Air Products’ floating LNG plant capabilities:
Adapting world-class technology to offshore locations

Air Products’ MCR® main cryogenic heat exchangers and natural gas liquefaction process have become the standard for baseload LNG. Our liquefaction systems are widely used because of their reliability, high efficiency, and operational flexibility. Now, Air Products has tailored the MCR main cryogenic heat exchanger design and developed natural gas liquefaction processes specifically for the unique offshore environment of the floating LNG (FLNG) plant.

Air Products’ LNG technology:
Comprehensive options, customized and optimized

Air Products offers a comprehensive range of natural gas liquefaction technologies to support customer-specific project requirements. Our offerings include various MR and nitrogen refrigerant process cycles, and we provide performance guarantees on LNG production, specific power and quality. Our proprietary liquefaction equipment is robust, reliable, compact and efficient:

- Coil-wound heat exchanger (CWHE) to liquefy and contain hydrocarbons (both LNG and refrigerants) where high thermal transient process conditions prevail
- Companders – compressor loaded, turbo expansion machinery that is ideally suited for nitrogen refrigeration processes
- Cold boxes with plate fin heat exchangers in economizer service, gas-on-gas heat exchange with low thermal transient process conditions

Our engineers can optimize our proprietary equipment and processes to address the full spectrum of economic factors, feed gas compositions, ambient conditions, LNG product specifications and FLNG vessel design constraints.
Offshore installations:
Built on proven success

Air Products’s FLNG offerings are built on more than 40 years of successful land-based LNG projects. We executed a rigorous, 15-year-long FLNG development and marinization program to ensure that our proprietary equipment and liquefaction processes are suitable for offshore conditions. Our FLNG technology reflects the Air Products culture of safety, reliability and operability from more than 60 years of owning and operating cryogenic industrial gas facilities. Our center of technical excellence, located in Allentown, Pennsylvania, USA, provides a centralized point of service.

Air Products’ experience:
A foundation for trust

Air Products is the premier global LNG technology and equipment supplier, with 85 land-based LNG trains in operation, all of which successfully passed their performance test the first time. Air Products supplies FLNG technology and equipment to the first two baseload FLNG projects, Shell Prelude and Petronas FLNG 1, and has participated in seven FLNG FEEDs since 2010.

Air Products’ unique ability to integrate the liquefaction process design and the critical liquefaction equipment leads to an optimization of performance, costs, operability, and reliability that has become the benchmark of the LNG industry. We work with clients from conceptual development through project execution, commissioning and start-up, and continue through the life of the FLNG facility.