

## **Evaluating Exploration and Development Strategies for Andaman Basin, Offshore India**

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### **Abstract**

#### **Description**

In the present era of energy transition when there is pressure on exploration and production (E&P) companies to deliver low-carbon development solutions, deepwater and ultra-deepwater exploration drilling has made a comeback in recent years. This indicates the desire of global majors to refine existing exploration portfolios and accelerate the monetization of the most material opportunities.

India's oil and gas imports have increased to more than 85% and 40% respectively in 2022. The global volatility in oil and gas prices, influenced by the Coronavirus disease (COVID-19) pandemic, the Russia-Ukraine war and now the recent Israel war, highlights India's imperative need for reliable, affordable, and sustainable energy. Indian sedimentary basins, primarily the east coast deepwater and ultra-deepwater areas have had minimal exploration to date. The Indian Government has also introduced numerous reforms in the upstream sector in recent years, including lucrative contract terms and incentives to encourage deepwater and ultra-deepwater exploration in the country.

With the help of S&P Global Commodity Insights E&P products – Upstream Intelligence (GEPS)©, EDIN database©, Vantage© and Questor© – a study on global trends in deepwater and ultra-deepwater exploration and discoveries has been carried out. This study focuses on applying the learnings from global deepwater and ultra-deepwater exploration campaigns and subsequent discoveries such as TotalEnergies in Nambia, ExxonMobil in Guyana, and ENI in Indonesia, to explore India's deepwater and ultra-deepwater potential, along with how the E&P industry is discovering hydrocarbons in new and innovative deepwater and ultra-deepwater plays. A case study analysis also has been carried out on the Andaman Basin to find global basin analogues and apply analogue learnings to define the exploration strategies, alongside potential plays to be targeted. This has been followed by evaluating development concepts and preparing a valuation model for early monetization of any potential discovery.

#### **Applications**

In light of the upcoming OALP-IX bid round offering 11 deepwater / ultra-deepwater blocks, this provides insights into the strategies of global majors, evaluating their applicability in India's deepwater and ultra-deepwater areas. The study further helps in understanding whether India could become a sought-after destination for global majors, aiming for big prospect discoveries that could be monetized in a meaningful time frame.

### Results, Conclusions and Technical Contributions

The case study results help analyse the exploration strategies for deepwater and ultra-deepwater exploration in India and evaluate the development concept for fast-track monetization for any potential discovery, using the Andaman Basin as a case study example.

The findings also comprise a commercial feasibility analysis for a field discovery in the Andaman Basin, comparing it with some key producing and under-development deepwater gas global projects. The study chart for a field discovery in Andaman Basin compares and runs scenarios, based on discovery size, estimated development plans and project development costs, to evaluate the project's profitability through calculated After-Tax Net Present Value (AT NPV).

The commercial analysis would also help to assess India's latest fiscal reforms and compare these for developing similar deepwater / ultra-deepwater projects globally.