

# Day 1

## CEO Industry Outlook

### Navigating Energy Trilemma (Energy Security, Sustainability, and Affordability) in Oil & Gas Business

**Nicke Widyawati**

**President Director & CEO PT Pertamina (Persero)**

**Navigating Energy Trilemma in Oil & Gas Business**

All governments, including in South East Asia, have been confronted in 2022 with the need to rebalance actions around energy security, given geopolitics conflict and inflation versus net zero promises. The level of electricity use, access, reliability, and affordability is closely correlated with the GDP per capita of a nation. Affordability and availability of energy are strongly linked to income, and the lack of energy access is often associated with low-income populations.

A significant gap exists between developed and developing countries in terms of per capita energy consumption. Developed nations tend to have higher energy consumption due to factors like higher incomes, better access to technology, and greater availability of energy sources. However, some parts of the globe, including certain G20 members, have the highest energy consumption and emissions, accounting for 75% of global emissions.

Yet energy affordability still one of main issue, especially in developing countries. For example, the situation in Indonesia is like two sides of coin. Indonesia faces a unique challenge with regards to energy. On one hand, subsidies for fossil fuels encourage high production and consumption, but they are incompatible with climate goals. On the other hand, Indonesia possesses vast potential for energy transition, particularly in renewable energy sources like bioenergy, natural gas, geothermal, and other green technologies. The country is rich in resources like nickel and has enormous potential for renewable energy generation and carbon capture and storage (CCS).

It is important to note that transitioning to low-carbon energy should be managed carefully to avoid imposing high costs and inequities on vulnerable populations. In developing countries, special attention must be given to ensuring energy affordability for the people. Key challenges include technology readiness, economic feasibility, financing, and equitable employment opportunities in the clean energy sector. To facilitate the energy transition, strong government regulations and global financing mechanisms should be put in place to support decarbonization projects.

In summary, the energy transition is a complex and multifaceted endeavor that requires coordinated efforts from governments, companies like Pertamina, and the international community. Thus, emphasizing on government regulation support and global financing mechanism to support decarbonization projects.

**Tan Sri Tengku Muhammad Taufik Tengku Kamadjaja Aziz**

**Chairman of Gentari Sdn. Bhd. and President, CEO & Director at Petroliam Nasional Bhd**

**Maximising the value of hydrocarbon resources: Long-term economic value creation**

Petronas plays a crucial role in assisting Malaysia in navigating the energy transition. As the national oil and gas company of Malaysia, Petronas is a major player in the country's energy sector and holds significant influence over its energy policies and practices. Energy demand in Southeast Asia is experiencing steady growth, with projections indicating continued average annual energy demand growth until 2030. Despite this increasing demand, the region's contribution to global emissions remains relatively low, accounting for only 7.7% of the total. In stark contrast, the US, China, and Europe hold a much larger responsibility, jointly contributing to over 50% of global emissions. The company strives to deliver energy from its core portfolio in the form of differentiated products that uphold values such as safety, responsibility, cost optimization, and emissions reduction.

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Addressing concerns about CCS being seen as a means to legitimize fossil fuel consumption, Petronas views CCS as an effective tool for both emission reduction and generating revenue. One of Petronas notable achievements in this regard is the successful operationalization of Gentari, which facilitates cleaner energy solutions through three main initiatives: Renewable Energy promotion, fostering green mobility, and developing hydrogen solutions.

Committed to the goal of achieving Net Zero Carbon Emissions by 2050, Petronas has set short-term targets as well. By 2024, the company aims to cap operational emissions at 49.5 million tonnes of carbon dioxide equivalent in Malaysia. Furthermore, it seeks to achieve a 25% absolute emissions reduction Groupwide by 2030 based on 2019 emissions data.

To progress towards a net-zero future, Petronas collaborates with stakeholders and customers to decarbonize their energy systems and supports their aspirations for achieving net-zero emissions. The company firmly believes that partnership and collaboration, bolstered by stable and pragmatic policies, are pivotal in overcoming the challenges of the evolving energy landscape.

#### **Mansoor Mohamed Al Hamed** **CEO Mudabala Energy**

#### **Energy scenarios & strategic options in balancing the energy trilemma**

Mudabala Energy have been present in Indonesia since 2004 and currently operate four offshore Production Sharing Contracts, and its approach to addressing the energy trilemma involves tackling three key aspects. Firstly, it emphasizes the use of gas as a reliable and cleaner energy source. Secondly, it aims to meet the increasing energy demand efficiently and safely. Thirdly, it is committed to ensuring equitable access to energy for the people, especially those who currently lack reliable energy for household cooking, a number that stands at around 4 billion globally.

To navigate these challenges and achieve energy sustainability, Mubadala Energy has outlined its efforts in a sustainability report. This report highlights the company's initiatives to address the energy trilemma in a comprehensive manner. The first aspect of their approach involves leveraging natural gas, which is a cleaner-burning fossil fuel compared to coal and oil. By promoting the use of gas, Mubadala Energy aims to reduce greenhouse gas emissions and minimize the environmental impact of energy production.

Expanding the use of Non-Renewable Energy (NRE) sources, such as hydrogen, is another key focus. Hydrogen is a promising alternative to traditional fossil fuels, and investing in its production and utilization can contribute to a more sustainable energy mix. Additionally, Mubadala Energy is committed to CCS initiatives. Decarbonization of energy generation is a priority for Mubadala Energy, meaning they are determined to shift their energy generation away from high-emission sources and transition towards cleaner and renewable alternatives.

Recognizing that tackling the energy trilemma requires collaborative efforts, Mubadala Energy values strong partnerships with various stakeholders, including government bodies, technology providers, and local communities. Emphasizing technology innovation is also crucial for finding sustainable solutions to energy challenges. Moreover, Mubadala Energy acknowledges the significance of community participation in shaping energy-related decisions. By engaging with communities and understanding their needs and concerns, the company can ensure that its initiatives are inclusive and aligned with the interests of the people it serves.

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In conclusion, Mubadala Energy's approach to the energy trilemma in Indonesia involves a multi-faceted strategy encompassing the use of gas, expansion of NRE like hydrogen and CCS, and a dedicated focus on decarbonization. With strong partnerships, technology innovation, and community involvement, Mubadala Energy aims to contribute to a sustainable and equitable energy future for Indonesia.

#### Q & A

##### 1. Could you elaborate the CCS implementation and opportunity in Indonesia?

Petronas' agreement with Pertamina to develop CCS technology represents a significant advancement in carbon capture and storage efforts in Indonesia. Focusing on safety, cost optimization, reliability, and carbon abatement will be crucial in realizing the potential of CCS as a key tool in Indonesia's energy transition and its efforts to combat climate change. By aligning policies and fostering collaboration among stakeholders, Indonesia can play a leading role in promoting sustainable energy practices in the region and beyond. **(Tan Sri Tengku Muhammad Taufik Tengku Kamadjaja Aziz)**

##### 2. How to ensure a smooth energy transition in South East Asia while balancing the shift with energy security?

Indonesia faces the challenge of balancing its priorities between securing energy supplies, achieving national energy independence, and implementing decarbonization efforts. While the country is rich in natural resources that can be harnessed for non-renewable energy (NRE) and power generation, it must carefully choose its priorities to ensure a sustainable energy future. **(Nicke Widyawati)**

Achieving a balance between energy security and decarbonization can be facilitated through some strategic approaches. These approaches should include gas exploration, expanding NRE resources, promoting public participation, attracting new generations, and fostering partnerships that involve capital and regulation that will strengthen the support energy sustainability system. **(Mansoor Mohamed Al Hamed)**

Geo-exploration, which involves the exploration and extraction of oil and gas reserves, should not be declared dead, especially considering the current and projected energy demands. As energy demand continues to grow, it is essential to carefully consider the proportion of oil and gas in energy power generation while also factoring in the need for sustainable and cleaner energy sources. **(Tan Sri Tengku Muhammad Taufik Tengku Kamadjaja Aziz)**