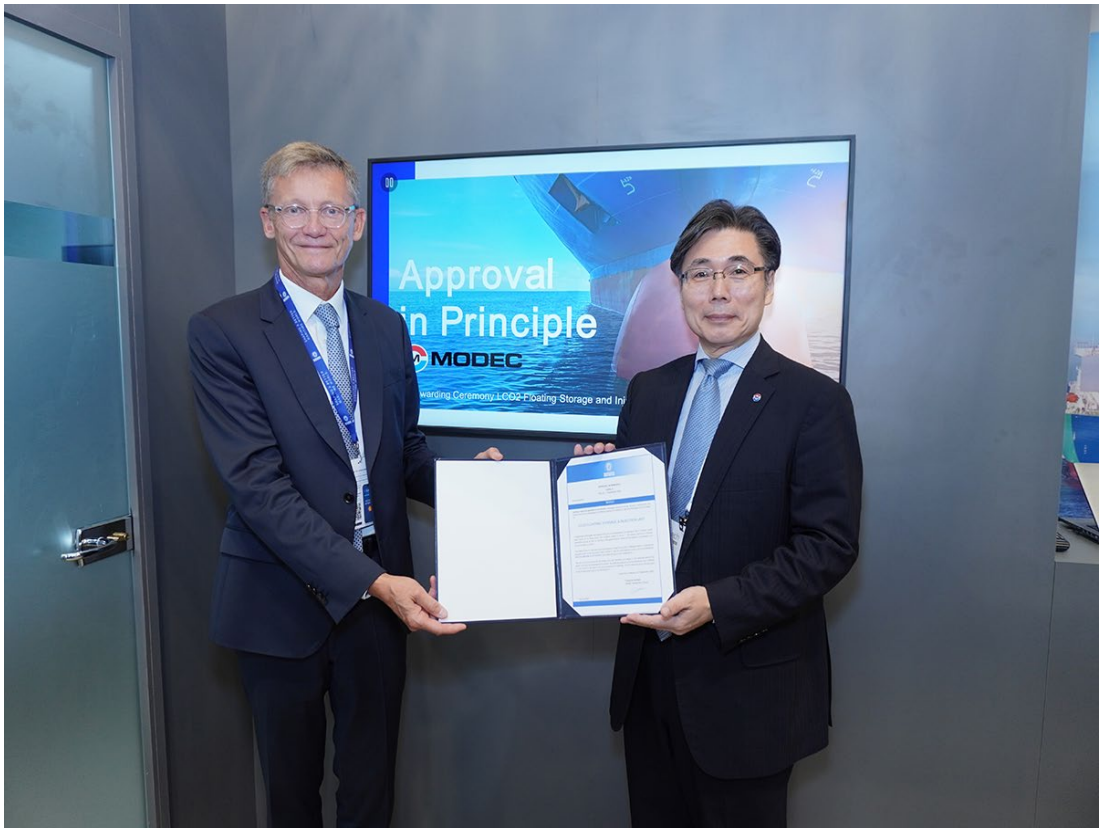
MODEC is awarded Approval-in-Principle from Bureau Veritas for LCO_2 Floating Storage and Injection Unit (FSIU)

Tokyo, September 12, 2025 – MODEC, Inc. ("MODEC") has been awarded an Approval in Principle (AiP) from Bureau Veritas Marine & Offshore (BV) for a Floating Storage and Injection Unit "LCO_2 FSIU" that is capable to receive, temporarily store and ultimately inject carbon dioxide (CO_2).



BV presented AiP to MODEC at Gastech 2025 in Milan, Italy

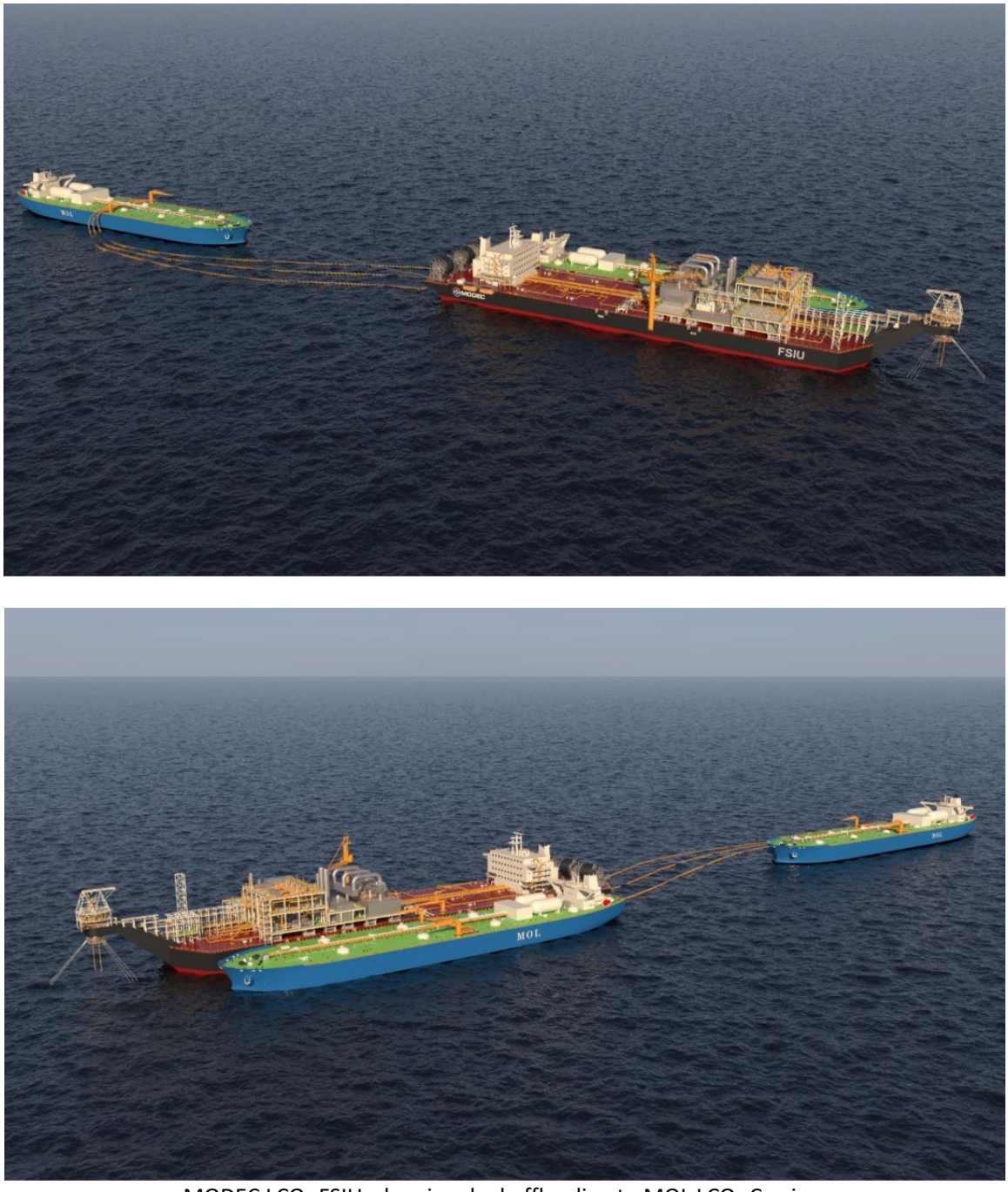
Left : Matthieu de Tugny, Executive Vice President, Industrials and Commodities at Bureau Veritas at Bureau Veritas
Right: Hirohiko Miyata, President & CEO, MODEC Group

The FSIU would be able to receive LCO_2 transported in low pressure condition, store, and inject it into subsea wells at high pressure for permanent sequestration, which eliminates a need for onshore LCO_2 receiving plant and pipeline to injection wells. The unit is engineered for a maximum CO_2 injection capacity of 10 million tonnes per annum (MTPA), with a minimum total tank storage capacity of 100,000 m^3.

To support uninterrupted injection operation, the FSIU will feature both tandem loading at the aft and simultaneous side-by-side loading at the midship port side, enabling flexible and efficient LCO_2 transfer from LCO_2 carriers, up to 90,000 m^3 capacity (tandem) and up to 50,000 m^3 (side-by-side). The FSIU hull was developed in collaboration with Mitsubishi Shipbuilding Co. Ltd. (MSB), while the mooring system incorporates a SOFEC External Turret to allow dual loading operation as well as station keeping in non-directional environment as often found in Southeast Asia. The FSIU will also be equipped with diesel engine generators integrated with a carbon capture system on the topside, minimizing operational CO_2 emissions.

This concept was developed in collaboration with Mitsui OSK Lines Ltd. (“MOL”), to leverage their experience and market position with LCO_2 carriers and its proven methods of safe storage, transport and offloading.

By serving as an offshore storage and injection hub, the FSIU enables the sequestration of CO_2 into qualified reservoirs. By offering large-scale, flexible, and reliable offshore CO_2 storage, this solution supports the global transition to low-carbon energy.



MODEC LCO_2 FSIU, showing dual offloading to MOL LCO_2 Carriers

This collaborative approach is positioned as a further example of a "Concept Design of Floating Alternative Energy Production Facility" as stated in the Mid-term Business Plan 2024-2026 "Explore a Sustainable Future with Innovation". The concept of carbon storage and injection is achieved by leveraging MODEC's expertise in overall layout, hull design and mooring technology, cultivated in Oil & Gas FPSO projects, with MOL's expertise in LCO_2 transport. This FSIU is designed for a wide range of offshore field locations and potential clients.

For the purpose of this AiP, BV's technical experts conducted a comprehensive design review of the LCO_2 FSIU. The review encompassed critical safety aspects associated with the hull structure, mooring system, and LCO_2 storage, handling, and injection systems. By rigorously assessing the design against applicable BV Rules and international regulations, BV's technical experts validated the FSIU's technological and operational feasibility.

MODEC considers this AiP as further demonstration of a floating solution for alternative energy production and will continue to strive to refine and mature this concept to address the key challenges for commercialization identified during this development. We will contribute to the effective reduction of emissions through innovative, technically sound and cost-effective solutions, continuing in striving to achieve the decarbonization of the global energy supply chain through developing new technologies for a sustainable future.

Arata Kamishohara, VP Business and Project Development at MODEC noted:

"While this FSIU is a new concept, each component on the unit is not necessarily new to MODEC. MODEC has experience of CO_2 injection (removed from pre-combustion produced gas) and dual (oil) offloading system. All the utility systems are similar to what we do on FPSOs every day.
We collaborated with MOL, who cover the transportation portion of CCUS value chain, for interfaces between LCO_2 carriers and the FSIU.
With this, we are planning to achieve \$5/tCO_2 or less, which I don't think is a stretch target."

Matthieu de Tugny, Executive Vice President, Industrials and Commodities at Bureau Veritas, said:

"We are delighted to award this Approval in Principle to MODEC for its innovative Floating Storage and Injection Unit concept. This project demonstrates how established offshore expertise can be applied to enable safe, reliable and scalable carbon storage solutions. Bureau Veritas is committed to supporting the development of technologies that accelerate the transition to a low-carbon future, and this AiP reflects our role in helping industry stakeholders bring practical maritime solutions to market with confidence."

Why do we need to take action?

MODEC is committed to both advancing de-carbonization and materializing new business as part of its mid-term business plan guided by our dedication to sustainability and innovation. By aligning with global efforts to combat climate change, MODEC aims to support its clients' decarbonization goals, comply with evolving environmental regulations, and enhance its Environmental, Social, and Governance (ESG) profile. These efforts not only reflect MODEC's responsibility to society and the environment but also position the company as a leader in driving technological innovation and sustainable practices within the energy sector. Through proactive emission reduction initiatives, MODEC is future-proofing its operations, strengthening its market competitiveness, and contributing to a more sustainable energy landscape.

About Bureau Veritas

Bureau Veritas is a world leader in inspection, certification, and laboratory testing services with a powerful purpose: to shape a world of trust by ensuring responsible progress. With a vision to be the preferred partner for customers' excellence and sustainability, the company innovates to help them navigate change. Created in 1828, Bureau Veritas' 84,000 employees deliver services in 140 countries. In the offshore sector, Bureau Veritas collaborates with industry leaders, including MODEC, to help ensure that innovative concepts like the LCO_2 FSIU are developed in line with the highest international standards, addressing challenges in quality, safety, and sustainability.

About MODEC

MODEC is a leading provider of floating production solutions such as Floating Production Storage and Offloading (FPSO) vessels to the offshore oil & gas industry. MODEC performs Engineering, Procurement, Construction and Installation (EPCI) activities for FPSOs, and further by owning and operating its own FPSOs, it provides oil companies around the world with comprehensive and competitive solutions for oil & gas production services.

For further information: https://www.modec.com

Reference

- Business > FPSO > Pursuit of Lifecycle Value > Carbon Capture
- Business > FPSO > Floating Production Systems > FPSO/FSO

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