

MARITIME INSTITUTE OF MALAYSIA

Advancing the Frontier of Maritime Knowledge

THE QUEST FOR ENERGY : CHALLENGES OF DEEPWATER EXPLORATION

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Presentation outline



- The never-ending search for energy
- Development of deepwater pursuit
- Factors driving deepwater exploration
- R&D : The backbone of deepwater E&P
- Challenges, present and future
- The road ahead

The never-ending search for energy



- World's energy need : 82 mil. barrels/day.
- IEA projected this to double by 2030.
- Current reserves : 1.93 tril. barrels.
- Production depletion rate : 1 mil./day.
- Peak oil : no longer a myth?
- Current jitters due to imbalance in production/ consumption and adverse on-goings in oil-producing nations.

Deepwater development



- New mantra : Diversifying energy supply.
- This leads to exploration of new frontiers.
- Quest for O&G is going further, deeper.
- Deepwater definition will change as deeper frontiers are explored.
- Cost of drill deepwater well : US\$30-50 mil.
- Cost of single field development : US\$1 bil
- Deepwater development is on a roll!

Factors driving deepwater development



- Rising world energy demand, propelled by developing countries.
- Bullish forecast of deepwater reserves.
- Availability of technologies to support E&P.
- Strong support services.
- The rise of China and India as economic superpowers.

R&D : The backbone of deepwater E&P



- Deeper water = greater challenges, hence the use of right technologies is crucial.
- Behind tech inventions in O&G lies R&D.
- R&D is critical to ensure effective design, production, operations.
- R&D also plays a major role in forecasting reservoir performance.
- As pursuit gets deeper, more R&D is needed to come up with the right tools.

Challenges, present and future



- Technology's role to become more crucial
- Able and adequate support base detrimental to deepwater E&P success.
- Bigger capital investment needed.
- More effective solutions needed to shorten production and delivery time.
- Exploration of more greensites.

Challenges, present and future



- Competition for market share impacting investment allocation for deepwater
- Environmental issues.
- Allocation of resources for environmental activities.
- Deepwater exploration of gas as an alternative energy source.
- Human dimension issues.

The road ahead



- As world's thirst for energy continues, deepwater pursuit will gain momentum.
- As new fields are discovered, more supply will be on the way.
- With technologies available, the outlook should remain bullish.
- Daunting geological challenge looms.
- Respect and protect, not just extract!

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