

Sustainable Innovation Approaches of an Oil and Gas Contractor Through the Energy Transition

M. Marchionna

Saipem, Technology Innovation and Development, San Donato Mil., Italy

Abstract

Due to the changes in the global scenario on energy sources and increased exploitation costs, the Oil & Gas (O&G) industry needs to focus on innovation in order to cope with near-future challenges. The new Innovation model at Saipem is just the synthesis between the urgency to implement concrete solutions in the short term and the need to develop novel solutions reflecting the evolving macro-scenarios.

With regard to short term innovation Saipem's main targets are:

- (i) Reducing costs and delivery times to market for O&G projects,
- (ii) Advancing further exploitation of Oil/Natural Gas,
- (iii) Pursuing diversification inside and outside the O&G market
- (iv) Protecting the environment

Facing mid-long term challenges through innovation, the main targets are

- (i) guaranteeing full exploitation of Oil & Gas resources in future decades,
- (ii) and favour an overall reduction of CO₂ emissions

Targeting progressive energy decarbonization, technologies are key for reducing the CO₂ fingerprint and gaining a competitive advantage. For this reason Saipem is pursuing several and diversified actions:

- In the renewable field, attention is focused on emerging technologies such as new marine, advanced wind farms and the use of hydrogen as a clean energy carrier produced by water with renewable energy.
- The application of novel hybrid approaches based on adoption of green technologies applied to the development of Oil & Gas operations.
- A technology portfolio to deal either with purification of Natural Gas from reservoirs with high content of CO₂ or capture of CO₂ from combustion flue gas in power generation and industrial processes. In particular, Saipem can master the whole CO₂ value chain thanks to its solid background in process technology, pipeline fluid transportation over long distances and onshore and drilling. Furthermore, CO₂ re-utilisation options are being intensely pursued as a first step of industrial exploitation of this kind of technologies.
- The development of circular solutions to sustainably treat waste or residual feedstocks with their consequent valorisation to energy and/or valuable products.