

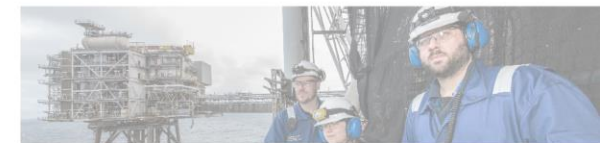


# Introduction to Upstream Oil and Gas for the Net Zero World

## Upstream Economics



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# Let's get some energy!

Everyone stand please and for each question that your answer is NO/Not sure, please sit down.



What does OPEC stand for?

What does NPV stand for?

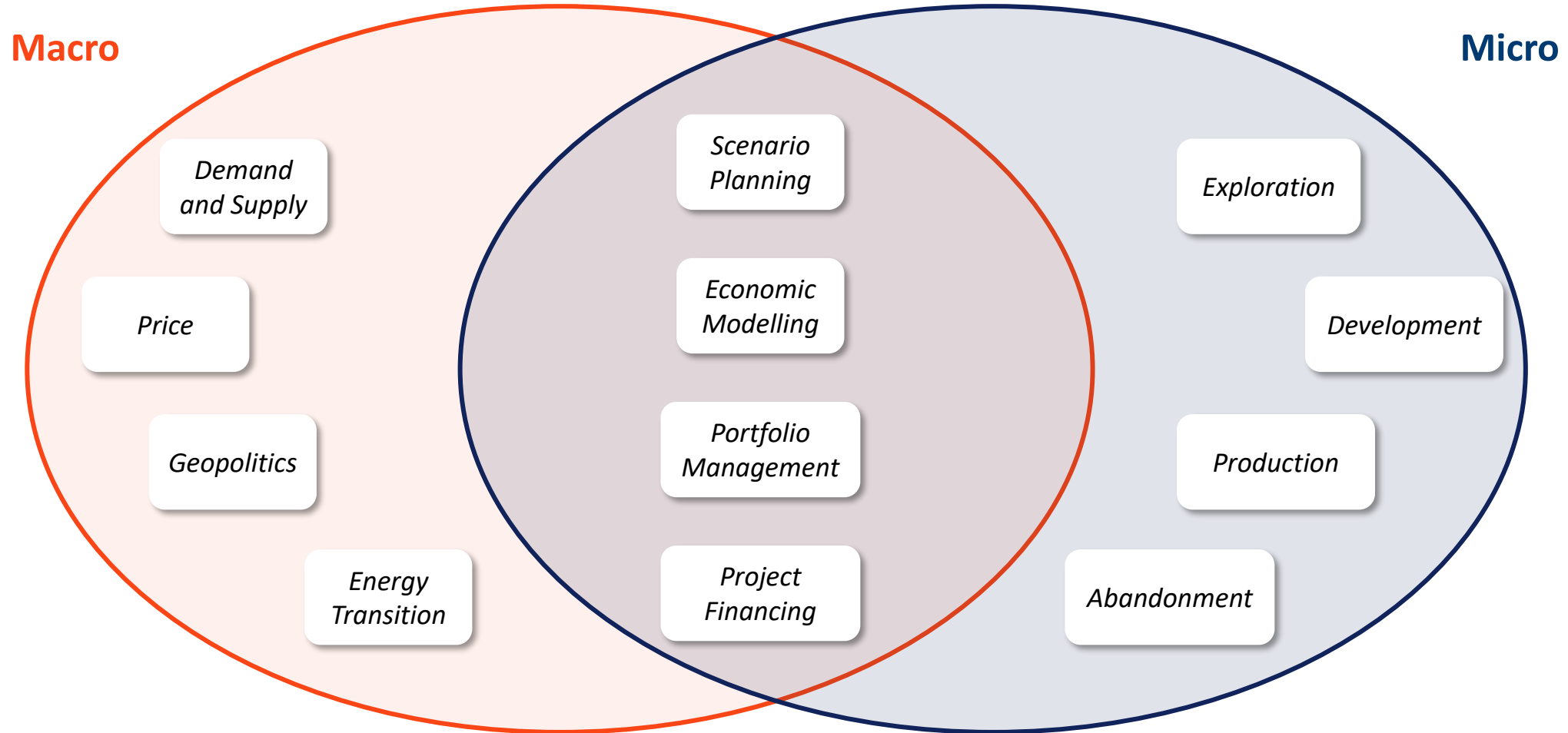


Is \$1 today more valuable than \$1 tomorrow?

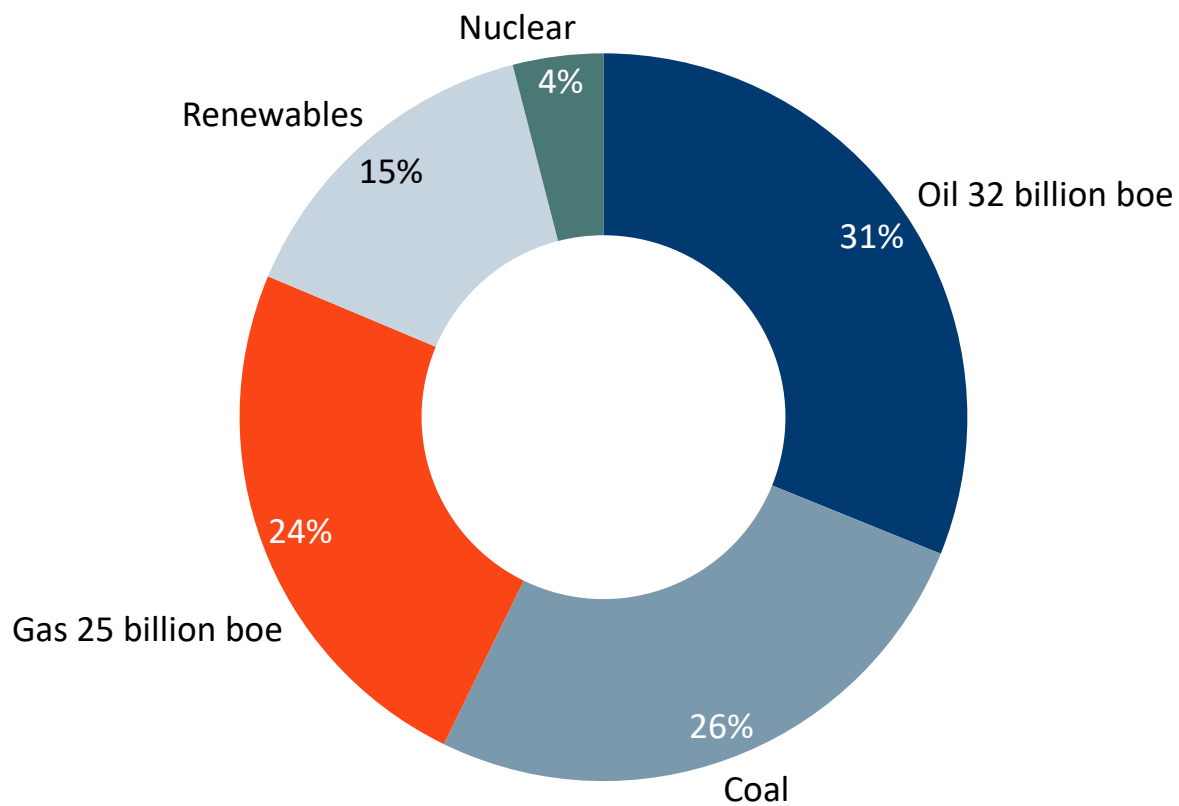
What are upstream, midstream, and downstream activities in the petroleum industry?



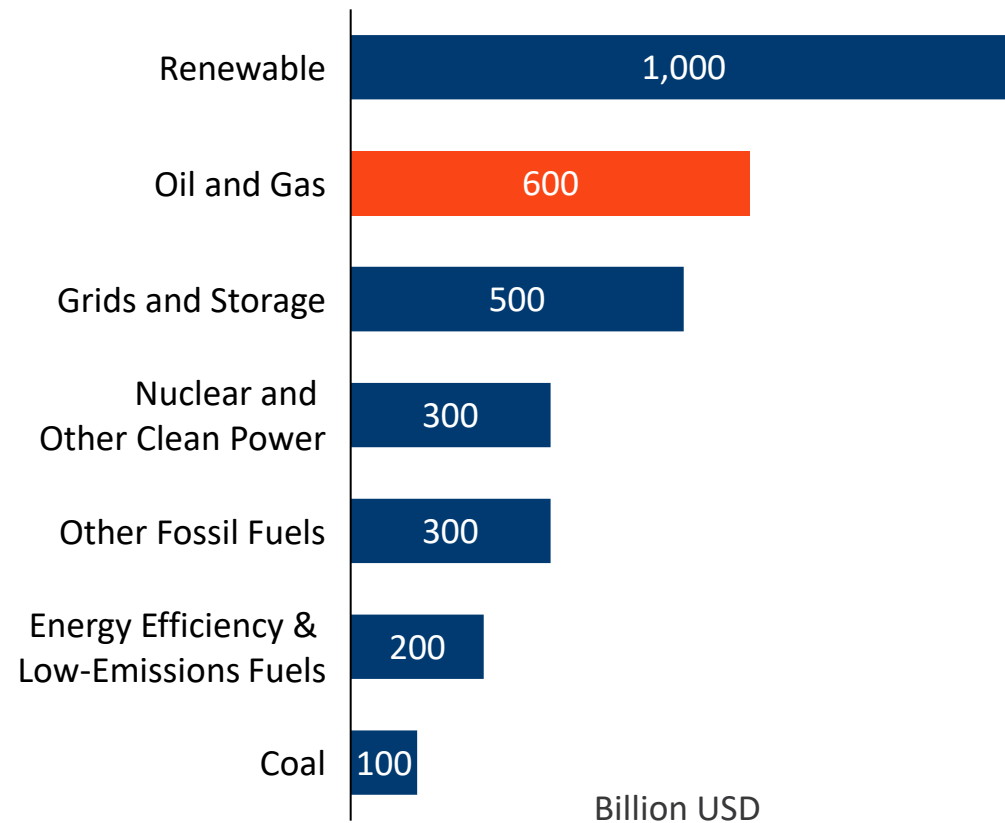
Finally, what will be the oil price at the end of 2025?  
Sit if you think it will be less than 65\$/bbl



# Global Primary Energy Consumption & Investment in 2024



- Oil and gas accounts for more than half of world energy consumption
- 1% growth in oil and 2.7% growth in gas

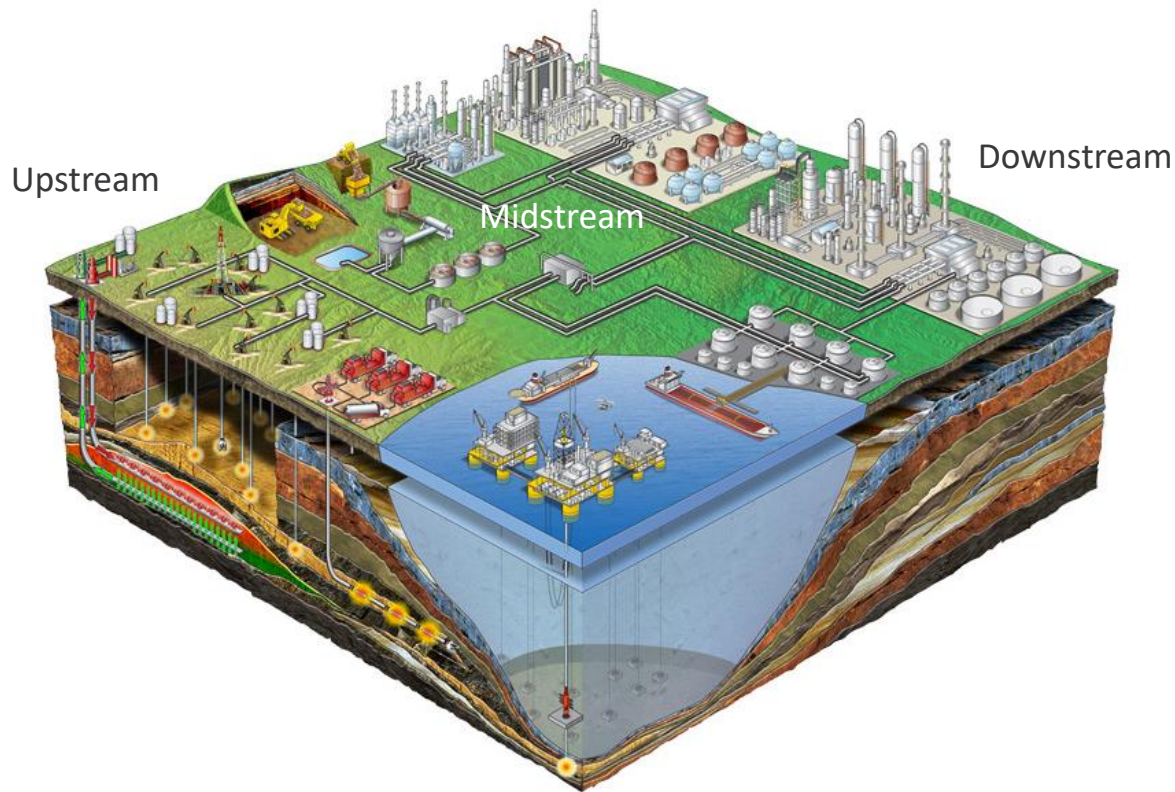


- Over \$3 trillion global energy investment in 2024
- 20% of investment comes from upstream oil and gas

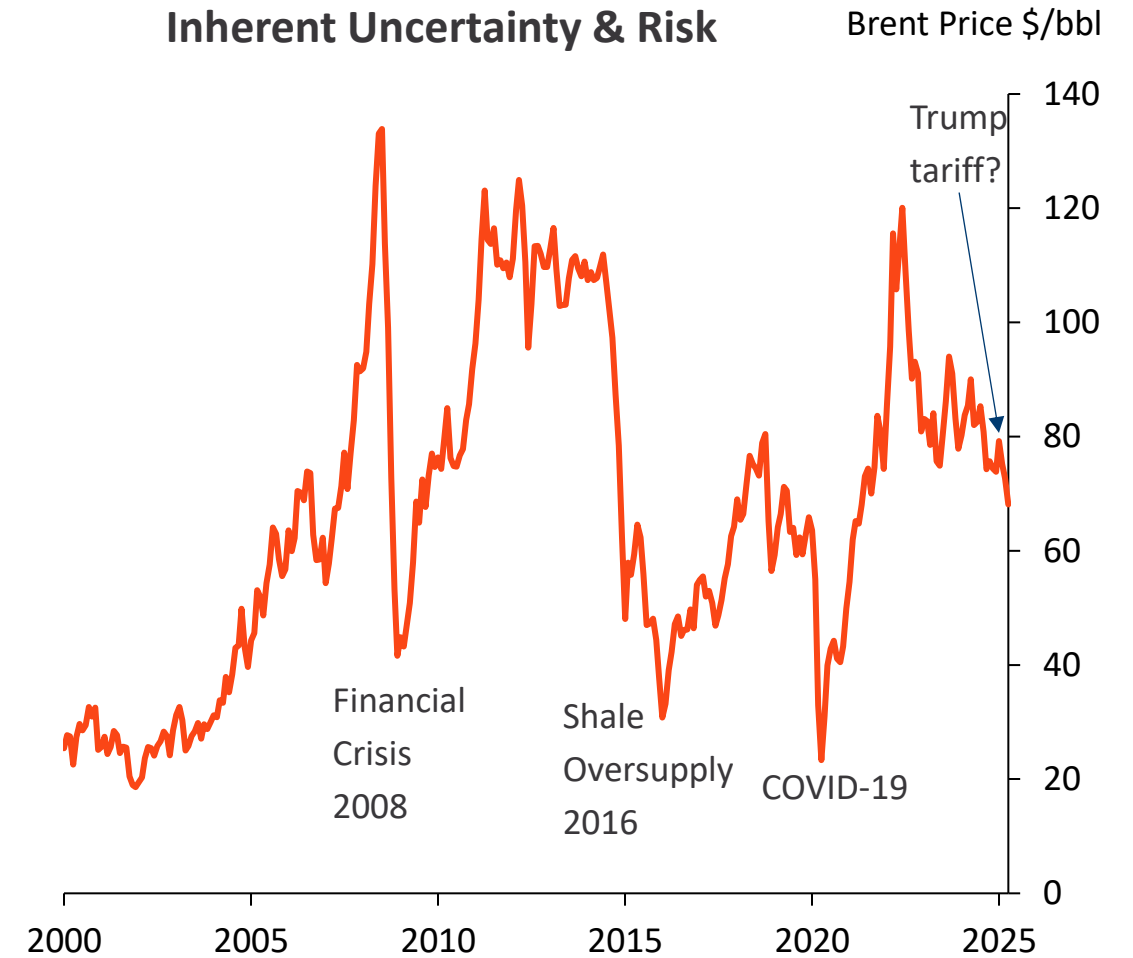
Source: Energy Institute's Statistical Review of World Energy (2024); International Energy Agency (IEA) Global Energy Review (2024)

# The Core Challenges in Upstream Decisions

## Massive Capital Investment & Long Lifecycles



## Inherent Uncertainty & Risk



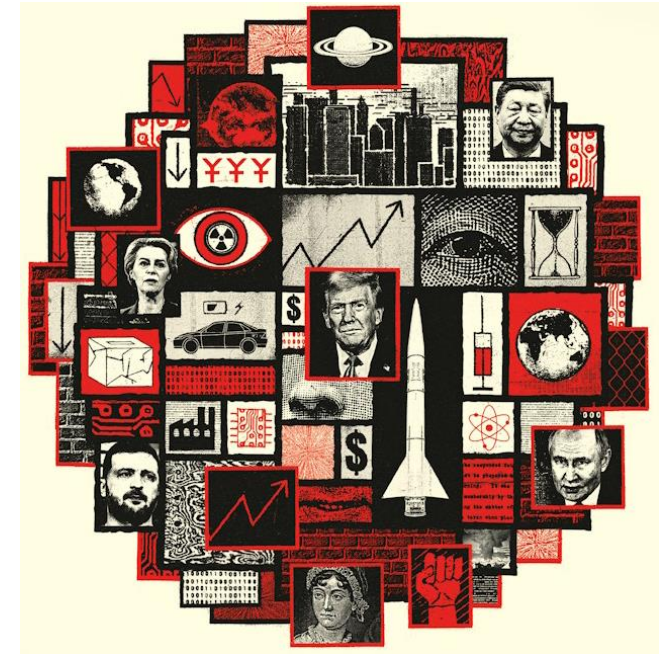
# Balancing Economics, Environment, and Society



**Rigorous Economic Evaluation**  
NPV, IRR, Breakeven & Payback



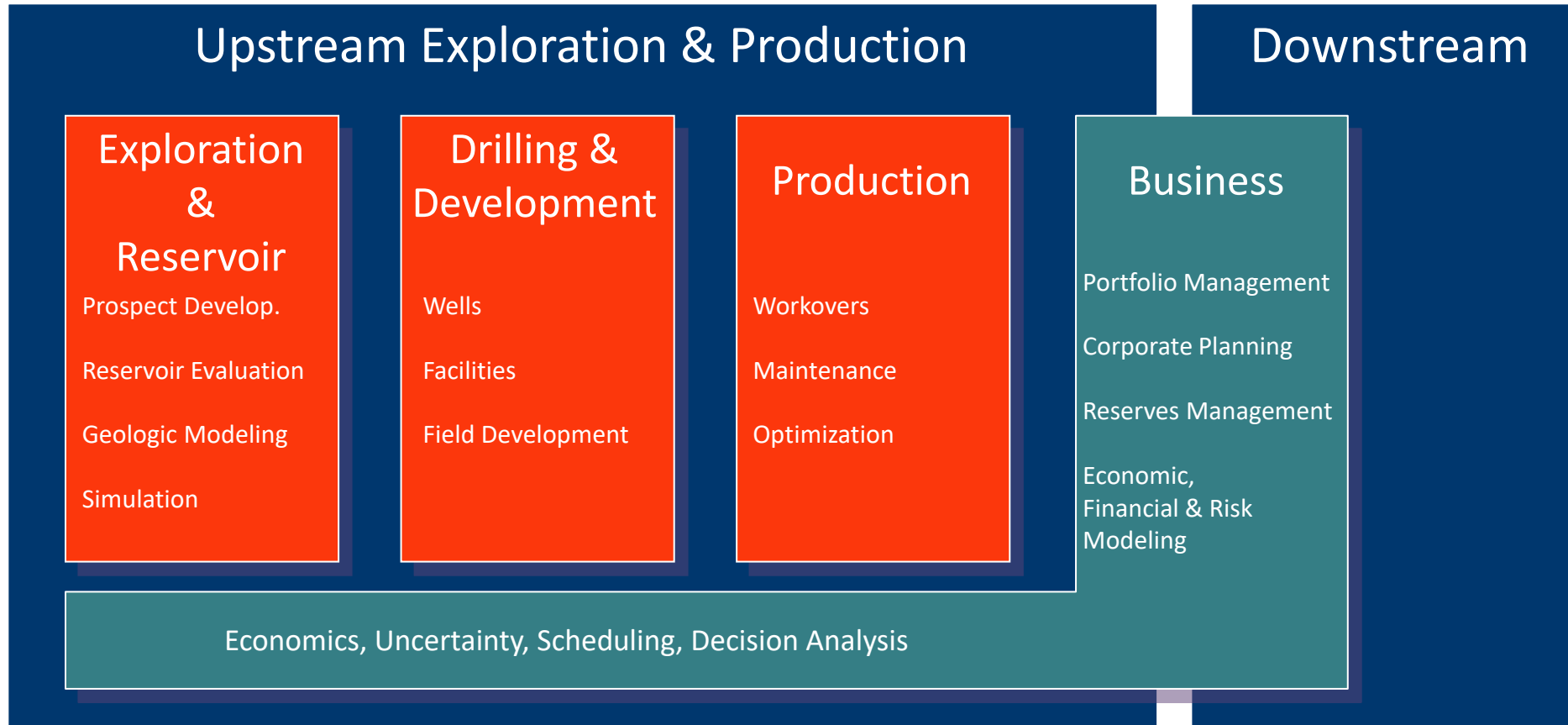
**Growing ESG Scrutiny**  
Environmental impact  
Social license to operate  
Governance standards



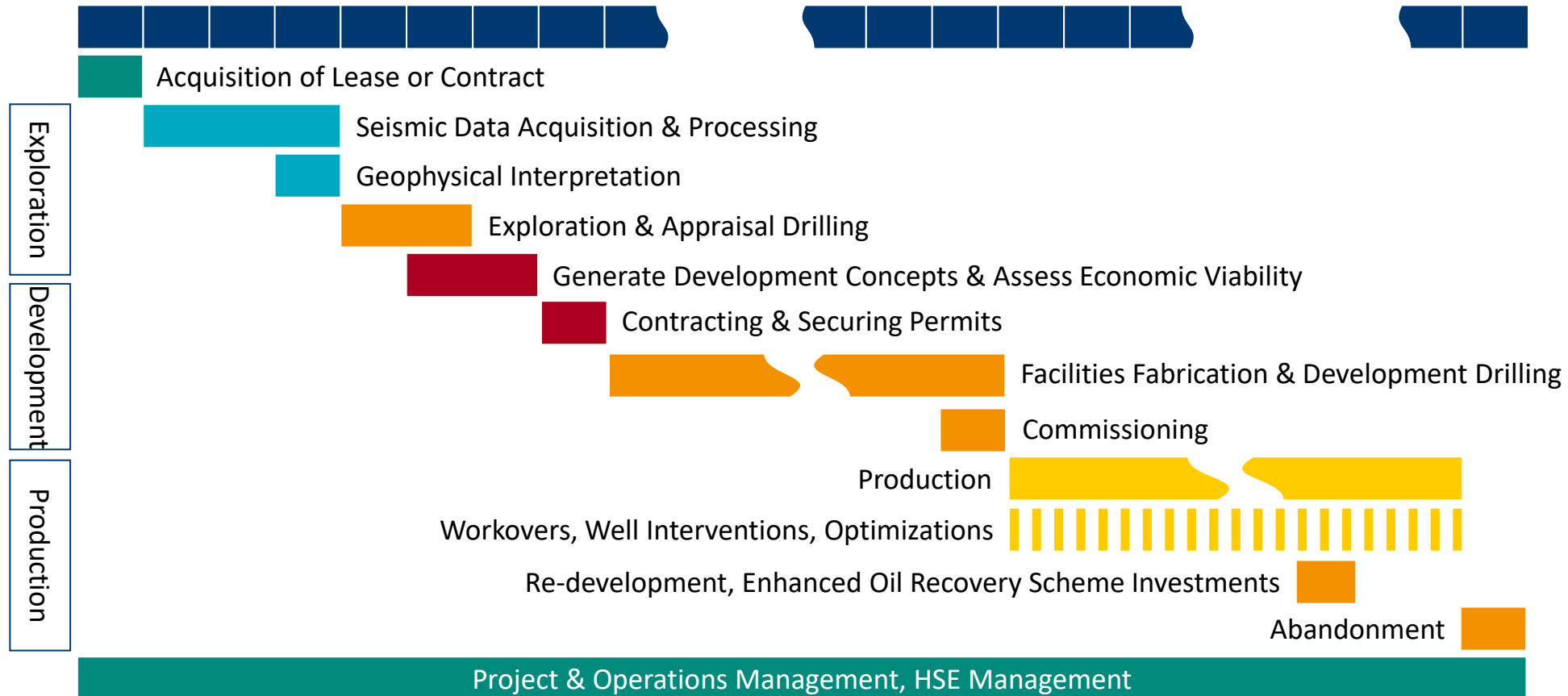
**Geopolitical Sensitivities**  
Global contexts with  
varying regulations and  
risks.

Source: Picture of Geopolitical Sensitivities is from The Economist

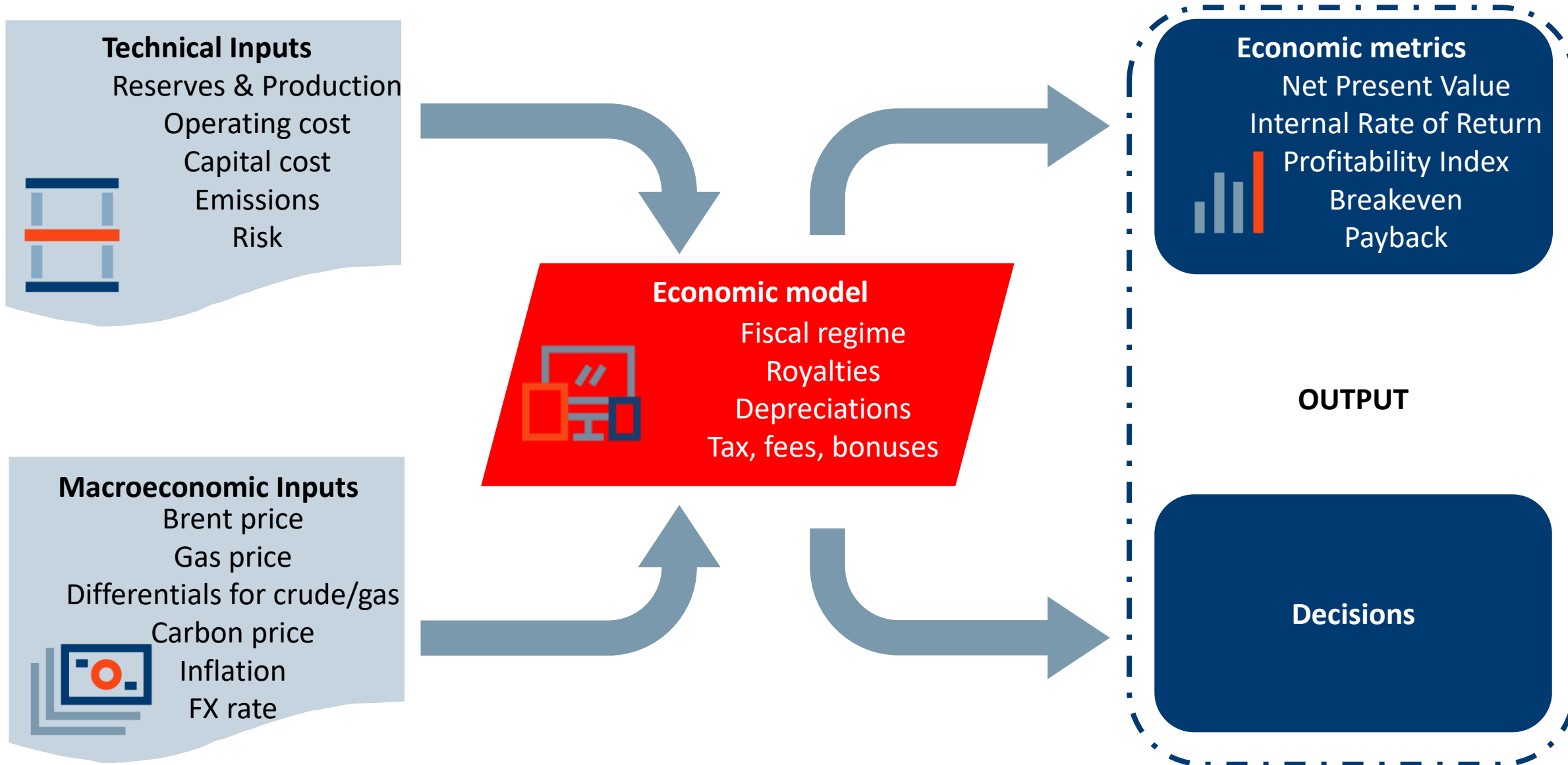
# Oil & Gas Value Chain



# Life Cycle of an E&P Project



# Making good decisions while bringing technical and finance together



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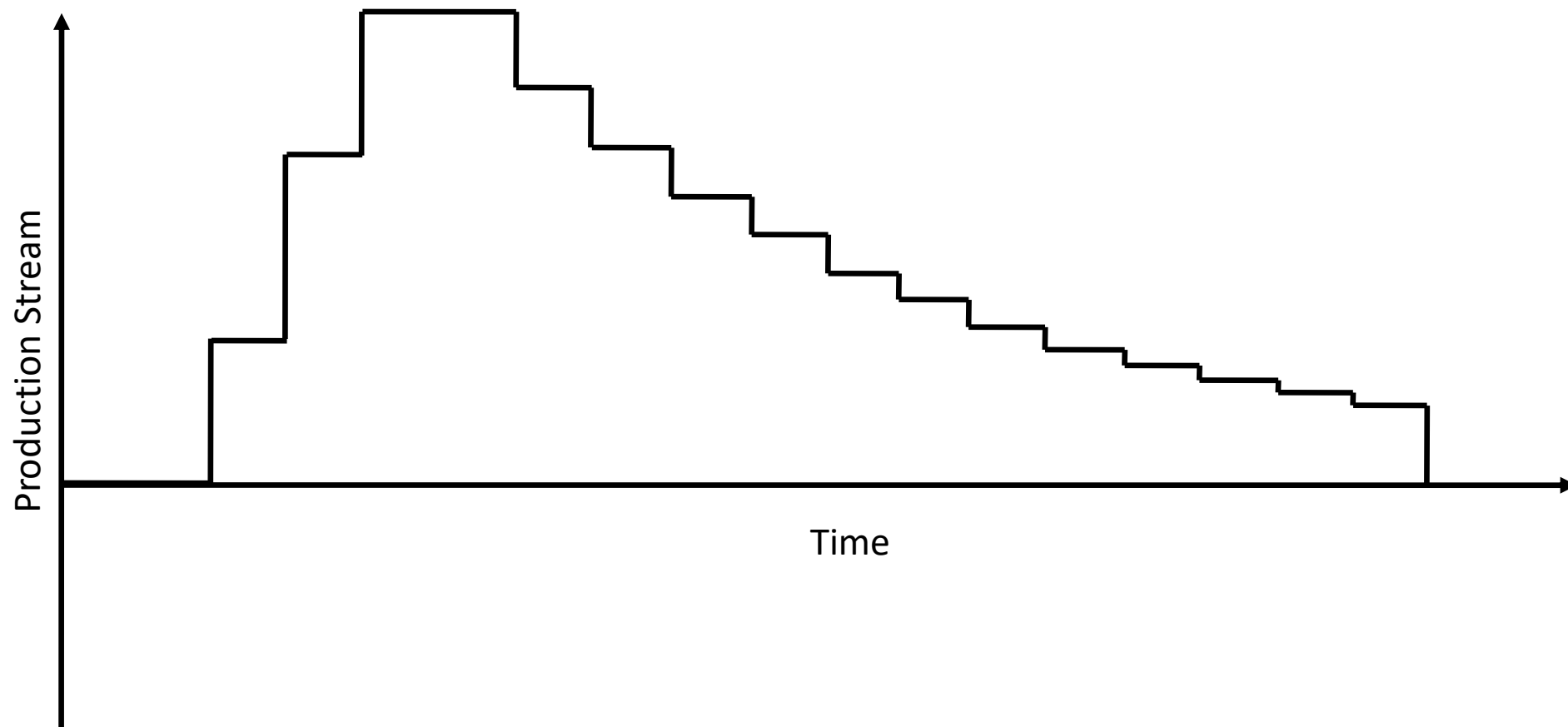
## Revenue Sources

- Gross Revenues from sale of Hydrocarbons
- Tariffs received from renting out facilities
- Payments from farming out an interest in the venture

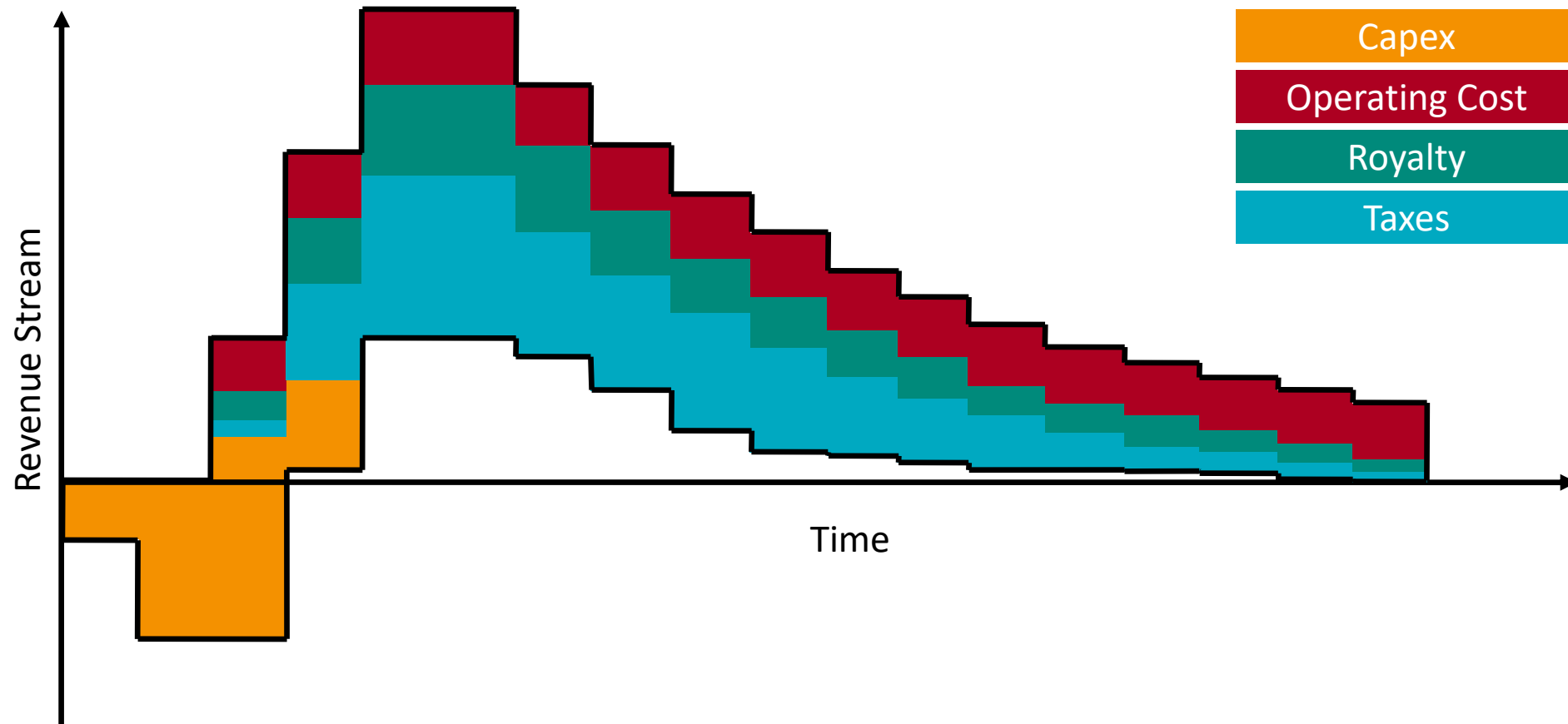
## Expenditure Items

- Capital Expenditures (Capex), e.g. Platforms, Facilities, Wells
  - Operating Expenditures (Opex), e.g. Maintenance, Salaries
  - Government Take, Royalties, Taxes, Land Use Fees
-

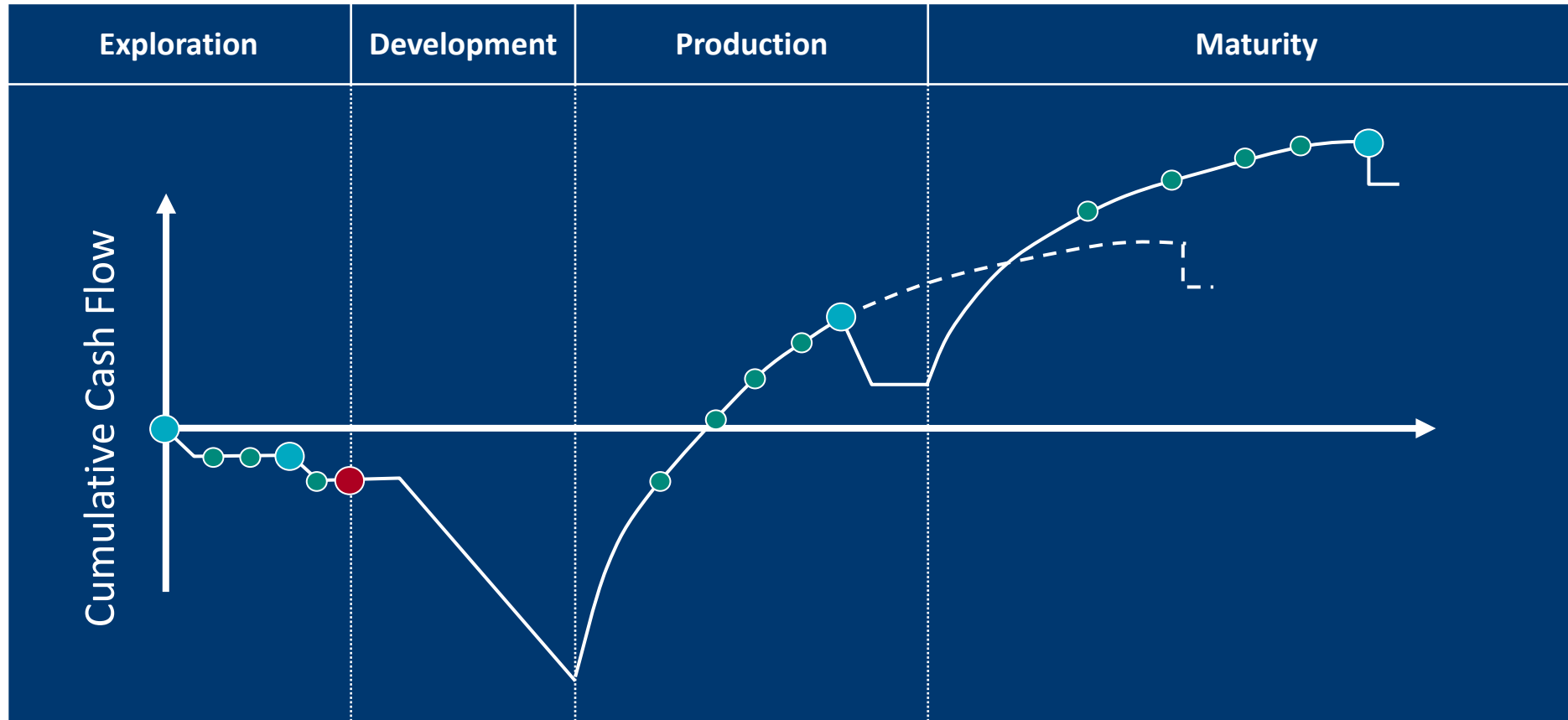
# Profile of an E&P Project

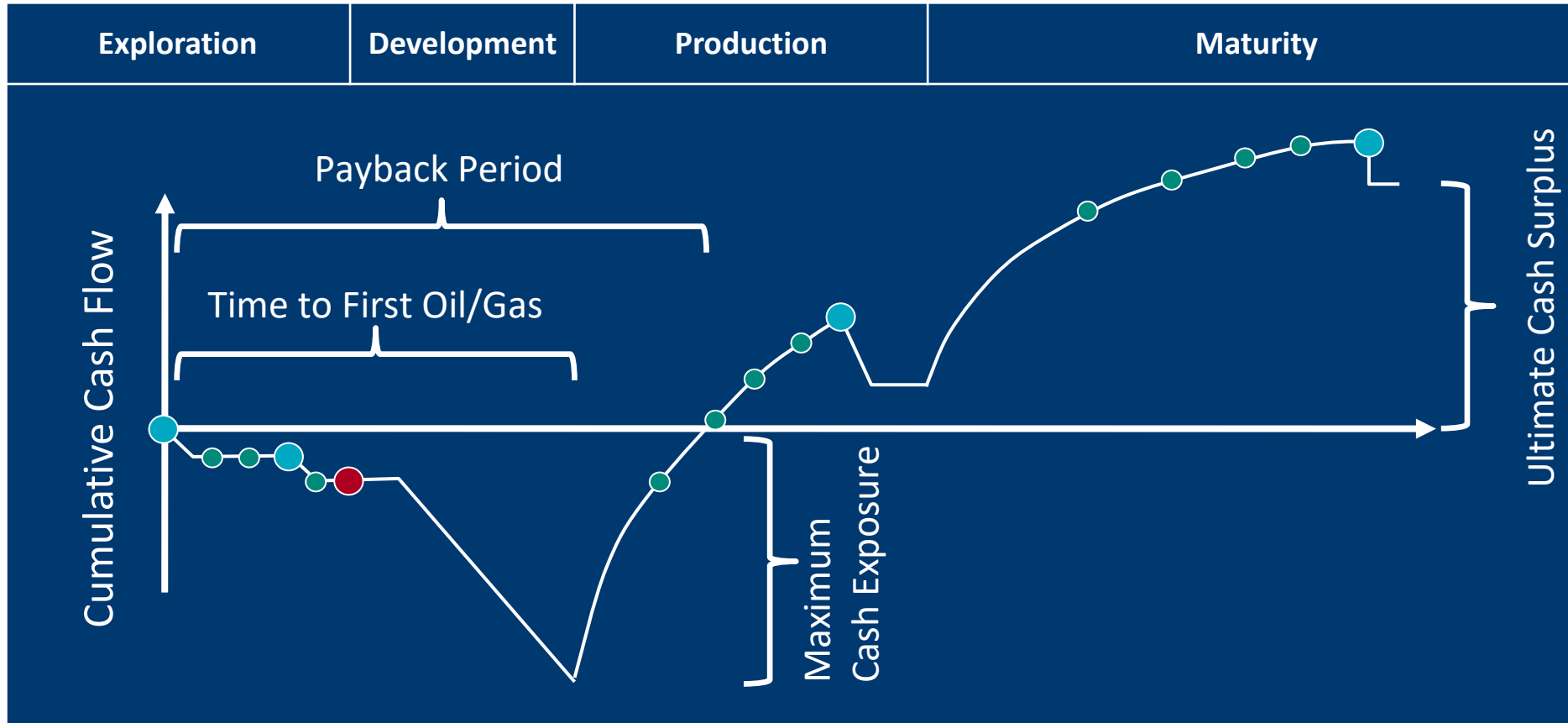


# Profile of an E&P Project

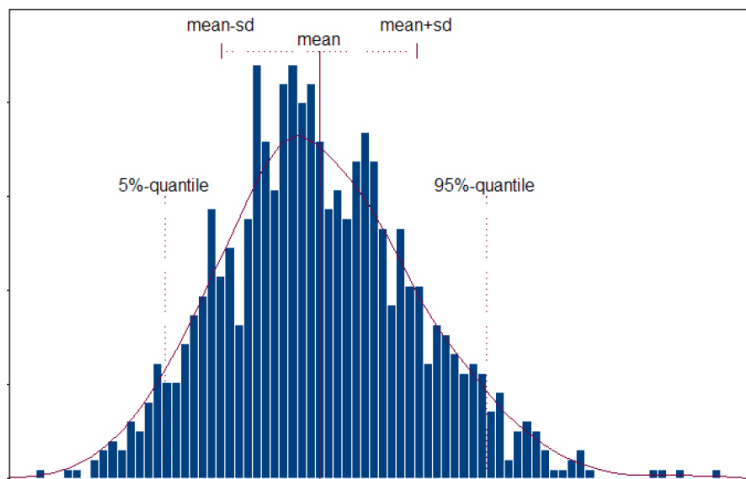


# Life Cycle of an E&P Project from Cashflow Perspective

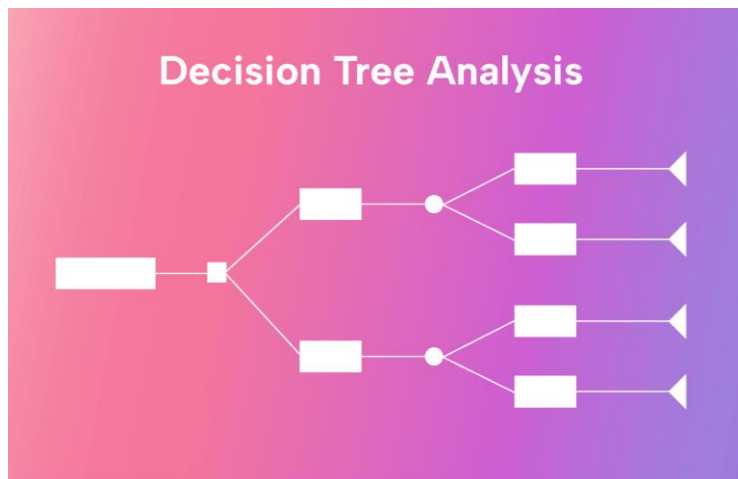




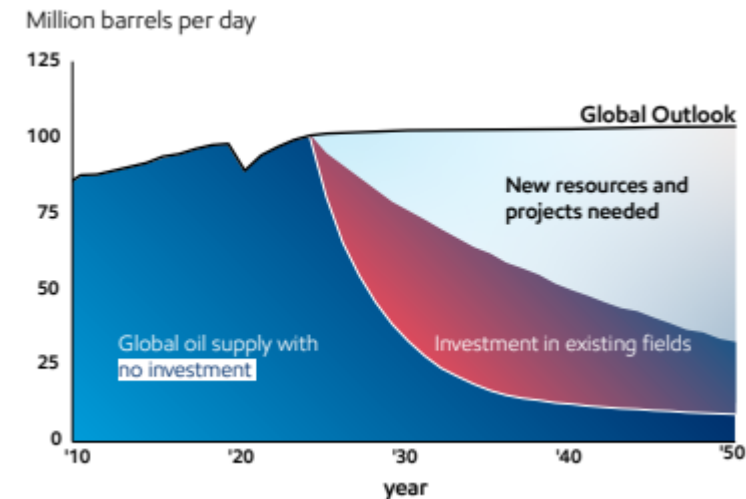
# Tools for Navigating Uncertainty



**Probabilistic Analysis:** Understanding the range of possible outcomes, not just a single number.

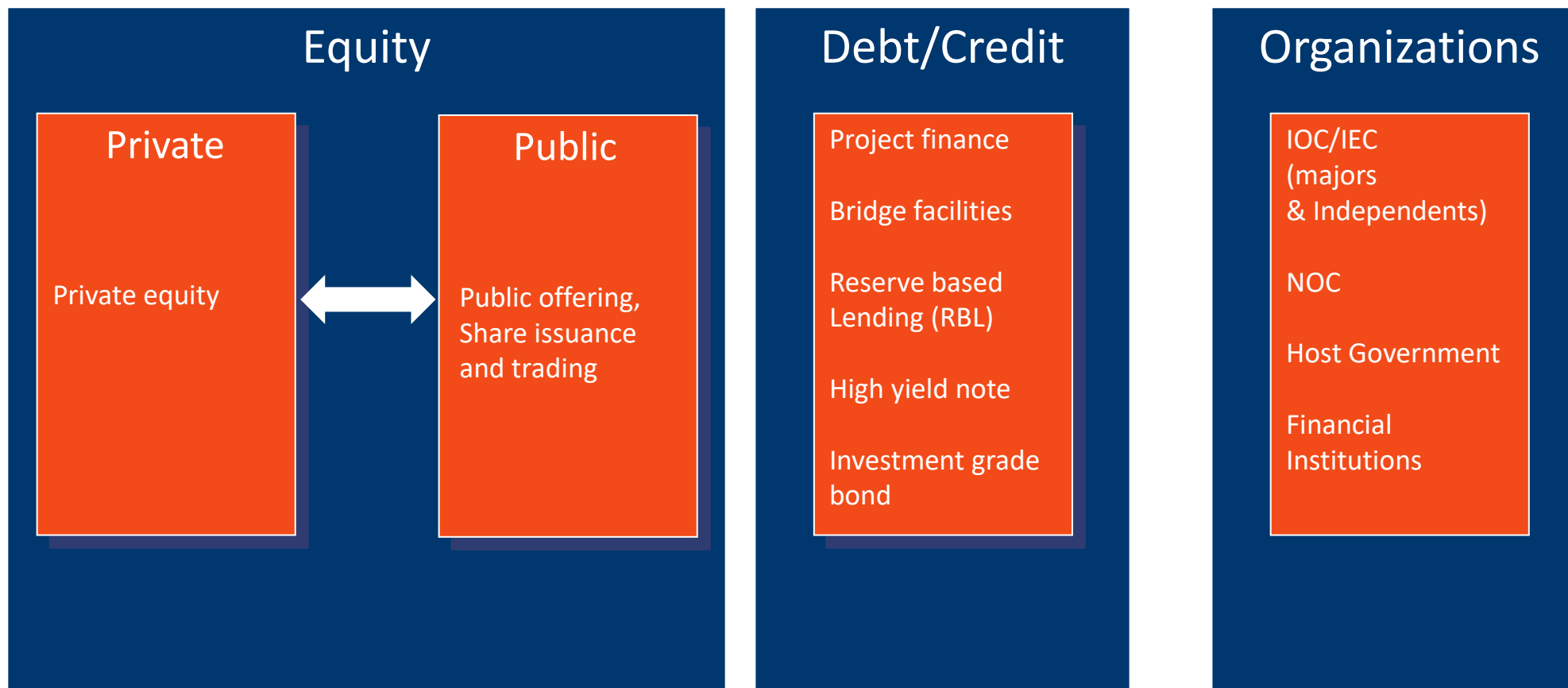


**Decision Tree Analysis:** Mapping out choices and their potential consequences.

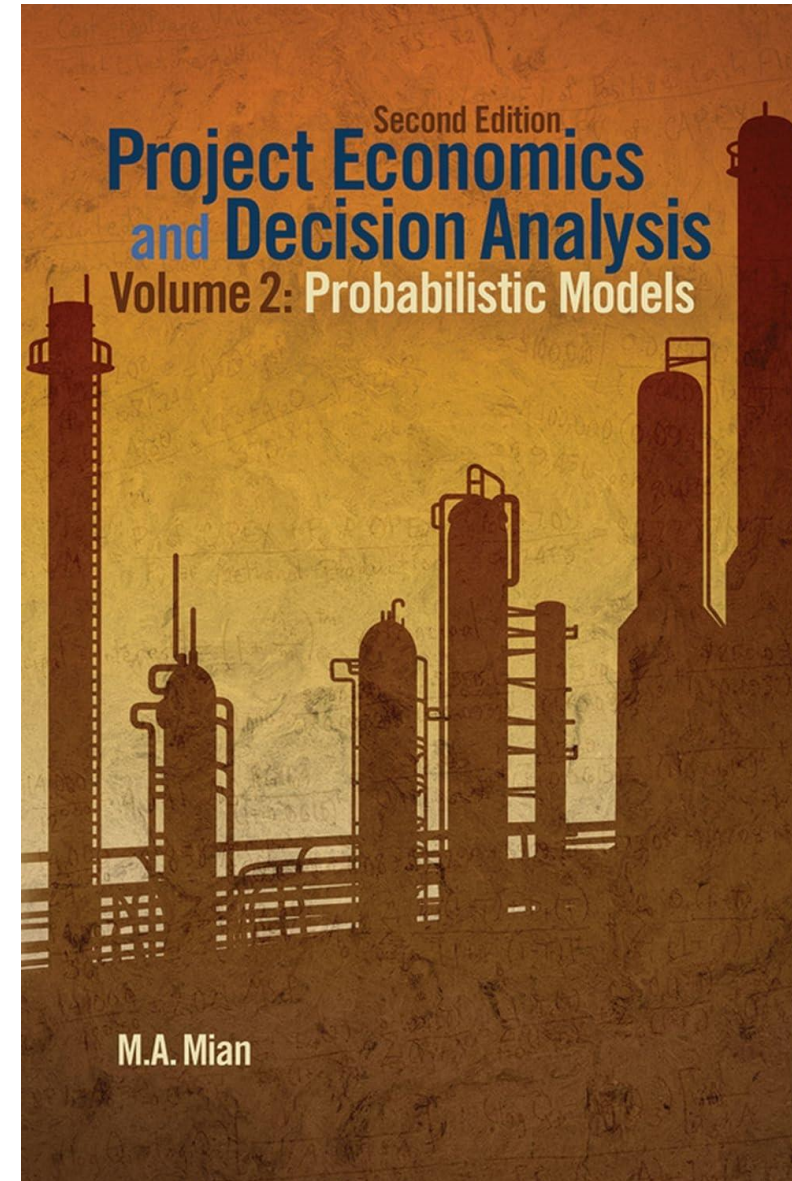
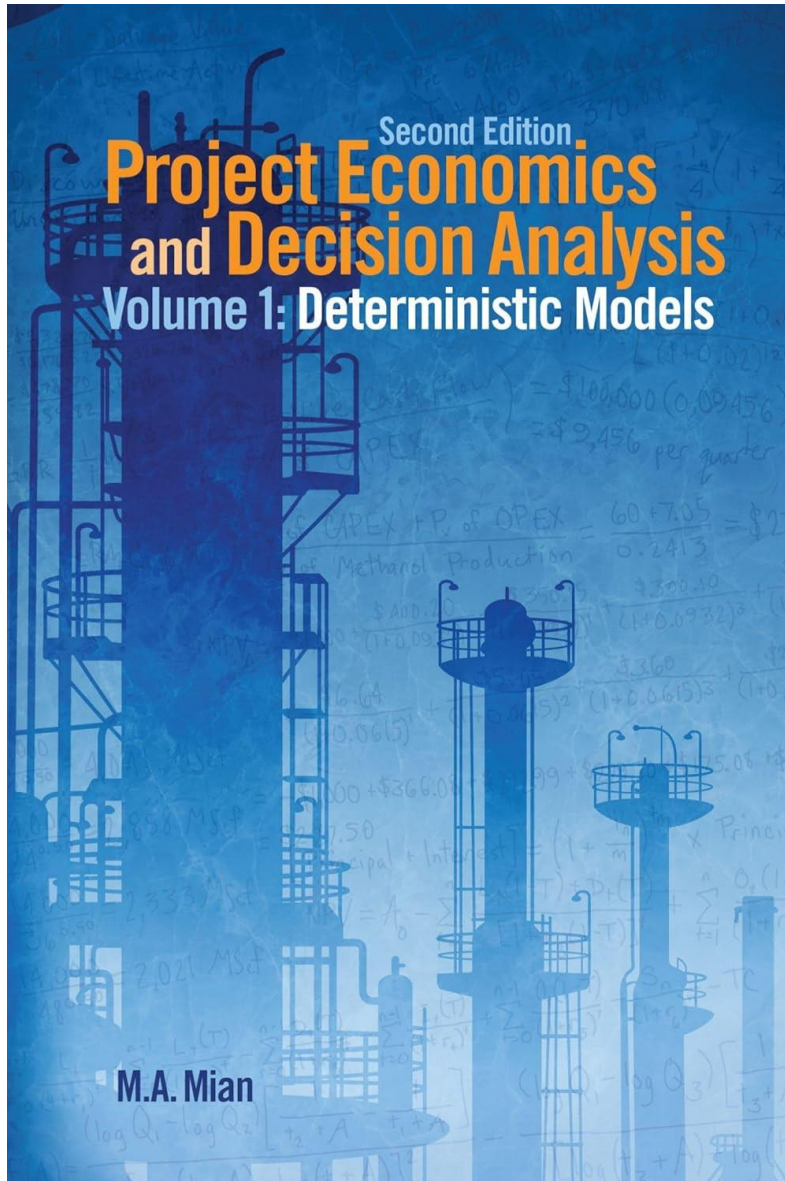


**Scenario Planning:** Preparing for different future states.

# Financing Upstream Oil & Gas Projects



# Reference



# Q&A



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