

Managing E&P Projects

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Managing E&P Projects: Contents

- **Types** of E&P Project?
- **What** is “Project Management”
- **How** are E&P Projects Managed?
- **Who** delivers the Project?
 - Project Management Team
 - Contractors and Sub-contractors
 - Project Contracting Strategies
- **Why** do the Project?
- Recent **Performance** and some **examples**
- **Lessons learnt**
- **Summary**

Managing E&P Projects: Major types of E&P Project Capital Cost from ~\$10m to \$10+ bn

- Onshore
- LNG and gas processing
- Offshore Platforms
- Subsea
- Subsea with floating structures
- Decommissioning

Onshore – Pipelines



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Onshore – Beam Pump



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Onshore – LNG and gas processing



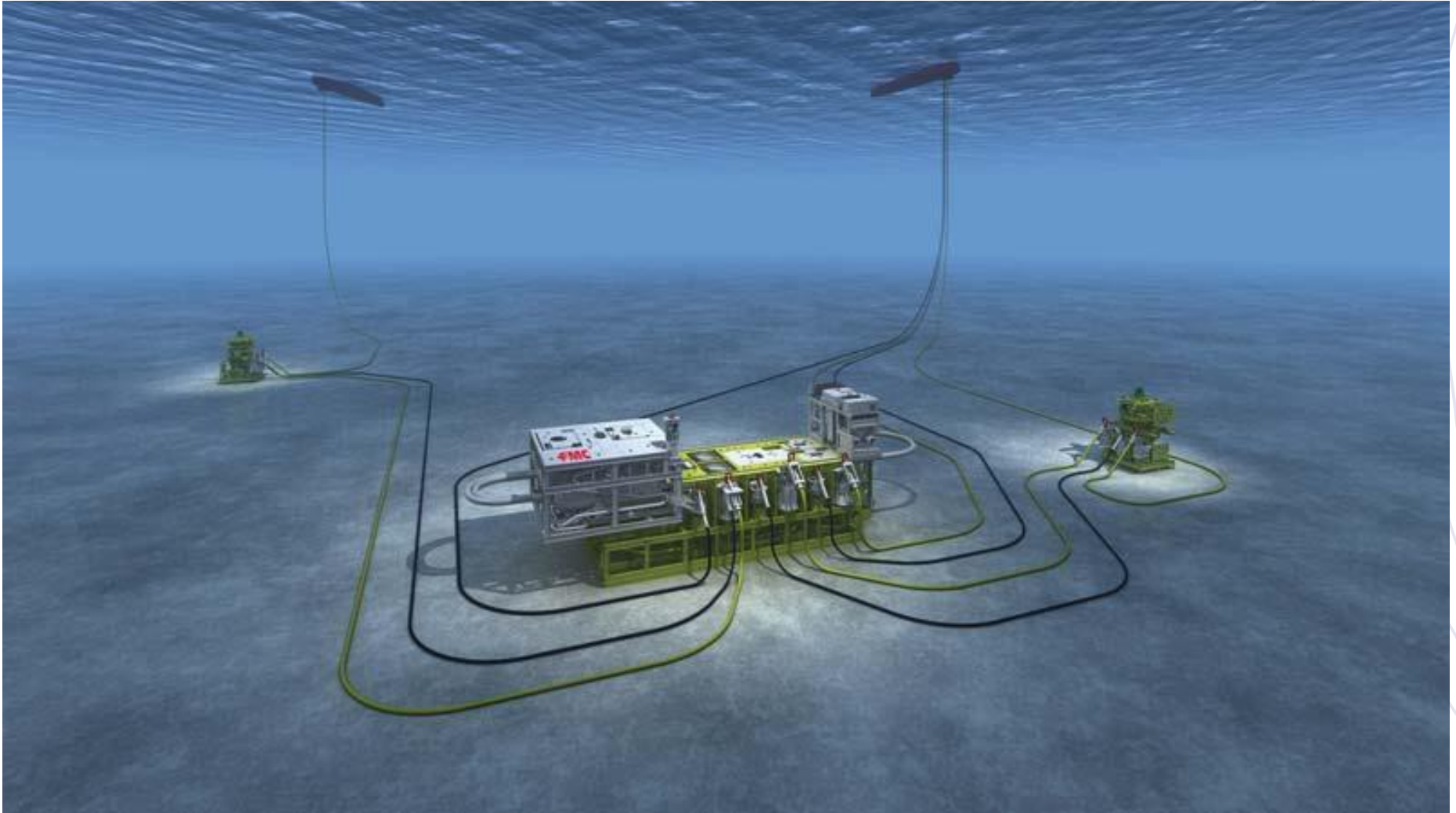
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Offshore - Bottom Founded



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Offshore - Subsea



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Subsea with Floating Structure – FPSO



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Decommissioning



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What is Project Management?

“ Project Management is the process by which projects are defined, planned, monitored, controlled and delivered such that the agreed benefits are realised.....Projects bring about change and project management is recognised as the most efficient way of managing such change”

UK - Association for Project Management (APM)

The role of a Project Manager is to deliver the Project;

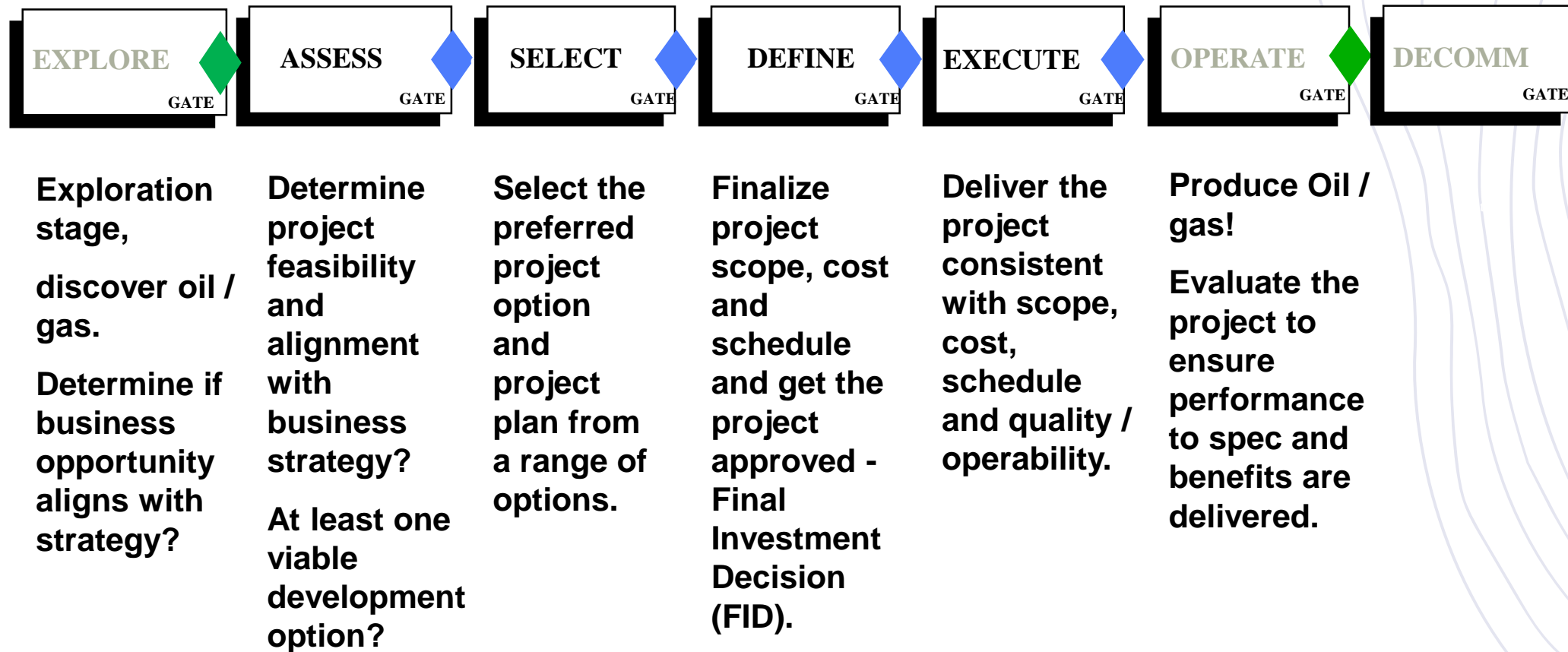
- Safely
- On time
- On budget
- Planned operability / quality

Finding the right balance between all of these issues



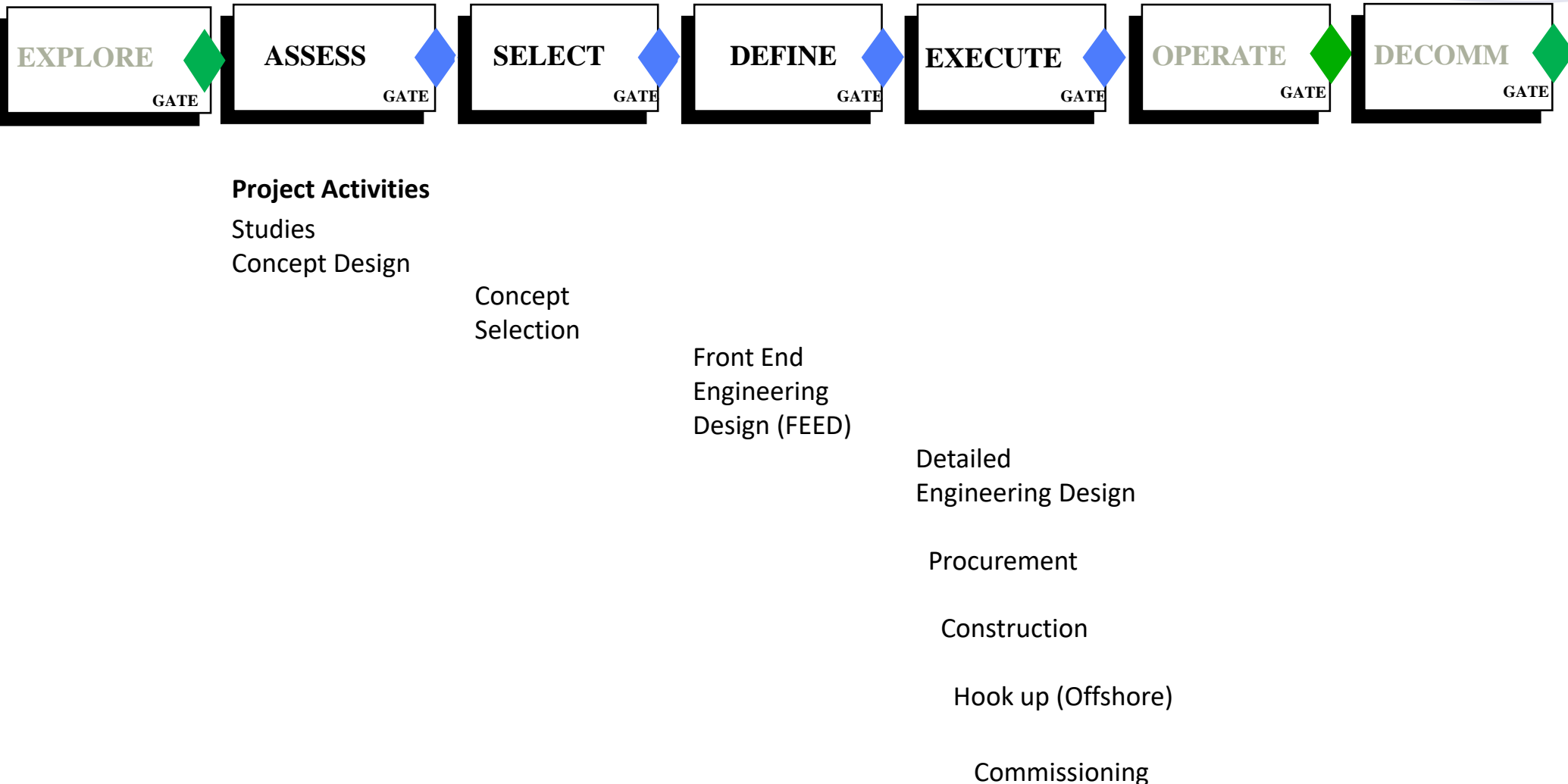
How are E&P Projects Managed?

Typical industry approach involves multiple project stages, with a decision gate before each stage



How are E&P Projects Managed?

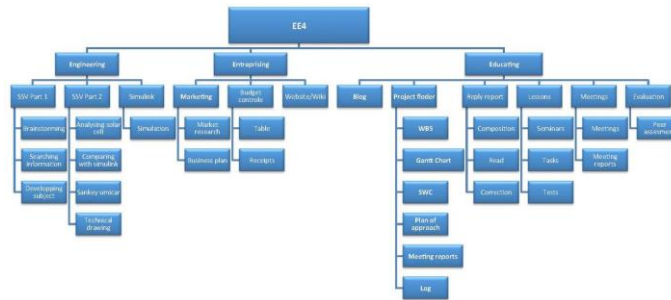
Stages of an E&P Project: Project Activities



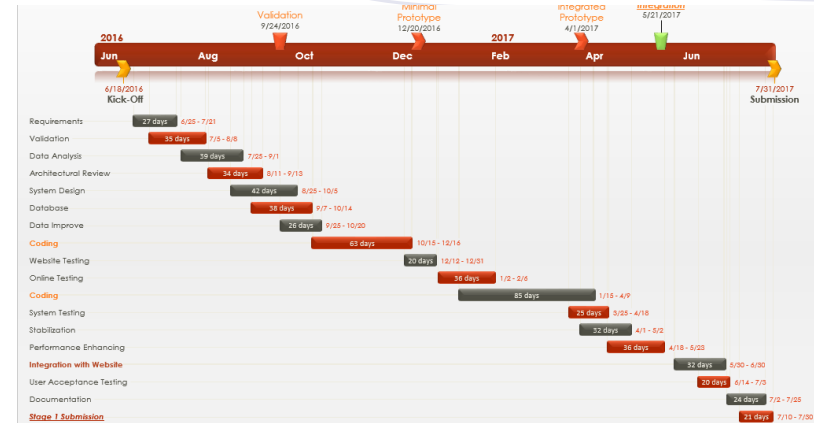
How are E&P Projects Managed?

Project Managers Tools & Techniques

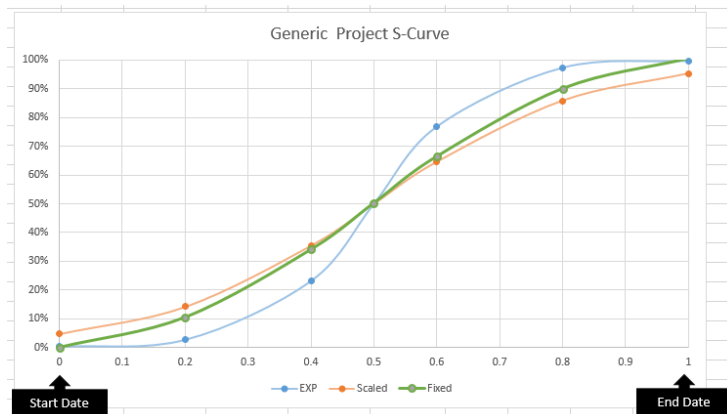
Work Breakdown Structure



Work breakdown structure



Project Plan : Gantt Chart with “critical path”

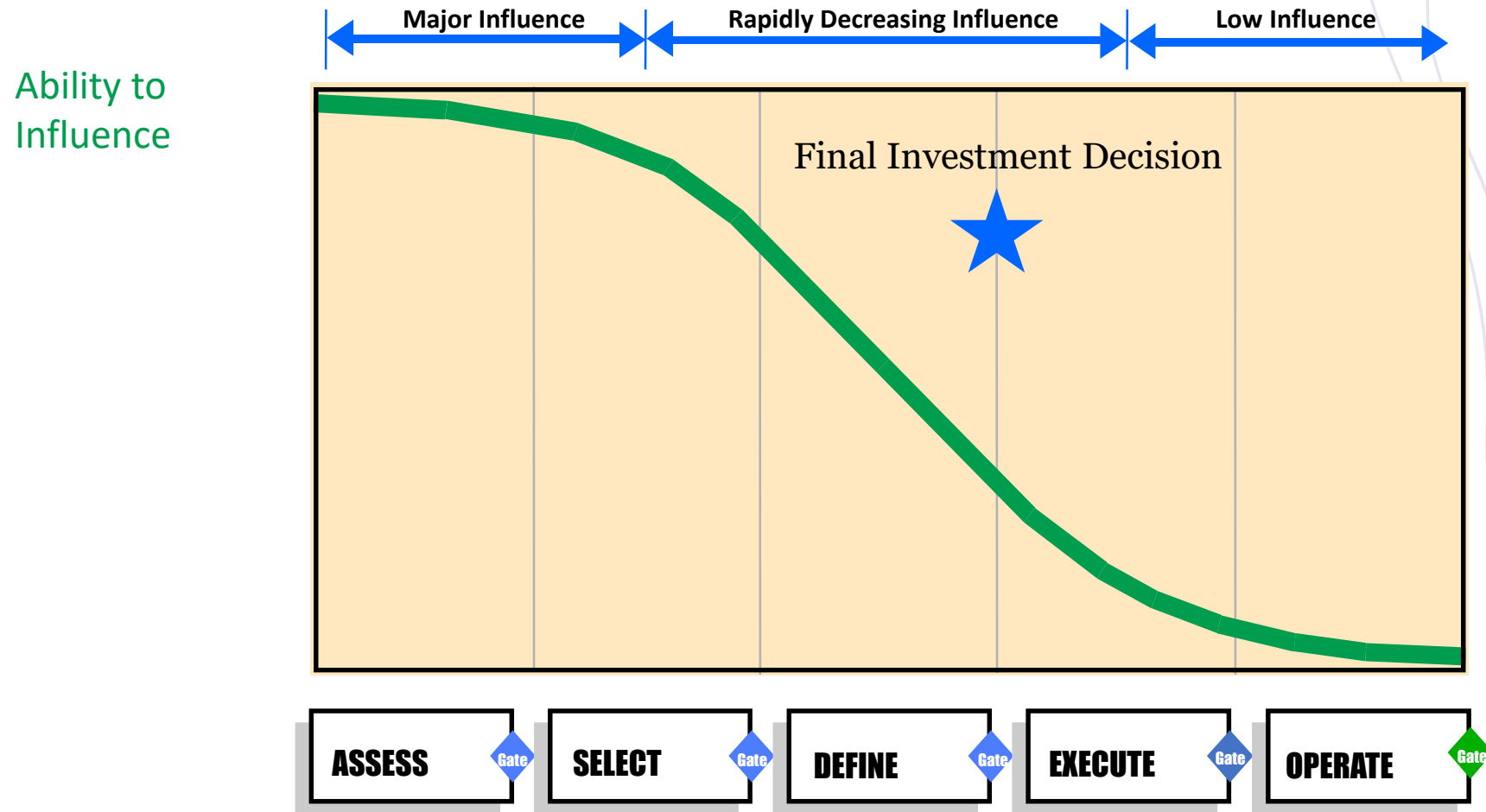


Project Progress: S curve

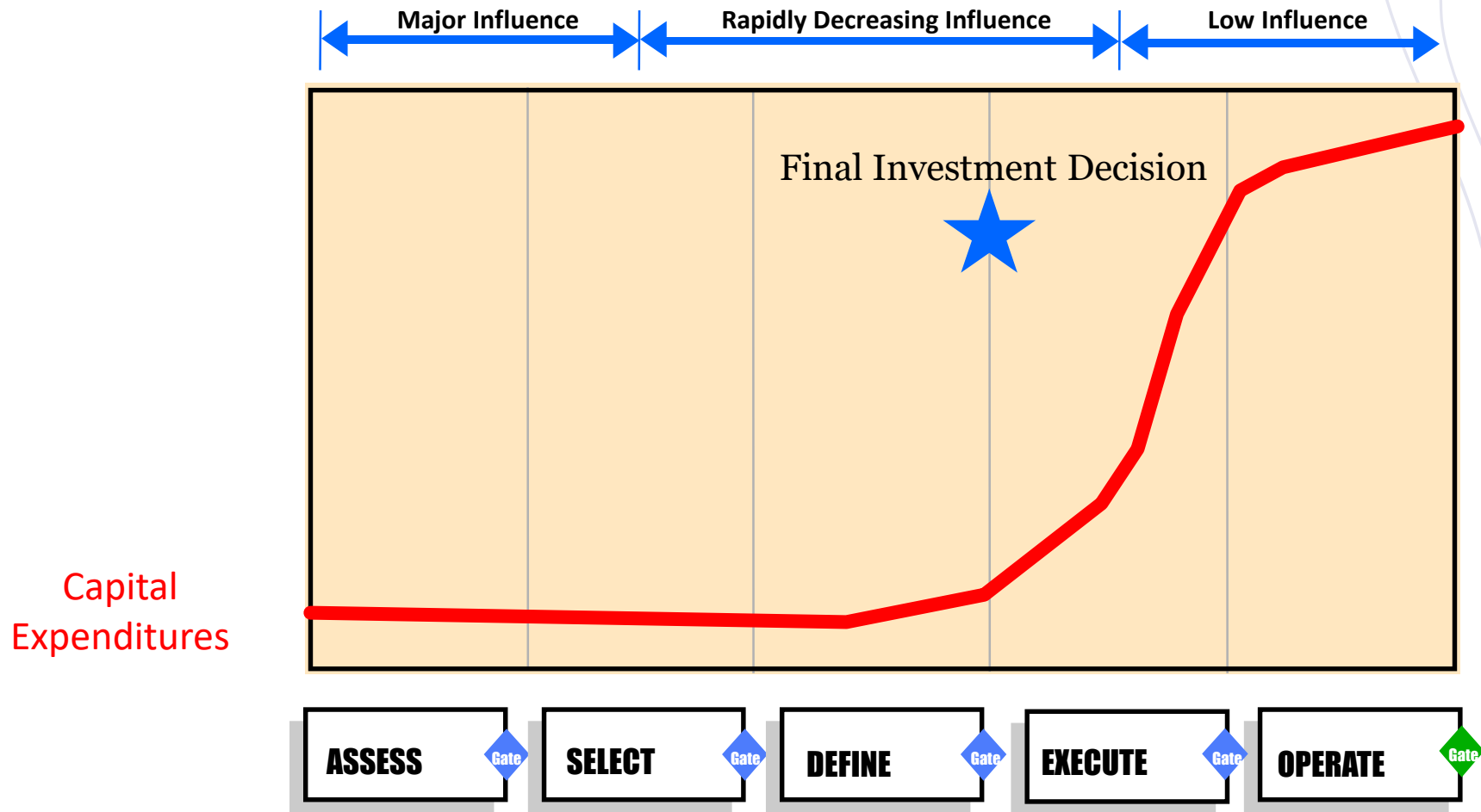


Resource loading histogram

Project Life Cycle: Influence Curve



Project Life Cycle: Expenditure Curve

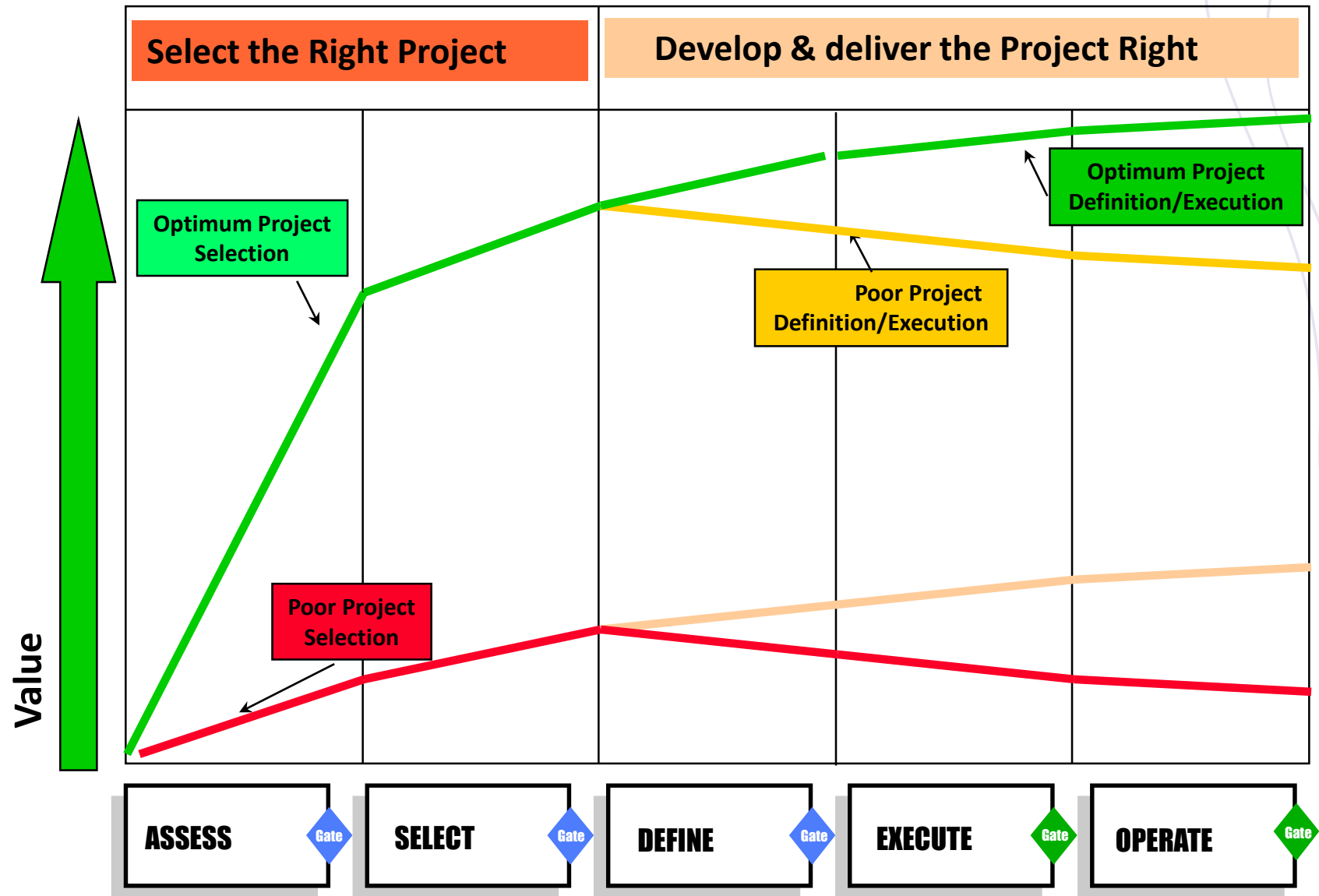


EXPENDITURES

Gate

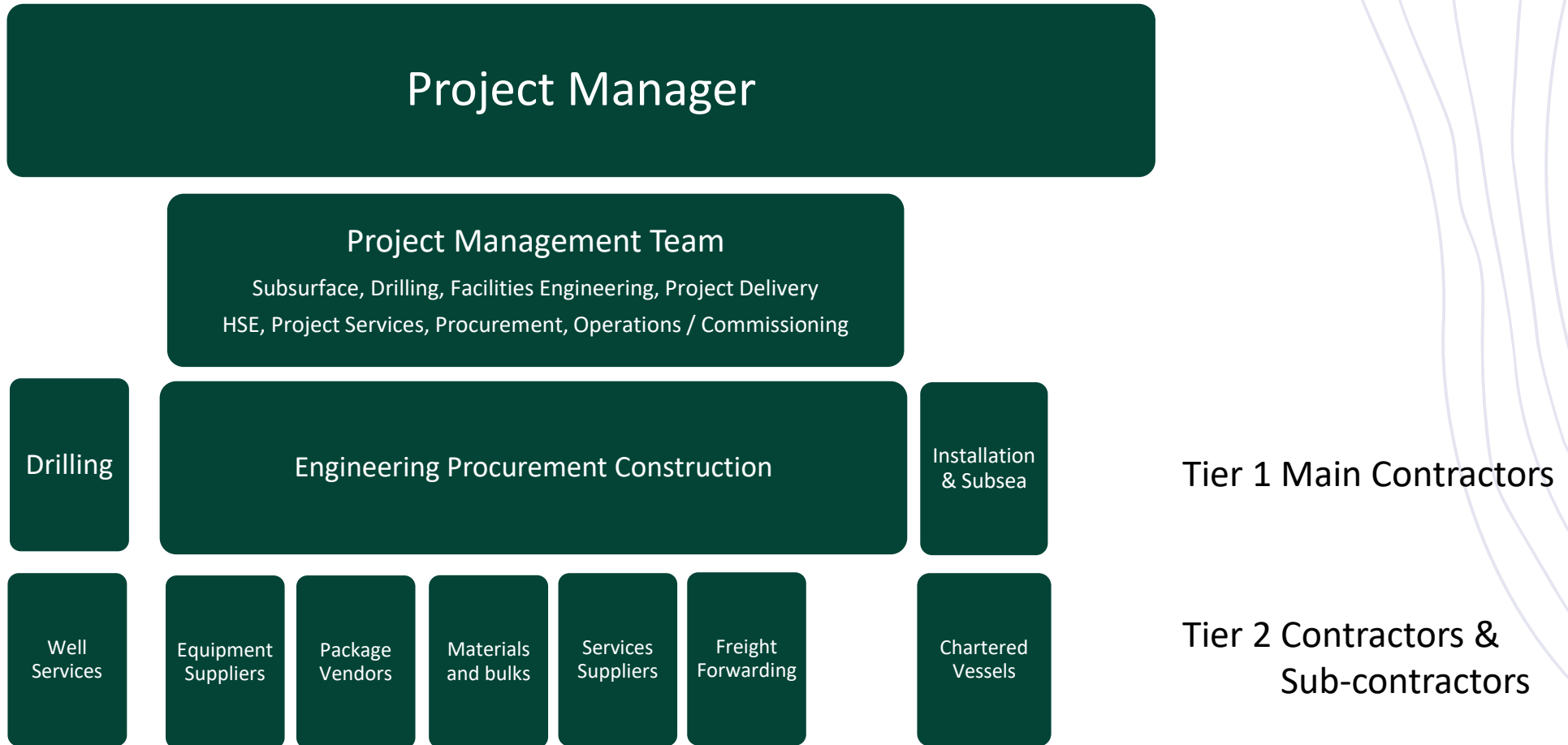


Individual Project Value Creation Timeline

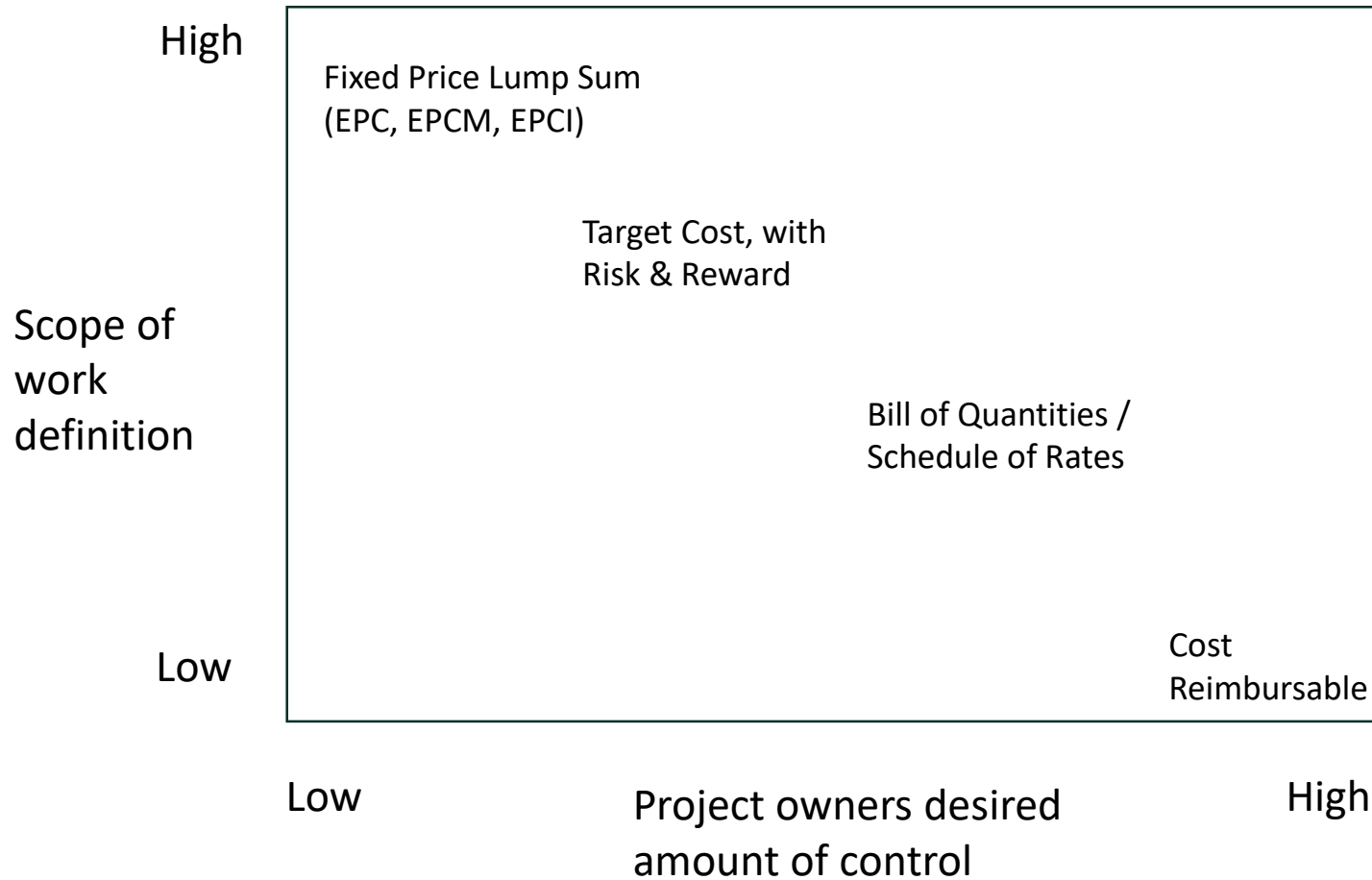


Managing E&P Projects: Who delivers the Project?

Example: Offshore Project Organisation



Managing E&P Projects: Types of Contract



Managing E&P Projects: Why do the Project?

Projects usually have a Business Case which must explain the reasons for carrying out the Project.

The Business Case is usually prepared for a committee of senior executives reporting to the Board of Directors to make the Final Investment Decision and will typically include the following;

- Project description and purpose
- Connection / fit with the Business Strategy
- Size of investment requested?
- Readiness to execute the project
- Economic analysis with sensitivities
- Financial impact (on business P&L) of the project
- Key risks and mitigations

Most companies use discounted cash flow (DCF) analysis to analyse capital projects and usually calculate key metrics including;

- Net Present Value (NPV)
- Internal Rate of Return (IRR)
- Metrics: Capital Efficiency (NPV/NPC), Payback

Managing E&P Projects: Some historic examples

Yme Field, Norway

Redeveloped in 2008 by Talisman using a jack up rig with storage. Platform installed in 2011 but cracks in the cement grouting of legs led to de-manning in 2012, and early abandonment in 2016.



Sliepner Field, Norway

Developed in 1991 by Statoil. During controlled ballasting of Gravity Base Tank (GBT) pictured there was a major structural failure which caused it to sink. The subsequent investigation found the cause was a design error.



Managing E&P Projects: Recent Performance

Wood Mackenzie

Reported in August 2018 that in the last 12 months a number of large international projects were **delivered on target** including BP's West Nile Delta, Shah Deniz Phase 2 and Atoll Projects, ENI's Zohr and Cape Three Points, Shell's Kaikias, Woodside's Persephone and Wintershall's Maria.

Six success factors were identified as leading to improvement

1. **Spare capacity through the supply chain.** This leads to better performance and lower costs. For example, in some basins – Gulf of Mexico, pre-salt Brazil – drilling efficiency has improved dramatically.
2. **Service sector collaboration** and alignment on contracts, albeit mostly in northern Europe.
3. **Improved project management.** Companies have more people looking at fewer things, while under-utilised service companies can offer their 'A-team' for each major contract.
4. **Greater corporate discipline.** Tougher pre-FID screening and more stringent hurdle rates have increased attention on execution and cost control.
5. **More pre-FID planning.** More contracts are 'signed and sealed' pre-sanction, often with preferred partners versus putting everything out to bid.
6. **Reduced scope.** More tie-backs and brownfield projects that use existing infrastructure, less greenfield.

Report “Wood Mackenzie 6 Forces Driving Improved Upstream Project Delivery”
<https://www.woodmac.com/news/feature/successful-upstream-project-delivery/>

Managing E&P Projects: Top lessons learnt

- Develop a clearly defined project scope by FID
- Keep the project as simple as possible
- Prioritise front end loading (FEL) and team integration
- Ensure clear accountability / authority for the project manager and team
- Build a competent and aligned project team that will work together
- Foster trust and collaboration with the contractors / suppliers
- Rigorously manage post FID changes
- Manage all of the project's stakeholders

Managing E&P Projects

Summary

Types of E&P Project?

What is “Project Management”

How are E&P Projects managed?

Who delivers the Project?

Why do the Project?

Recent project performance and lessons learnt.

Any Questions?

Managing E&P Projects

BP West Nile Delta, Raven Project

<https://www.linkedin.com/feed/update/urn:li:activity:6458948741306081280>

Aker BP, Skarv FPSO

<https://www.akerbp.com/en/our-assets/production/skarv/>