ODEC Liquefaction Technology — Fact Sheet

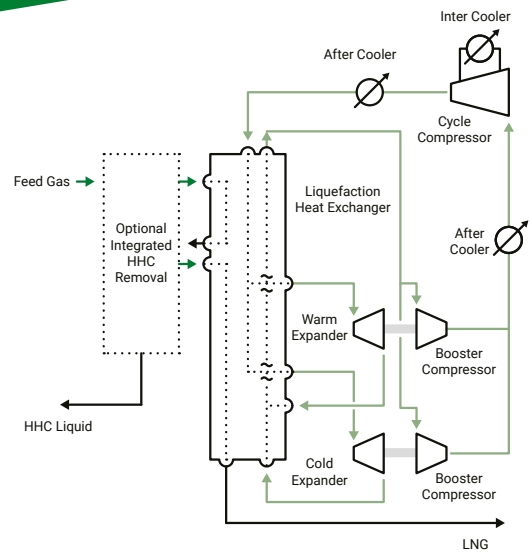
Mid-Scale LNG · Floating LNG

What is ODEC?

ODEC = Optimised Dual Nitrogen Expander Cycle

- Up to **1.5MTPA LNG** production per train*
- Patented integrated heavy hydrocarbon removal system (optional)
- **CONTINUOUS** turndown below 20% capacity per train including energy saving
- **COMPACT, LOW COST** & fully marinised
- Cost effective and **RELIABLE LNG PRODUCTION** offshore, at-shore & onshore
- **STANDARDISED DESIGNS READY**

* Under favourable conditions.



PARALLEL TRAINS	LNG RUNDOWN	TYPICAL FEED GAS RATE	TOTAL TURNDOWN	TYPICAL TRAIN EFFICIENCY
1 train	≤ 1.5 MTPA	Up to 215 MMSCFD	>20%	**93–95%**
2 trains	≤ 3.0 MTPA	Up to 430 MMSCFD	>10%	
3 trains	≤ 4.5 MTPA	Up to 645 MMSCFD	>7%	

Selected for 7 FLNG Developments

World's First Floating Liquefaction Project Contract
Based on ODEC technology in 2008

At-Shore — Nearshore — Offshore

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Low CAPEX, Low OPEX & Better NPV

Optimised Availability

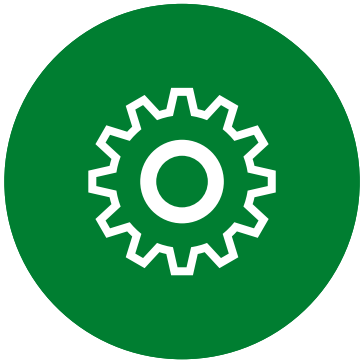
- Higher production up time than Mixed Refrigerant alternatives
  ↑ LNG Produced Per Year = Better Net Present Value*

(* Studies show production availability has a bigger effect on NPV than cycle efficiency)

- Optimised equipment count, equivalent to Single Mixed Refrigerant processes
- Nitrogen results in the best availability for equipment

Best In Class Safety

- Safest and lowest risk technology available
- Non-hazardous single phase gaseous refrigerant
- Minimal hydrocarbon Inventory = lightweight & compact plant design



Operations & Maintenance

- Simple to start up, operate & optimise — easy for operators
- Low operating costs (OPEX)
- Highly flexible and simple to adjust production output
- Robust & self adjusting for large changes in feed gas
- Faster start & re-start than mixed refrigerant processes

Efficiency & Environment

- Optimised efficiency = minimised difference compared to Single Mixed Refrigerant (SMR) processes
- No Loss or flaring of refrigerant during turn-down or shutdown
- Minimised feed gas usage during start up due to excellent turndown and faster start up compared to mixed refrigerant processes

Want to Know More? hello@aragon.no

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