

FY2021 Natural Gas Group Business Segment IR Meeting: Q&A

【Date】	Wednesday, December 8, 2021 13:15~14:45	
【Attendees】	Group CEO General Manager, Group CEO Office General Manager, Group Administration Dept. Division COO, Asia Pacific Div. Division COO, North America Div. Division COO, New LNG Ventures & Marketing Div. General Manager, Head of Investor Relations	Jun Nishizawa Shota Kondo Hiroshi Kawamoto Akihiko Takada Masaru Saito Ryosuke Tsugaru Tatsuhiko Terada

<Q&A>

Q. For LNG development in Australia, I understand that Browse Project(“Browse”) is positioned as a backfill source of North West Shelf (“NWS”), for which a depletion of the gas field is expected. Have there been any changes to your development plan? Please explain the current status and trends of LNG development in Australia, including the merger of the oil and gas operations between Woodside, who is the operator for Browse, and BHP, and the FID of Scarborough gas field.

A.

- The timing for development of Browse generally matches the production profile of declining NWS, thus there is no change to our concept of developing Browse as the backfill to NWS.
- We will not comment on Scarborough, since we do not have a stake in the project.

Q. I am concerned about NWS potentially becoming purely tolling business, therefore not being able to enjoy the upside of commodity price. Are you not concerned about this, even if NWS is to serve only as a tolling liquefaction facility to Browse?

A.

- By providing a liquefaction service to Browse, NWS will generate tolling fee revenues, while the LNG produced from Browse will be sold as our equity LNG to the global LNG market. Overall, it can be regarded that integrated model of NWS Project, which has both upstream and mid-stream, will continue.

Q. In relation to your existing LNG assets, it is mentioned in the presentation that the upstream interest for Donggi-Senoro was successfully extended. For other assets, is there a risk that extension of upstream will not happen which causes downside risk? Also, are there any projects in your development funnel which you could possibly participate in near future?

A.

- For existing projects that have specific maturity for the period of our interest, we will make decisions whether or not to extend the interest on case by case basis, after conducting due diligence based on various assumptions including oil and gas pricing. We are aiming to expand our LNG portfolio including third party LNG supply to approx. 15 million tons by FY2025, and to approx. 20 million tons by 2030.
- We cannot mention specific examples of new projects we are currently considering to participate.
- MC is a pioneer in LNG business involved in the business from 1960's, and through the years, we have gained years of experience and established solid reputation, which we will leverage to negotiate effectively and flexibly with stakeholders when we are to consider participation to new projects.

Q. How much volume is handled by DGI currently? How much revenue contribution do you expect in the future?

A.

- We cannot provide you with the exact figure, but to give you some color, DGI markets 4 million tons of Mitsubishi's equity LNG produced from the Cameron LNG facility, as well as several dozens of cargos purchased from our existing projects, and also from the third party supply volume.

- The volume of our equity LNG has been increasing, but we believe that risks are appropriately managed. We will continue to strengthen the marketing and optimization platform of DGI while continuing to implement proper risk control. We aim to further expand DGI portfolio, and would like to grow the business to generate the profit similar to that of one LNG project.

Q. Will the delays in FID and construction of LNG projects around the world lead to change in the demand/supply balance of LNG in general?

A.

- With many projects facing delays due to factors including Covid-19, we expect the supply of LNG will tighten in coming years.
- The total production capacity of LNG projects that are currently under construction is around 140 million tons, which is reported that there could be potential delays from 6 months to as long as 4 years. If there are no FIDs at all going forward, there could be a supply shortage of around 10 million tons in 2028.
- At the moment, demand and supply are more or less balanced looking the balance on full year basis. However, with the concentration of LNG demand in the winter particularly in the Northern Hemisphere, the monthly demand/supply balance is tightening in the peak season.
- LNG spot prices have been on the rise recently, but we believe that it is important for LNG to be delivered at a reasonable price, and we will continue to fulfil our responsibility of providing a stable supply of LNG during the transitional period towards carbon neutrality.

Q. In the investment plan demonstrated, you have set the target of 20 million tons of LNG supply portfolio per annum in the late 2020's, through acquisition of new assets, third party LNG, and by expansion of existing projects. Please explain more specifically how you intend to achieve this to achieve in achieving this including your views on Phase 2 of LNG Canada Project.

A.

- We expect the size of our LNG portfolio to reach approx. 15 million tons in 2025, including our equity LNG volume of 12 million tons today, and by successful startup of Tangguh LNG expansion and LNG Canada Phase 1.
- Towards the late 2020's, the further growth is expected by the expansion of existing projects, acquisition of new LNG assets, and by third party LNG supply.
- By 2030, we would like to deliver the successful start-up of Phase 2 of LNG Canada and Browse in Australia.
- We remain committed to fulfilling our responsibility of providing a stable supply of LNG. We will do so by monitoring market situations to optimize our strategy in a flexible and disciplined manner.

Q. If your annual portfolio volume increases from the current 12 to 20 million tons, will your profit nearly double in FY2030?

A.

- The sensitivity of our Group's net earnings to oil price is approx. 2.5 billion yen to USD1/BBL. Earning largely influenced by the oil price, but if volume increases, there will be a sizeable contribution to our earnings.

Q. How much demand is out there for carbon neutral LNG? And what is the amount of capex needed for CCS in relation to carbon neutral LNG?

A.

- There is a certain level of demand from end consumers for carbon neutral LNG as companies realize the requirement to decarbonize their products and services.
- In principle, CCS is primarily used to sequester GHG that is emitted at the gas fields and LNG production process. Meanwhile, GHG emitted from combustion could be offset through responsible use of carbon credits.
- The cost of CCS depends on where CO₂ is collected. According to the Ministry of Economy, Trade and Industry of Japan, the cost is estimated to be no more than USD100 per CO₂ ton, for the entire CCS supply chain from CO₂ collection to underground storage.

Q. With the spot prices of LNG expected to continue hovering in the current range, do you see the spot sales of excess LNG as an opportunity to generate incremental revenue?

A.

- Our mission is to fulfill our responsibility of providing a stable supply of essential energy to customers at reasonable prices through LNG project development. Therefore, we are not considering to increase spot sales volume in the future just because spot prices are currently on the rise.
- Although we expect the spot prices to remain at current level for the time being, we are concerned that such high price will reduce the demand of LNG in the long run, which will miserably be regressive to carbon neutrality.
- On the other hand, for projects that are already paid out, we may not necessarily need to secure long-term contracts, therefore we have been marketing certain amount of volume in the spot market which are generating profit under the current market situation.
- There are mainly two reasons for the rise in spot LNG pricing; demand recovery in China and other Asian countries, and also for decline of indigenous gas supply in Europe. For the latter, we understand that the gas shortage in Europe is amplified by the limitation of upstream gas production capacity in Russia, due to lack of long-term commitments.
- The challenge with renewable energy is its intermittent nature, and demand of natural gas is on the rise again in Europe to complement such. Unless we have an extremely warm winter, there are concerns that spot prices and volatility of the price to remain high for quite some time.

Q. In terms of the transaction price of natural gas, with the underlying trend towards carbon neutrality, do you think it will become possible to set a premium for low-carbon resources, or to have “floor” pricing in the pricing formula?

A.

- Going forward, pricing should take various forms such as the introduction of a carbon neutral premium, floor price, fixed price or pricing formula using both oil and LNG price indices as benchmarks, instead of simply linking to the oil price.
- There have been discussions from the past whether or not to continue linking LNG prices to oil, but it has become the norm in the industry, due to the potential upside in profits and transparency.
- The carbon neutral premium will internalize environmental costs, which had been externalized until now, into the global economy. We expect the economic structure of the world to gradually shift towards one which end consumers would bear the cost of environmental costs as part of the LNG price.

Q. How much is the cost premium of carbon neutral LNG? Do you expect this premium to continue?

A.

- Based on our current calculations, we presume the price of CO₂ credit for carbon neutral LNG to be around USD 0.1-0.5/mmbtu when utilizing voluntary credits.
- Meanwhile, as mentioned earlier, the cost of CCS is understood to be no more than USD100/ton per CO₂ for the entire value chain, which includes capture, transportation and storage etc. of CO₂. Based on such assumption, the unit cost premium is around USD1-6/mmbtu, which is currently less competitive than the voluntary credit price.
- Going forward, the cost of CCS is expected to decline due to advancement in technology, and we will continue to look into the possibility of making the economics work, taking into consideration of factors such as future trends in LNG pricing, the comparison with the price levels of alternative sources of energy, trends in global carbon and credit prices etc. in order to contribute in achieving de-carbonization goals globally.

Q. What is the main bottleneck in promoting the production of “LNG to hydrogen”?

A.

- The main bottleneck is handling of CO₂ in the liquefaction, transportation and other phases. Global cooperation is crucial in overcoming this difficulty.
- We will continue to look into utilization of carbon credits as an alternative.