STRATEGIE E PREVISIONI DI MERCATO PER LA FILIERA DELL'IMPIANTISTICA INDUSTRIALE

Oil & Gas projects: contracting trends in the Market

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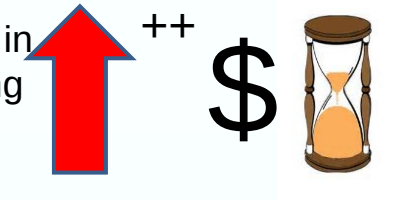
Oil & gas projects: current background - impact on contracting trends

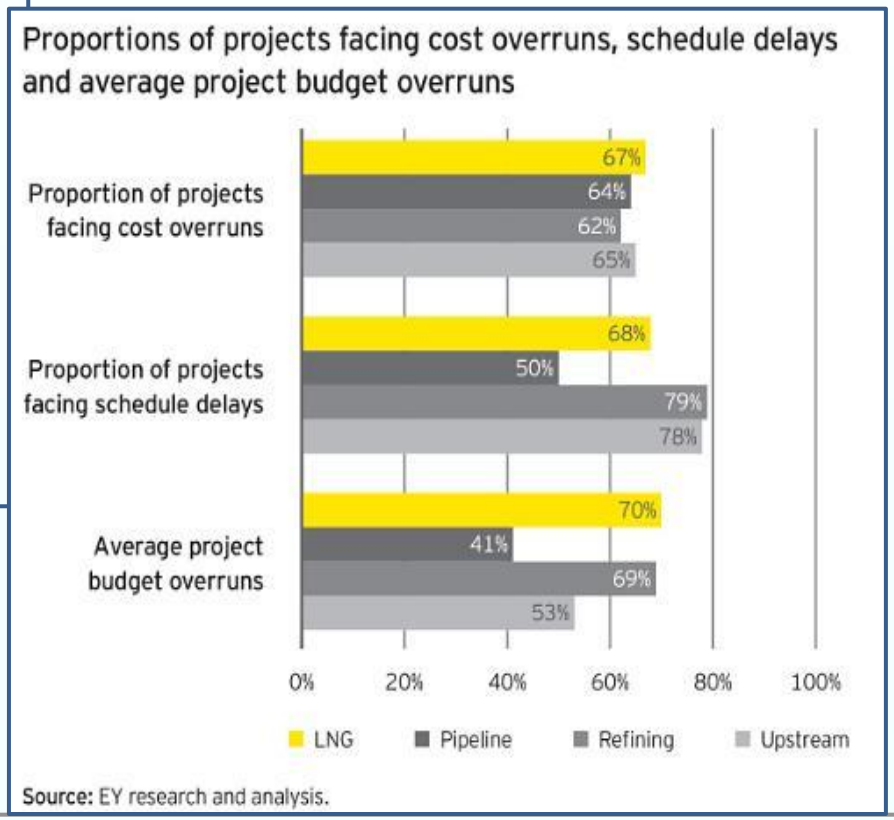
Current trend: on a sample of 365 megaprojects reviewed (*)

- ✓ 64% exceed budgets
- ✓ 73% missing project schedule deadlines
- ✓ 59% overrun above initial estimate
- ✓ US$500b incremental cost increase (from US$1.2t original estimate to US$1.7t) on a sample of 365 projects reviewed

(*) Source: EY research and analysis

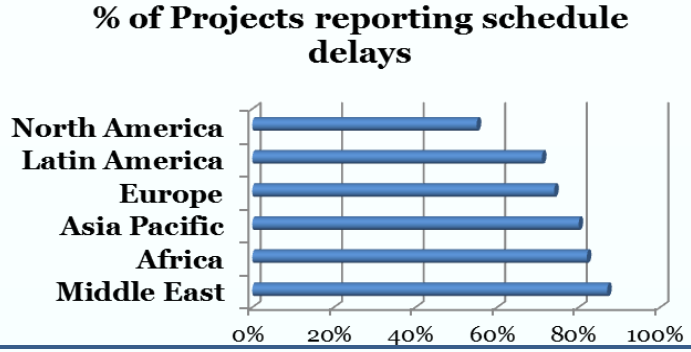
Cost overruns & delays in megaprojects: increasing ++

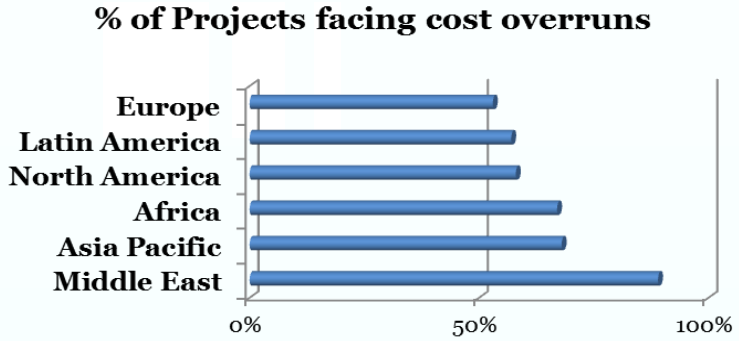




Longer-term industry outlooks suggest that project delivery success is actually decreasing, especially in certain segments of the industry where complexity and risk are considerably higher

Oil & gas projects: current background - impact on contracting trends





Barriers to successful project delivery

- ✓ project costs significantly underestimated
- ✓ inadequate planning
- ✓ poor selection and management of contractors
- ✓ lack of available construction skills
- ✓ bureaucratic barriers, regulatory issues and geopolitical challenges
- ✓ impact of exchange rate fluctuations
- ✓ Megaprojects = Megaheadaches ?
  - ✓ scale/complexity outgrowing the ability of even the largest oil companies
- ✓ Improper contracting schemes

Trend and impact on contracting

- ✓ extreme caution in investing:
  - ✓ majors promising investors that capital spending has peaked - abandoning of the most expensive projects
  - ✓ high mortality of projects after FEED completion

  => high percentage of Basic /FEED vs EPC in the market
- ✓ large projects divided into smaller EPC packages in the future
  - ✓ Less megaprojects in the future
  - ✓ larger competition on a smaller size of projects
  - ✓ more opportunities for PMCs contractors
- ✓ higher transfer of risks to contractors
  - ✓ Lump Sum Turn Key (LSTK) to be re-affirmed
  - ✓ clauses even more onerous in the future ?

Companies can no longer rely on oil and gas price increases which in the past have masked many of the consequences of megaproject overruns.

Contracting trends in the oil and gas market

Term and conditions

- ✓ General pressure from Clients to accept higher liability caps
- ✓ maximum aggregate liability :
  - up to 100% of the contract amount (c.a.) requested in some cases
  - 15%-20% of c.a. nowadays the minimum
  - several exclusion in addition to the traditional ones (e.g. Client's damages in some cases)
- ✓ penalties (delay & performance)
  - cap never lower than 10% of the contract amount
  - 10%-20% cap both on delays and performance a quite common request on the market
  - payment of penalties sometimes not excluding damages
- ✓ requested warranty duration: increasing
- ✓ waivers/indemnities against consequential damages: becoming weaker
- ✓ pollution: Contractor to indemnify owner in some cases after plant hand over - exposure often uncapped
- ✓ insurance: much more demanding requirements
- ✓ requested warranty duration always increasing

'Contractual pressure': increasing ++

- ✓ Contractor's side : significant risk increase combined with "pressure" on prices
- ✓ a stagnant market and competition push the contractor to accept higher risks
- ✓ contingencies to be limited not to lose competitivity => transfer of risks on suppliers/subcontractors
- ✓ contract management more rigorous and tough both by Clients and by Contractors
- ✓ "Litigiousness" (Claims, Arbitrations etc.): increasing trend

Contracting trends in the oil and gas market

Local content contractual constrains

- ✓ Typical requirements in almost 30% of the contracts over the last 4 years:
  - minimum % (20% up to 65% in certain case) of the c.a. to be spent locally
  - local suppliers/sub-contractors to be inquired and favoured
  - failure to meet the national content implies termination for default
  - Client indemnification for damages due to Contractor's failure to meet its local content obligations

Local content requirements : increasing ++

Irrespective of the contractual obligations:

- ✓ *local firms: a must for the knowledge of local laws,rules, permitting etc.*
- ✓ *JVs with local firms and capability to foster their growth: plus for an effective commercial penetration*
- ✓ *maieutic role of the EPC Contractor to promote cooperation between traditional suppliers/subcontractors and the local ones*

Financing contractual constrains:

- ✓ "Project financing" model contamination:
  - Lenders often impose contractual terms borrowed from the pure "project financing" contractual model
  - attitude to consider plant timely completion and production performance as the only guarantee for loan repayment
  - Contractor expected to bear risks virtually unlimited
- ✓ sourcing constrains coming from financing scheme in almost 2/3 of the last 4 years EPC Contracts
- ✓ Chinese financing more and more widespread (Africa- Latin America – Canada – CIS countries)

Financing constrains : increasing ++

- ✓ *Carefully assesment of contractual risk*
- ✓ *Flexibility to follow different sourcing schemes according to financing origins*
- ✓ *Capability to cooperation with "chinese system" (Contractors, Suppliers, Construction firms)*

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Contracting trends in the oil and gas market

Technical requirements and vendors list

- ✓ Trend:
  With the aim to reduce CAPEX:
  - Contractors more encouraged than in the past to propose technical alternatives
  - more flexibility to accept alternative Vendors (e.g. Chinese) from the Clients under Contractor's full responsibility

Rigidity in technical requirements and vendors list: decreasing

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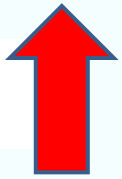
- ✓ *Procurement capability in low cost market (in particular China)*
- ✓ *plus for contractors/supply chain: ability to propose solutions for design optimization/value engineering to minimize the Capex.*

Constrains related to technology

- ✓ Selection of Projects Technologies made by the Clients in almost the 90% of cases
- ✓ Owning technologies or having agreements with technology providers allowed in some case EPC contractor to be "pulled through" the EPC phase

Technology constrains : increasing



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- ✓ plus for contractors: in house technologies or collaboration agreements with technologies providers.

Contracting trends in the oil and gas market

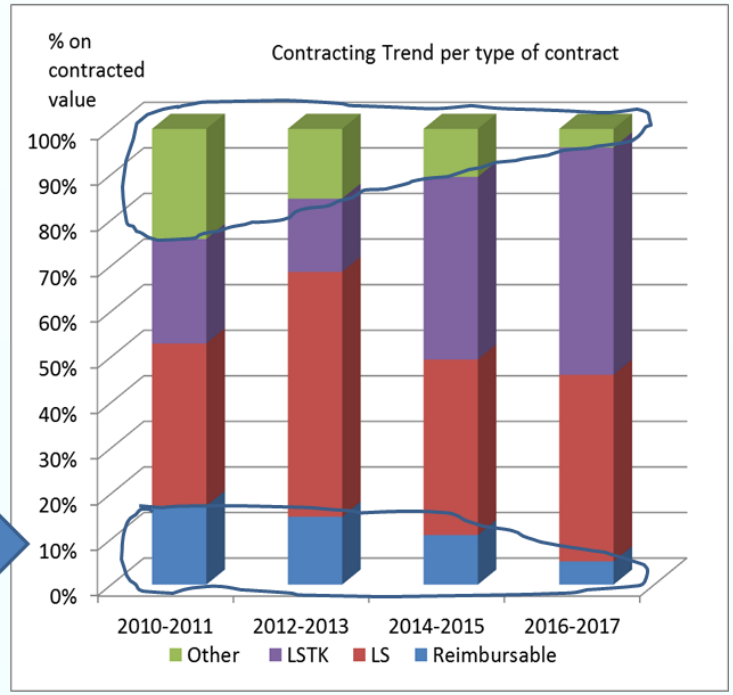
Types of contract

✓ Lump Sum (LS) and Lump Sum Turnkey (LSTK): **+**
- currently the more commonly used type of contract
- widely adopted for any scope - also in the services contracts (in particular Front End Engineering Design contracts)
- Clients are today asking for LSTK even in countries where Construction risk is particularly high (e.g. Canada)

✓ Reimbursable contracts: **–**
- expected significant decrease – exception of countries with a strong tradition in reimbursable (e.g. US or countries under US influence) or when the scope of work cannot be well defined (EPC of Revamps etc.)

✓ Other: Open Book Estimate/Converted Lump Sum Turnkey (CLSTK) **–**
- "OBE fashion" during the 2nd half of 2000s – now a slow down (in particular in Middle East) due to:
  - negative experience of OBE never converted or implying actual final price much higher vs the Client's budget
  - very long times to reach Projects Final Investment decisions allowing accurate FEED and EPC tendering
  - inadequate clients' organization to ensure effective control of OBE activity and resulting CLSTK price
- few but significant exceptions in the world; for example Pemex in Mexico, traditionally tied to the LSTK formula, recently awarded several OBE/CLSTK contracts;

Lump Sum (LS) and Lump Sum Turnkey (LSTK) increasing **++**



Contracting trends in the oil and gas market

Contract scope

✓ Basic/FEED **=**
- Basic/FEED keep a significant % of contracted manhours
  - clients generally inclined to authorize limited investment for Basic/FEED contracts
- high percentage of Basic /FEED vs EPC in the market
  - high mortality rate: 50% of projects not surviving after FEED phase
  - 30% of projects delayed or significantly reduced in scope
  - only 20% of the projects enter into EPC phase with the original configuration and on the initial planned timing

✓ EP, EPCm, EPsCm **--**
- Significant decrease; clients more inclined to transfer the full EPC responsibility to a single entity

✓ EPC **+**
- Increase expected (replacing EP, EPCm and EPsCm)

✓ PMC **+**
- Increase expected
  - trend: lighter Clients' organization devoted to management of projects
  - large projects divided into smaller EPC packages in the future – increased project management/coordination effort

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