The 41st JCCP International Symposium

Eng. Mishaal Al-Thukair

General Manager – Refined Products and Distribution Oil & Gas Sector Ministry of Energy Kingdom of Saudi Arabia

"Strategies and Initiatives for Oil and Gas in Times of Global Economic Upheavals – Stable Supply and Green Transformation"

January 26, 2023, Tokyo

Excellencies, Distinguished Guests, Ladies and Gentlemen,

It is a great honor and pleasure to be here today to discuss this important topic with you --- thank you for the invitation, and it is always delightful to visit your great and hospitable country.

The Kingdom of Saudi Arabia cherishes the very strong and long-lasting relations between our countries, which started back in 1955. Since then, the Kingdom has always considered Japan as a strategic partner, that resulted in forming Saudi-Japan Vision 2030 in 2016 by our leaders.

The Minister of Energy of Saudi Arabia, HRH Prince Abdulaziz bin Salman, hosted the Japanese Minister of Economy, Trade and Industry, HE Mr. Yasutoshi Nishimura, in Riyadh to discuss ways to further enhance collaboration between the two countries and achieve their ambitious visions.

During the visit, a number of memorandums of cooperation were signed in the fields of circular carbon economy, carbon recycling, clean hydrogen and ammonia.

Under those agreements, the two countries agreed to strengthen areas of collaboration, such as decarbonization technologies, accelerating the use of hydrogen in transportation, promoting research and development of hydrogen & ammonia fuel technologies, and supply chains through localization strategies that draw on respective comparative strengths and their uses on a local, regional and international levels.

Moving towards the theme of this event, we are all aware that the oil market is going through various changes and is affected by many developments, such as global economic fluctuations; changing fuel economy regulations and technologies; increasingly competitive forms of alternative and renewable energy; electric vehicle penetration, and much more.

However, the long-term energy outlook confirms the need for all forms of energy to fuel the future global demand, which will give us much more responsibility to deliver the needed energy to the globe.

Oil will always be an integral part of modern life, not only as an energy source, but also in terms of the things it is used to make, such as expanded uses in the fields of petrochemicals and specialty products.

And while technologies are being invented to reduce our dependence on fossil fuels, technology is also developing towards making fossil fuels more environmentally friendly, and all is needed to ensure meeting future demands for global growth and development.

In this regard, I would like to add that we continue to stand committed to ensuring that global energy needs are met, and that the global oil market is balanced to ensure the long-term stability and reliability of global energy supplies to the world.

Having said that, it is important to state that dealing with the global energy landscape changes requires new strategies and plans both at the governmental and private sector levels, which leads me to the next part of my speech.

Saudi Arabia is progressing actively in alignment with 2030 vision's aspirations. A vision that serves as a catalyst by spearheading the country towards meeting both its economic diversification and revitalization goals.

In order to enhance our efforts to meet the aspirations of both our visions, and in a true example of partnership and trust, the Saudi-Japan joint vision 2030 group was formed. It has since held six ministerial meetings, the last of which took place in Tokyo in November 2022.

As we progress through the various initiatives of our vision, we will witness significant leaps in the fields of energy, and petrochemicals, all while maintaining the highest standards in terms of environmental stewardship...

In the Oil and Gas Sectors:

- And as part of our commitment to the global energy security, we are increasing the Kingdom's Oil Maximum Sustainable Capacity from 12 to 13.3 Million Barrels Per Day by 2027. We are also increasing our gas production by about the double to reach 18.5 billion cubic feet per day, mainly through the development of the Jafurah unconventional gas field which has 200 trillion cubic feet of rich raw gas resources.
- And we are expanding the Kingdom's Master Gas System Supply Network by adding 4,000 km of new pipelines. This expansion will enable us to reach six additional cities and regions in the Kingdom, to support industrial clusters and meet our increasing local demand.

As for the Petrochemical Sector:

- Saudi Arabia is currently the 4th largest producer of petrochemicals globally, with about 38 Million Tons per year of basic chemicals, which is around 5.4% of global production, with world class infrastructure in the eastern and western hubs of Saudi Arabia.
- And we have plans for utilizing emerging technologies (such as Crude Oil to Chemicals, and Thermal Crude to Chemicals) to produce higher yields of petrochemical products from crude oil, increase diversification and conversion of base chemicals & intermediates into downstream and specialty chemicals.
- In fact, HRH the Minister of Energy of Saudi Arabia announced in Nov 2022, the plan of building a 400 Thousand Barrels Per day Crude Oil to Chemicals Plant in Ras Al-Khair in eastern Saudi Arabia, producing around 9 million tons of chemicals and base oils annually.
- In addition to the recent announcement of the \$7 billion Shaheen project in S-Oil, which aims to convert crude oil into petrochemical feedstock and would represent the first commercialization of Aramco and Lummus Technology's TC2C thermal crude to chemicals technology, which increases chemical yield and reduces operating costs, the new plant is planned to have the capacity to produce up to 3.2 million tons of petrochemicals annually and include a facility to produce high-value polymers... And we have plans for much more.

- We aim to be the 3rd largest producer of petrochemicals globally, with a production of about 70 Million Tons per Year of basic chemicals. In addition, we are working on growing our downstream chemicals sector by 4-5 times, with over 70 downstream chemicals planned to be localized in the Kingdom, and about 15 specialty chemicals segments targets as focus areas.
- We believe that there are many Japanese companies that the Kingdom can collaborate with in these areas, such as Toray, JSR, Mitsubishi chemicals in synthetic rubber, carbon fiber, acrylics and many other opportunities.
- Collaboration with Adeka in plastic additives, DIC CORP in adhesive and coating, and Mitsui in surfactants are examples of potential partnerships with the Japanese companies in specialty chemicals.
- And of course, these are only examples of future partners in this field, and we are sure that there are many more Japanese companies in these fields, and we look forward to exploring the potential partnership opportunities with all of them.
- As we proceed to grow, develop and diversify, environmental stewardship is a key pillar in our strategies. The Kingdom aims to reduce its carbon emissions by 278 million tons per year by 2030, with the adoption of the Circular Carbon Economy (CCE)- based on zero waste, which will help reach our Net-Zero target by 2060.
- With regards to carbon, the Kingdom sees immense value in the development of Carbon Capture, Utilization and Storage (CCUS). Every day, we have the capability to capture and process over 2500 Tons of CO2 at our plant in Hawiyah. The captured CO2 is piped 85 kilometers and pumped into the Uthmaniyah oil reservoir, sequestering the gas while also helping to maintain pressure in the reservoir and recover more oil. Since the initial injection of CO2 in 2015, we have doubled oil production rates from four of our wells.
- In addition, The Saudi carbon capture center, at the port city of Jubail, will potentially be able to store up to 9 million tons of carbon dioxide a year by 2027. That's equivalent to the emissions from about 2 million gasoline-powered passenger vehicles driven over a year.
- This facility has a goal of making a significant contribution to the 44 million tons per year the kingdom plans to capture by 2035.
- In this regard, it is important to draw your attention to two key initiatives we are working on: the Saudi Green Initiative (SGI) & Middle East Green Initiative (MGI), which aim to reduce 278 million tons of CO2/year by 2030. Saudi Arabia also joined the Global Methane Pledge to reduce global methane emissions by 30%
- We are also optimizing the Kingdom's energy mix, aiming to produce 50% of Saudi Arabia's electricity through renewables by 2030. So far, we have commissioned 700MW of wind and solar plants in the Kingdom. In addition, 8 solar power plants have already have their Power Purchase agreements signed, with a total capacity of 5.8 GW, and in addition, 13 wind and solar plants are in different development stages, with a total power generation capacity of 8.5 GW.

- We are also spearheading future energy alternatives, by developing our capacity to produce 4 million tons per year of hydrogen to be the world's leading producer and exporter of clean hydrogen. This direction was demonstrated by Aramco's first Blue Ammonia shipment to Japan in September of last year.
 - In this regard, Saudi Arabia is well positioned to be a global leader in hydrogen, where it can produce large volumes of low-cost clean H2 across the Kingdom, such as the announced clean hydrogen plant in NEOM.
 - Furthermore, Saudi Arabia enjoys several advantages that make it an ideal hydrogen exporter, such as
 - low cost of production due to ample solar and wind resources
 - Availability of low-cost natural gas
 - Existing infrastructure to globally export hydrogen

In the end, I would like to note that JCCP has been, and will always be, a strong partner that Saudi Arabia can count on, especially in the areas of human resources development & training, knowledge sharing and building important networks. Together, we want to enhance the determination of both our countries to fully realize our joint ambitions.

To our friends and partners in Japan, I thank you all for giving me the opportunity to address this esteemed audience, and I am looking forward to the success of both of our great visions.

THANK YOU