ME101 Lecture 7: The Challenge Beyond Economics | Whither Oil and Gas?

Speaker: Mr Philippe Rose; Moderator: Mr Carl Skadian

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Mr Philippe Rose began the lecture by sharing his personal experience throughout a 16-year career in the oil and gas industry across Africa, the Middle East and East Asia. As the oil industry has thrived in those regions over the past few decades, there is also a need to recognise/take note of global and regional trends as energy systems are going through a transition.

He said there is an apparent convergence of multiple trends within the global energy sector in recent years. For instance, the growth in electrification and the collapse of renewable energy prices have led to stagnating demand for oil and gas. At the same time, there is an increased push by societies and governments around the world towards decarbonisation due to climate change. Hence, more investments have gone into renewable energy plants as they are relatively cheaper to build and operate than conventional power plants.

As renewable sources become more popular, Mr Rose said primary energy demand is reaching a plateau for the first time since the beginning of widespread industrialisation of Western economies in the 19th century. The impact of these trends has also been amplified by the current coronavirus pandemic situation.

Renewable energy is also transforming the power sector as it is projected to contribute up to 50 per cent of global electricity generation by 2035, and more than 70 per cent by 2050.

Mr Rose also explained that there are major changes in energy transition as there is a switch in the supply system within the energy market. Traditionally, governments and vertically integrated utilities provide the supply of energy sources and serve the demands of the market. The emerging trend, however, is that developers would provide the supply with widespread liberalisation in the energy-generating market. The demand is then served by cooperatives, renewable energy products and private companies.

There has also been an expansion in the demand for renewable energy due to increased electrification of transportation as well as the growth in conversion towards green hydrogen. Consequently, these have made the generation of renewable energy cheaper than the generation of coal power in most countries. Globally, within the private sector, this developing trend has also translated into aggressive reduction of reliance on purchased electricity, as well as a commitment to intensively reduce carbon emission through supply chains.

Due to the United States' robust domestic energy production market, it is no longer dependent on Middle East energy imports. At present, the US, Saudi Arabia and Russia are the new market makers as their monthly crude oil production continued to increase through the last decade. China, on the other hand, has been the world's foremost oil consumer as the country's crude oil imports surpassed 10 million barrels per day in 2019.

In effect, global energy trends have always shaped regional trends. This can be observed through the increasing demand for renewables as industries transition towards electrification. Mr Rose said the demand for electric energy will grow further by 80 per cent through 2050. Mr Rose also maintained that despite weaker demand for Middle Eastern oil, the demand will not vanish any time soon. This is because oil and gas still account for 94 per cent of power generation globally. While the use of renewables is rising fast, it is projected to account for only 10 per cent of global energy consumption by 2040. Despite that, member countries of the Gulf Cooperation Council (GCC) have been setting up diversification plans to reduce their heavy reliance on income made from oil. At the same time, the GCC nations have also committed to plans for sustainable energy targets in their bid to ensure a safer and healthier planet for the future.

As the Covid-19 pandemic looms over the world, it has become an accelerant for the amplification of those global trends in the energy market, said Mr Rose. For instance, fragile states such as Lebanon and Iraq were constrained in their response towards the pandemic and were forced to adopt less effective general restrictions due to a weak public sector. The stronger states, like Qatar, were able to relax general restrictions and implement sanitation, contract tracing and testing measures. Inevitably, the oil and gas fiscal revenue and foreign direct investment (FDI) were impacted, alongside the tourism sector which was seen as one of the few diversification sectors.

Highlights from the Question and Answer Session

Responding to questions raised was about Singapore's chances in becoming a regional leader in renewable energy, Mr Rose said while he is positive about Singapore playing a leading role in renewables within the region due to the availability of technology and expertise, he also highlighted land scarcity as a challenge for Singapore in building a mega solar power project. Thus, the country needs to set its sights beyond solar power production in the long run.

Singapore's geographical location as a trade hub can also be leveraged to create a network between the US and China, where many technology companies are based in, he added. At the same time, due to the relatively higher cost of electric cars compared to petrol ones, Singapore's government should also pay more attention to policies that can facilitate a more robust trend towards electric transport among the public. While China has been more successful in getting more electric cars on the roads by providing plenty of incentives to its technology companies to leverage on, the results have not been so favourable as the cars are of subpar quality. Hence, Mr Rose emphasised that policymakers need to strike a balance between all the necessary factors in the adoption of renewables.

Another question that was raised on whether China is in a vulnerable position due to its apparent over-reliance on Middle Eastern oil. While Mr Rose agreed that China might have placed itself in a vulnerable position, he said it is also worth noting that China's state-owned enterprises are heavily involved in financing and developing major projects and services in and around the Middle East. At the same time, China is well aware of the political dynamics in the Middle East and any other region that it has set foot in. According to Mr Rose, China values regional stability in order to protect and reinforce its own economic interests.