

Description of Business Activities: Business Groups



NATURAL GAS GROUP

OUR VISION

Demand for natural gas (LNG), which has a low impact on the environment, is increasing due to growing global interest in environmental initiatives as well as increasing energy demand created by economic growth. Our goal is to achieve economical, societal, and environmental value through stable supply of LNG by recognizing it as an energy resource that realizes both economic growth and environmental preservation.

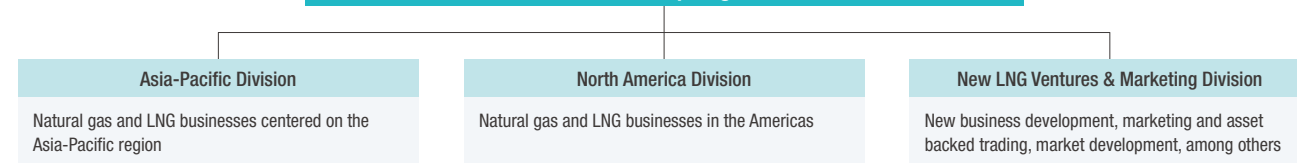
Jun Nishizawa

Executive Vice President
Group CEO, Natural Gas Group

西澤淳



Natural Gas Group Organization



Risks and Opportunities in Light of Changes in the External Environment

Risks	Opportunities
<ul style="list-style-type: none"> Future decline in demand for natural gas due to low-carbon societies Decline in market competitiveness of natural gas due to tighter regulations for industries against a backdrop of low-carbon societies Exhaustion of fossil fuel resources including natural gas 	<ul style="list-style-type: none"> Increase in demand for natural gas due to the switching from coal and petroleum and the need to compensate for the intermittent nature* of renewable energy Increase in operational efficiency and profitability due to innovations in technology Utilization of natural gas for the development of next-generation energy sources (blue hydrogen, blue ammonia, etc.) <p>*The output of power generation based on naturally derived renewable energy can fluctuate with unpredictable weather and other factors, thus other power sources are essential to make up for this uncertainty.</p>

Strengths of the Natural Gas Group

- Market presence as the largest LNG player in Japan (based on production share)
- Supply capacity from our LNG facilities around the world, and market development capability as well as supply and demand balancing capability focused on our subsidiary in Singapore
- Development of hydrogen from natural gas and CCUS technologies, as part of our efforts to achieve low-carbon societies

Elements of the Midterm Corporate Strategy 2021

In addition to strengthening the existing businesses and completing the projects under construction in a timely manner, we aim to expand earnings in the LNG business by participating in competitive new supply projects, strengthening sales capabilities, and developing new markets. We also recognize the resolution of both climate change and increasing energy demand as most important issues, and will work to reduce emissions while promoting a stable supply of environmentally low-impact LNG.

Progress for the fiscal year ended March 31, 2021

- Strengthen profit base of existing businesses by reduction of costs.
- Completed construction of the Cameron LNG trains 1/2/3 and all started production in the fiscal year ended March 31, 2021. Construction progressed at Indonesia Tangguh (Expansion) and LNG Canada projects with production beginning in 2022 and in the mid-2020s, respectively.
- In order to further expand our profit base, we conducted studies on participation in new LNG projects, and development of emerging LNG markets.
- Established the Natural Gas/Hydrogen Business Development Office and the Carbon Capture & Storage Project Unit, and began full-scale studies aimed at shifting to the decarbonization of natural gas.

EQUITY IN EARNINGS FROM MAJOR GROUP COMPANIES

(Unit: billions of yen)

	Ownership (%)	2017/3	2018/3	2019/3	2020/3	2021/3
LNG business						
1	LNG business-related equity method income*	—	37.8	42.8	61.9	45.7
	LNG business-related dividend income (after tax)	—	34.6	43.1	55.3	47.0
Shale gas business						
2	Shale gas business-related consolidated net income	—	-15.1	-15.5	-10.5	-17.0

*In addition to the LNG business-related equity method income listed above, the Industrial Infrastructure Group's equity method income amounted to 0.3 billion yen (fiscal year ended March 31, 2019), 0.3 billion yen (fiscal year ended March 31, 2020) and 2.5 billion yen (fiscal year ended March 31, 2021).

INVOLVEMENT IN LNG PROJECTS

Existing Projects in Production

Project	Beginning of production	Annual production capacity (million tons)		Buyer	Seller	Shareholding	MC's participation (years)	Business segment**	
		Total	MC's share						
Brunei	1972	7.2	1.8	25%	JERA, Tokyo Gas, Osaka Gas, etc.	Brunei LNG	Brunei gov. (50%), Shell (25%), MC (25%)	1969	A B C D
Malaysia I (Satu)	1983	8.4	0.42	5%	JERA, Tokyo Gas, Saibu Gas, etc.	Malaysia LNG	Petronas (90%), Sarawak gov. (5%), MC (5%)	1978	A B C D
Malaysia II (Dua)	1995	9.6	0.96	10%	Tohoku Electric, Tokyo Gas, Shizuoka Gas, Sendai City Gas, ENEOS Holdings etc.	Malaysia LNG	Petronas (80%), Sarawak gov. (10%), MC (10%)	1992	A B C D
Malaysia III (Tiga)	2003	7.7	0.31	4%	Tokyo Gas, Osaka Gas, Toho Gas, JAPEX, Korea Gas, Shanghai LNG etc.	Malaysia LNG Tiga	Petronas (60%), Sarawak gov. (25%), ENEOS Holdings (10%), DGN [MC/JAPEX = 80:20] (5%)	2000	A B C D
North West Shelf	1989	16.9	1.41	8.33%	JERA, Tokyo Gas, Shizuoka Gas, Toho Gas, Kansai Electric, Osaka Gas, Chugoku Electric, Kyushu Electric, Guangdong Dapeng LNG	NWS JV	Shell, BP, BHP, Chevron, Woodside, MIMI [MC/Mitsui & Co. = 50:50], 1/6 respectively	1985	A B C D
Oman	2000	7.1	0.20	2.77%	Osaka Gas, Korea Gas, Itochu Corporation, BP, etc.	Oman LNG	Oman gov. (51%), Shell (30%), Total (5.54%), MC (2.77%), etc.	1993	A B C D
Qalhat	2005	3.3	0.13	4%	Osaka Gas, Mitsui & Co., Union Fenosa Gas, etc.	Qalhat LNG	Oman gov. (46.8%), Oman LNG (36.8%), Union Fenosa Gas (7.4%), Osaka Gas (3%), MC (3%) etc.	2006	A B C D
Russia Sakhalin 2	Oil: 2008 (year-round production), LNG: 2009	9.6	0.96	10%	JERA, Tokyo Gas, Kyushu Electric, Toho Gas, Hiroshima Gas, Tohoku Electric, Saibu Gas, Osaka Gas, Korea Gas, Shell, Gazprom, etc.	Sakhalin Energy	Gazprom (50% + 1 share), Shell (27.5% - 1 share), Mitsui & Co. (12.5%), MC (10%)	1994 (PSA conclusion)	A B C D
Indonesia Tangguh	2009	7.6	0.75	9.92%	Tohoku Electric, Kansai Electric, SK E&S, POSCO, Fujian LNG, Sempra Energy, etc.	Tangguh JV	BP (40.2%), MI Berau [MC/INPEX = 56:44] (16.3%), KG Berau [MIBJ (MC/INPEX = 56:44) (16.5%), Mitsui & Co. (20.1%), JX Nippon Oil & Gas Exploration (14.2%), JOGMEC (49.2%)] (8.6%), etc. (★)	2001	A B C D
Indonesia Donggi-Senoro	2015	2.0	0.9	44.90%	JERA, Korea Gas, Kyushu Electric, etc.	PT. Donggi-Senoro LNG	Sulawesi LNG Development Limited [MC/Korea Gas = 75:25] (59.9%), PT Pertamina Hulu Energi (29%), PT Medco LNG Indonesia (11.1%)	2007	A B C D
Wheatstone	2017	8.9	0.28	3.17%	Chevron, KUPPEC, Woodside, Kyushu Electric, PEW, etc.	Equity Lifting**	Chevron (64.136%), KUPPEC (13.4%), Woodside (13%), Kyushu Electric (1.464%), PEW (8%; of which MC holds 39.7%)	2012	A B C D
Cameron	2019	12.0	4.0 ³	33.3% ⁴	MC, Mitsui & Co., Total (Toller)	Tolling**	Sempra Energy (50.2%), Japan LNG Investment [MC/NYK = 70:30] (16.6%), Mitsui & Co. (16.6%), Total (16.6%)	2012	A B C D
Total		100.3	12.12						

Projects Under Construction

Project	Beginning of production	Annual production capacity (million tons)		Buyer	Seller	Shareholding	MC's participation (years)	Business Segment**	
		Total	MC's share						
Indonesia Tangguh (Expansion)	2022	3.8	0.38	9.92%	PLN, Kansai Electric	Tangguh JV	Same as (★)	2001	A B C D
LNG Canada	Mid-2020s	14.0	2.1 ⁴	15% ⁴	Shell, Petronas, PetroChina, MC, Korea Gas	Equity Lifting**	Shell (40%), Petronas (25%), PetroChina (15%), Diamond LNG Canada Partnership (MC/Toho Gas = 96.7:3.3) (15%), Korea Gas (5%)	2010	A B C D
Total		17.8	2.48						

*1 Business segment A: Investment in exploration & development (upstream), B: Investment in liquefaction plant, C: Marketing and/or import agent, D: Shipping

*2 LNG is procured and sold by each company according to the ratio of interest (Equity Lifting Model) / equity in the liquefaction contract (Tolling Model).

*3 MC's offtake volume based on the tolling agreement with Cameron LNG (3 trains in total).

*4 MC's offtake volume based on the ratio of interest (2 trains in total).

PRODUCTION SHARE CAPACITY AND PROJECTED GROWTH

