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FLNG

# Floating LNG Solutions


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FSC

# Sustainable Development Philosophy

Continuous investment in Product R&D to match the market needs for clean and efficient energies, enabling a greener future without harming the environment.

## 2016-2022


Fast track & Flexible deployment

LOW EMISSION

## 2024


Targeting 15~20% emission reduction

BEYOND THE HORIZON
NO EMISSION

## 2050


Targeting 80% emission reduction

# FLNG
# Solutions Key Principles

## Standard Solutions

Shorter schedule and lower Capex based on standardized design

## Low Carbon Solutions

Low Emission solutions to meet market needs

## SMART Solutions

Low manning and OPEX optimization

# Standardized FLNG Design

| Standardized Design / train | 0.6 MTPA series | 1.2 MTPA series | 1.5 MTPA series | 1.8 MTPA series |
|---|---|---|---|---|
| Liquefaction technology | CHART IPSMR | CHART IPSMR | CHART IPSMR | CHART IPSMR |
| Cold box | 3 cores | 6 cores | 6 cores | 8 cores |
| By-products | LPG/Heavy hydrocarbon | LPG/HC | LPG/HC | LPG/HC |
| Gas turbine | PGT25+G4 | LM6000PF+ | LM9000 | LM9000+IAC |

Single mixed refrigerant cycle

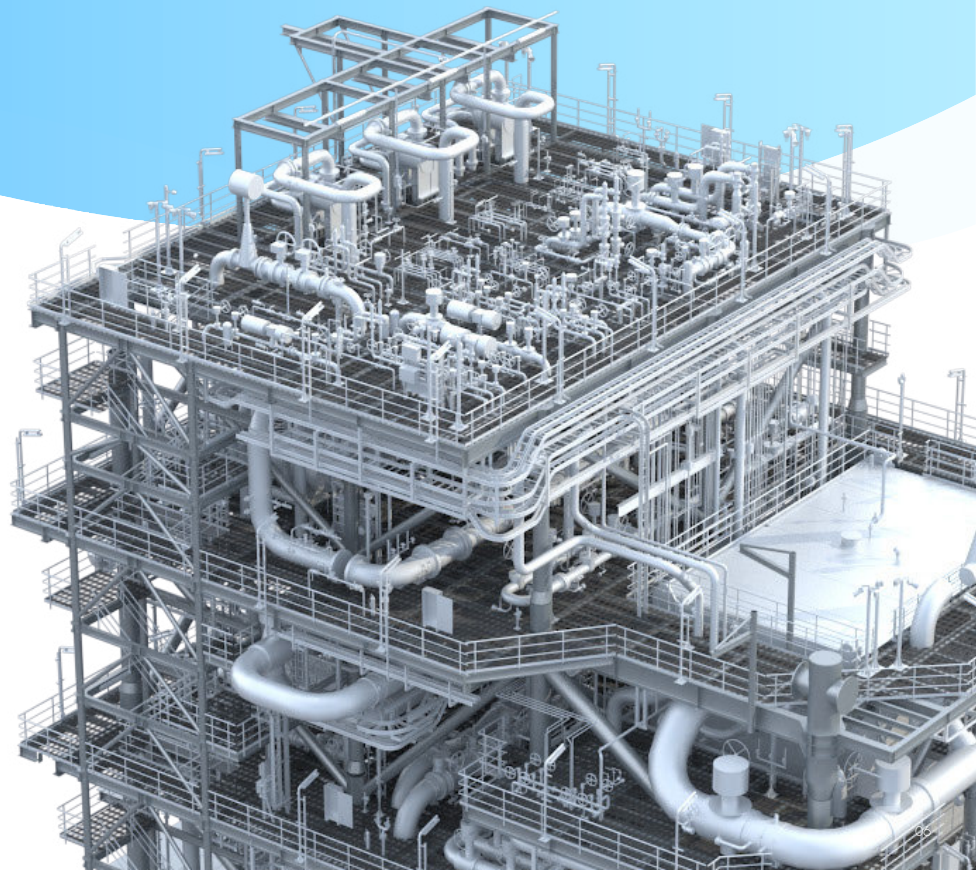
Proprietary brazed aluminum heat exchangers

No refrigerant pumps

Significantly better efficiency

Modularized and scalable approach

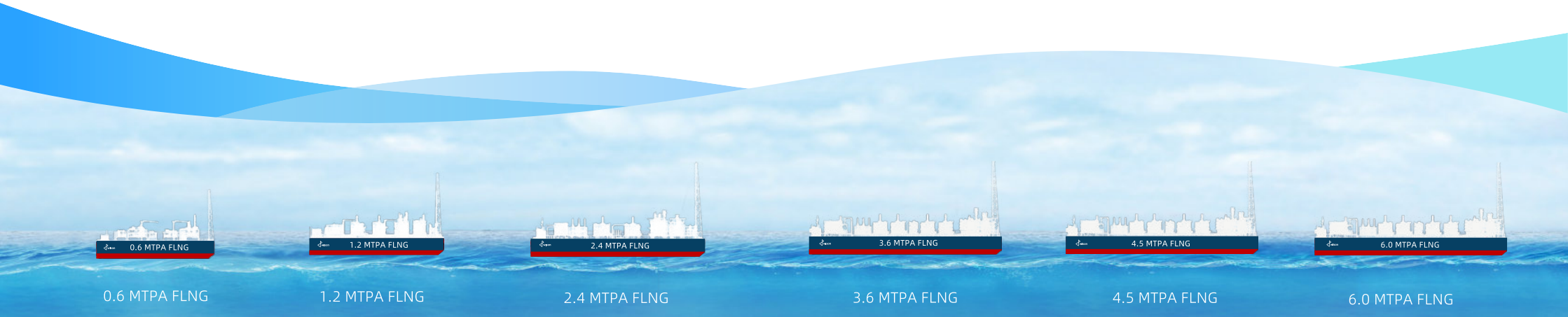
Less equipment and lower cost



# WNE’s FLNG  Portfolio Overview

Based on the standardized FLNG design solutions, WNE offer a range portfolio of FLNG facilities from 0.6 to 6.0 MTPA,provide flexible and customized options to clients to reduce investment costs and improve efficiency.

* WNE FLNG standardized design can also be applied to onshore LNG plant design.




0.6 MTPA FLNG

1.2 MTPA FLNG

2.4 MTPA FLNG

3.6 MTPA FLNG

4.5 MTPA FLNG

6.0 MTPA FLNG

# Standardized SPB Tank into Hull

Built in parallel with hull construction, followed by a much easier and faster installation by 5 to 8 months against membrane

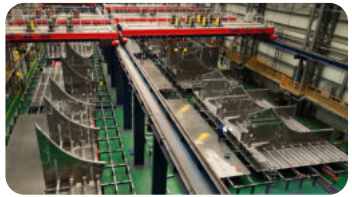
Shorter Lead Time attributed to diversified-local low-carbon supply chains and auto-welding ratio over than 80% in length

Inherently safe, robust, sloshing-free and with low Boil-Off

Delivery competency & commercial viability proven

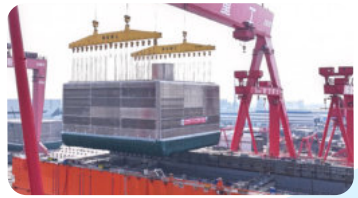

# Highly Automated Production Line

Cutting



Block Assembly

Final Grand Assembly



Installation

# Low Carbon Solutions

### Combine Cycle Power Generation
drop about 10% Carbon release

### Carbon Capture Technology
capture the carbon release and reinject back or deliver to users

### Integrated Full Power Drive FLNG
RAM and power generation efficiency are rising, so it will drop overall 20% FLNG carbon release

### Fugitive Emission Prevention
ensure that all equipment is designed to eliminate or reduce fugitive emissions

### LNG Liquid Expander
generate more power and also will decrease BOG generation

### Deep Sea Water Caisson
increase LNG liquefaction efficiency thus decrease carbon release

# Highly Intelligent FLNG

## Optimize Process Control

The ability to incorporate dynamic process modelling to provide tighter quality control, which in turn enables real-time, adaptive control to manage changing process conditions online.

## Intelligent Robot Inspection

Intelligent robot inspection can significantly reduce the number of operators on board, with the potential to achieve unmanned operation.

## Intelligent Predictive Equipment Management

Automatically adjust controls to correct disturbances caused by changing weather, process, or utility conditions (including unloading operations).

## FLNG Onshore Remote-control Solution

All equipment and operations are conducted on land, avoiding the safety risks associated with offshore or remote area environments, and making it easy for personnel to perform daily maintenance.

# WNE Integrated EPCIC Solution
# One Contractor, Providing Turnkey Services

With abundant project experience and global resources, WNE provides integrated EPCIC solutions to our clients with full-cycle project customization services and midstream joint venture solutions, ensuring timely and high-quality outcomes.



## Shanghai Head Office
## Engineering, Procurement & Project Management

· Feed and Pre-Feed as per project specification
· Standardized design significantly shortens schedule
· Detailed design up to "Issued for construction"
· LLI and global procurement

## Nantong Yard
## Hull & SPB Tank Fabrication

· Dry dock facilities, 2000T gantry crane
· SPB tank and hull can be fabricated in parallel, reducing the overall project schedule

## Qidong Yard
## Fabrication,Integration & Commissioning

· Large Hull construction
· Topside module fabrication and integration onto hull
· Yard gas trial available to greatly reduce the risk of on-site
· Site commissioning, start-up & handover to Ops

* In addition, WNE has many stable and high-quality collaborative outer resources, that ensuring the successful and high-quality delivery of projects.

# Project Showcases

**Project Name:** Marine XII OFFSHORE FLNG Project

**Client:** Eni

**WNE Scope of Work:** FLNG EPCIC (2.4 MTPA)

Sail away planned in 2025



**Project Name:** PT FLNG Project
**Client:** Genting
**Scope of Work:** EPCIC (1.2MTPA)

First steel has been cut on June 7, 2024

**Project Name:** Tango FLNG Project
**Client:** Exmar
**Scope of Work:** EPC (0.6MTPA)

Successful gas trial in Septermber 2016, delivered in January 2017
It has been deployed in the Republic of Congo by Eni since December 2023

**Project Name:** S188 FSRU
**Client:** Exmar
**Scope of Work:** EPC (Regas rate: 600MMSCFD)

Delivered in December 2017
World's first new-build FSRU barge


# Onshore LNG Plant

Liquefaction capacity: 1.2 – 3.3 MTPA/Train

Standardized onshore LNG modularized plant, minimizing project schedule and cost

# Project Showcase

| | |
|---|---|
| Client: | Confidential |
| Work scope: | Engineering, procurement, fabrication, start-up and performance test |
| Capacity: | 5 trains, each with a capacity of 1.2MTPA |
| Location: | Africa |
| Schedule: | 2022.12 – 2026.04 |

# FLNG Capacity Development Reference Table

| /MMSCFD FEED GAS | / MMNM3D FEED GAS | /TCF① Reservoir | / MTPA LNG Production |
|---|---|---|---|
| 100 | 3 | 0.7 | 0.6 |
| 200 | 5 | 1.5 | 1.2 |
| 400 | 11 | 2.9 | 2.4 |
| 600 | 16 | 4.4 | 3.6 |
| 750 | 20 | 5.5 | 4.5 |
| 800 | 21 | 5.8 | 4.8 |
| 1,000 | 27 | 7.3 | 6.0 |

① based on 20 years operation, 1 TCF is suitable for about 0.9 MTPA LNG production

wison

## Mission

Enabling a greener future

## Vision

The global solution
provider for clean energies