Open Day Attività Internazionalizzazione ANIE Milano, 6 Dicembre 2016 SUPPL HI Giacomo Franchini, Director, SupplHi Scenari previsionali globali sul mercato dell'energia 4NIE **夏** CONFINDUSTRIA



Oil prices fall starting in 3Q14

Brent quarterly average price per barrel





A gradual increase to ~70/80 \$/bbl is expected

Brent annual forecast







US shale today is the "swing" producer, driving the market rebalance





What next?

"Rebalancing"

"Gradual increase in investments"

"Upward bound"

"Preparing for the upturn"

At significantly lower costs ...

... in a substantially changed market environment



But



Depletion of producing and under development fields (MBPD)





North America to be the top project destination

Global Oil&Gas CAPEX for Top 12 Countries, 2016-2018 (%)





Note: CAPEX is expressed as a % of the total weighted CAPEX of all projects currently Planned or Ongoing Source: SupplHi Projects Database, November 2016

The new projects require a drastic cost-reductions

- An 18-22 % cost deflation has materialized by 2016, but there are inflationary pressures for costs to rise again by the end of decade
- Further supply chain savings based on 'squeezing' the service sector are possible, but probably limited



- Major structural supply chain improvements are needed to:
 - Lower costs further
 - Improve reliability and quality and reduce risk



The Oil&Gas industry has been the most resistant one to **reduce costs**

Cost developments across the Energy spectrum, indexed 2008



Increased Clients focus today



- Key Contractors personnel quality
- Minimal prices, high
 procurement efficiency
- Execution capabilities and top level Project Management
- HSE
- Brownfield activities
 - Revamps, upgrading
 - High level O&M

ENERGY

Energy supply-and-demand: More-of-the-same... but very different!





ENERGY MARKETS

ENERGY

Growth in world economy continues to require more energy

Consumption by region



Billion toe

ENERGY

SUPPL H

But energy usage is more efficient





Dec 6th 2016

Demand for **Natural Gas** to continue growing strongly





ENERGY

The global vehicle fleet more than doubles, but the **fuel economy improves greatly**



Beyond Oil&Gas







Note: the size of the bubbles is proportional to the estimated value of the global CAPEX annual expenditure related to external goods and services; Oil&Gas Upstream excludes exploration and drilling; Source: SupplHi analysis on public data, SupplHi Projects Database

ENERGY MARKETS

POWER

Installed Capacity to grow at 3% CAGR between 2015 and 2020





Large majority of population increase will occur in **developing countries**



KEY GROWTH COUNTRIES WHOSE RISING POPULATIONS AND LIVING STANDARDS WILL DRIVE STRONG INCREASES IN ENERGY DEMAND ARE **CHINA, MEXICO, NIGERIA, IRAN, THAILAND AND INDONESIA**

Renewables to significantly gain market share

Power Generation mix evolution (GWe)



- **Coal to lose** market share due to environmental concerns
- Gas will keep a stable market share
- Oil will vanish
- Renewables will see a massive expansion, driven by:
 - \circ Incentives
 - Emissions regulations and CO2 emissions trade market
 - o Capacity payments

Not only a **change in mix**... but also in the **"delivery model"**



- Large plant at regional level, with electricity sent through the national grid
- Higher transmission losses and higher carbon emissions



- Customers evolve from consumers to energy partners
- Focus on micro-grids
- Initial installation costs vs a special decentralised energy tariff

Not only a **change in mix**... but also in the **type of End-Users**

Ownership of global power generation capacity commissioned in 2015





Also in Power... focus on strong CAPEX efficiency and OPEX reduction

EXAMPLES

CAPEX efficiency



- Revision of Traditional Power pipeline, targeting
 shorter time-to-EBITDA
- Abandoned large environmentally unfriendly projects, e.g. coal projects
- Origination focused on gas and hydro technologies

OPEX reductions



- Lean organisation and processes
- Focus on **scheduled** and **predictive maintenance**
- Maintenance contracts optimization also through economies of scale



Active management of the innovation portfolio

EXAMPLES





Average project size is decreasing





- We are already experiencing less large greenfield projects
 - "right-sizing" of the project to reach the Final Investment Decision
- Brownfield / revamping / expansion projects are now a "market" that requires a special focus





Note: Considered the backlog related to Oil&Gas, Power, Civil, Mining and Governmental project; not considering the backlog for Housing and Architecture projects; Source: SupplHi analysis on EPC Contractors' financial reports; clippings

2017 as a transition year

ILLUSTRATIVE



OPEX



E&P and OPEX spending evolution (indexed 2012)





Just the tip of the iceberg

OUTSOURCED · La

- Competences that are complex to export and replicate
- Local presence / Local Content required
- International OEM involved for critical equipment (the installed base matters)
- Training as a key component

currently INSOURCED

Internal Operations (65%) & Maintenance (35%)

~70%

- Outsourcing of O&M in Downstream can be considered as an exception:
 - internal teams of the End-Users manage the value driving operations and maintenance activities and outsource just part of the activities to specialists
- EPC Contractors are increasingly looking at opportunities in this field, being more proactive, mainly with independent clients



ENERGY MARKETS

OPEX

Dec 6th 2016

Digital Innovation to support internationalization?



- Mapped ~100 startups in the global Energy industry able to deliver Digital Innovation
- Large companies are the real engine, also through internal start-up Labs
- Low level of patenting
 → knowledge of the application is key

Key takeaways

- Focus on strong CAPEX efficiency and OPEX reduction
- Major structural supply chain improvements are needed to lower costs further, improve reliability and quality and reduce risk
- Average project size is decreasing: brownfield / Revamping as a growing "market", requiring dedicated presidium and a different mix of competences
- OPEX provides opportunities to the ones able to innovate and deliver value to the Clients



Thank you for your attention

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The Authors suggest to use this information wisely.





Vendor Management Platform

BUYERS



- CRITICAL SUPPLIES, based on a detailed Standard Categorization
- The ENERGY INDUSTRY (Oil&Gas, Conventional Power, Renewables) and other industries as "adjacencies" (Steel, Mining, Shipbuilding, ...)
- At GLOBAL LEVEL





quality assurance of the info (experts, category mgmt, other users, ...)

BENEFITS



Increase the amount and quality of info available on international vendors



Strong cost reductions and savings on CAPEX and OPEX



FIRST 6 MONTHS FREE FOR NEW VENDORS

VENDORS



Value-added info **uploaded by** Vendors:

- Categories with references and contacts
- Companies, brands and manufacturing plants
- Certifications
- Revenues and split by category
- HSE indicators
- Organizational structure

BENEFITS



Registered at multiple Buyers at international level, with higher visibility and commercial reach



Strong cost reduction of the registration processes



Easy info upload and update

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Projects Database

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3,100+ Projects for the Oil&Gas and Power industries, at Global level, constantly updated

Information, by project

- Project Name
- Industry
- Segment
- Greenfield vs Brownfield
- Scope of Work
- Location / Country (Destination)
- Country (Execution)
- End-user
- Operator / Main End-user
- Contractor

BENEFITS

Prioritize commercial efforts
Check project status and timing
Proactively find clients' projects
Target geographies and segments

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Contract Type

- Status
- Award Date
- Start Date
- End Date
- Capacity
- Capacity Unit of Measure
- Capex (\$M)
- Technology
- Notes
- Last Info Update