Technical Innovation for the Future of LNG

Eric FESTA
Vice President Assets, Gas Renewables & Power, LNG Division
Total
Strong LNG demand growth driven by Asia
Supportive Government policies for natural gas

2015-30 LNG demand Mt/y

- 9% CAGR overall
- 5% CAGR for Asia

2015-30 LNG supply Mt/y

- Needs to be sanctioned
- Under construction
- Existing supply

Opportunity for low breakeven projects

+10% in 2018 (China +41%)
Reducing the cost of LNG plants to be competitive

Adapting design to context:

- Topography, sea conditions, environment, local content
- Manpower availability, efficiency and rate
- Availability of utilities (e.g., power supply from external grid)
Reducing GHG emissions to be sustainable

- Power generation
  → *Connection to grid, hybridation with renewables*

- Refrigerant compression drivers
  → *Inlet air cooling, e-drive*

- Shipping
  → *Slow speed engines, hull line improvements*

- Regas
  → *Open loop systems, connection to grid*
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