Integrated Solutions for Energy Transition



Focus on:

Green Hydrogen systems

• 2H2FORLAB

Blue Hydrogen systems

• CPO Pilot plants



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Energy Transition – Green & Blue Hydrogen Systems

Green H2

- Leveraging on its engineering /design skills and the proven track record of integrated system in the O&G and Energy market, Fores is ready to provide the market with innovative and efficient Green Hydrogen integrated solutions.
- In 2021 Fores has been awarded of a significant grant for the development of a regional Laboratory focused on «sustainable hydrogen» production; the so called 2H2FORLAB and its objectives are briefly outlined in this presentation.

Blue H2

- Fores has designed, manufactured and commissioned 3 plants featured with an efficient technology for Blue Hydrogen generation: Catalitic Partial Oxidation on Short Contact Time reaction (CPO-SCT).
- The technology patented by one of our major customers for pilot plant and innovative systems is extremely performant in the purity of the syngas (CO2 and H2) streams generated and avails an effective Carbon Capture Sequestration.



Green Hydrogen Systems

Focus: 2H2FORLAB

2H2FORLAB is designed to test several technologies and industrial components in the course of the Energy Transition featured by decarbonised fuels, such as green hydrogen and its mixtures with methane (also synthetic, recovering CO2 by biogas Upgrading process).

Main Equipments:

- 1. Solar Panel unit
- 2. Hydrogen generator unit
- 3. Power to Gas unit
- 4. Power to Methane unit
- 5. Blending unit
- 6. Testing unit

ORFS

7. Control room



Blue Hydrogen Technology

This innovative technology for Syngas production (at high H2 content) avails:

- Higher performances in CO2/H2 purity and separation;
- Robust and compact design and footprint;
- Lower CAPex e OPex vs competitive technologies.

Fores executed all the projects as EPCIC supply with an increasing production capacity (50 – 6.000 Nm3/h).

The systems has been designed in skid configuration with a close-knit quality to facilitate the on-site installation and maintenance.

DCS/ESD control and safety system have been designed and deployed for SIL3 level.

<u>Focus: Short Contact Time</u> <u>Catalytic Partial Oxydation (SCT – CPO)</u>



Mantova - 50 Nm³/h









Taranto - 6000 Nm³/h