

### **Development of Offshore CO<sub>2</sub> Injection Platform for Donghae-1 Gas Field CCS Project, and Beyond**

**Sung-Eun Kim / Senior Researcher | Korea Shipbuilding & Offshore Engineering**

Carbon capture and storage (CCS) is a promising technology as near- and mid-term solution for the de-carbonization. This faith on CCS is supported from the successful operation of many other projects globally. However, there are still unknown factors and operational risks, which are originated from property of CO<sub>2</sub> itself.

KSOE and HHI have been developing the model of offshore CO<sub>2</sub> injection platform for CCS demonstration project using the depleted Donghae-1 gas field. In this project, it is important to screen potential operational risk and secure the countermeasures at the design stage. So, the operational risks are identified from the internal experiment and technical survey. One example is dry ice formation and low temperature due to uncontrolled depressurization condition.

Based on the understanding the risk and project specification, the design of the demonstration model is centered on the operation oriented system design, safe disposal from CO<sub>2</sub> relief, utilization of existing facilities and robust energy supply. The design concept and design results will be explained. Also, there will be short introduction for the future development.