied natural gas (LNG) into natural gas.

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