

# Significant events in the LNG industry in 2014 and their future implications

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## Introduction

The global LNG market in 2014 saw several remarkable developments in the supply front with two greenfield liquefaction projects - Papua New Guinea LNG (PNG LNG) and Queensland Curtis LNG (QCLNG) - commencing operation, construction activities at height at other projects, and advancements of North American LNG projects and the Yamal LNG projects in Russia. Several project financing deals were executed for liquefaction projects arranged by Japanese financial institutions.

The growth of overall LNG demand was positive but small, and the balance of demand and supply was loose. Against this background of relaxed market balance spot LNG prices in Northeast Asia went down, while long-term contracted LNG prices remained stubbornly expensive despite falling crude oil prices in the latter half of the year and the annual amount paid to import LNG is certainly expected to be another record high.

Under these circumstances Japanese LNG importers continued efforts to diversify procurement sources and to enhance flexibility in procurement, as well as to reduce costs by forming alliances between buyers.

The global LNG market is entering an unprecedented phase of expansion accompanied with greater uncertainty of future demand and pricing outlook.

This paper looks at the following eleven items which the authors think will have significant implications on the future of the LNG market:

1. Two projects start operations in the Asia Pacific region;
2. LNG export projects start construction in the United States;
3. Large-scale liquefaction projects in Western Canada and East Africa advance slowly;
4. The big pipeline gas deal between Russia and China could have effects on LNG prices;
5. Russia's Yamal LNG project registers progresses in multiple fronts;
6. More new LNG procurement deals are signed and buyers mull alliances;
7. Southeast Asia emerges as an LNG consuming region;
8. Oil and spot LNG prices are coming down while Japan still pays another record amount;
9. LNG demand is relatively calm but positive after two years of little growth;
10. Japanese institutions dominate LNG project financing; and
11. Greater flexibility in LNG trades is requested.

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## 1. Major LNG production capacity expansion is starting in the Pacific region

Two greenfield LNG production projects began operation in 2014 - PNG LNG in Papua New Guinea and Queensland Curtis LNG (QCLNG) in Australia.

PNG LNG is the Papua New Guinea's first liquefaction project, led by ExxonMobil, with a nominal capacity of 6.9 million tonnes per year. The plant started operation in May - well ahead of its previous goal of the second half of the year - and advanced to full-capacity production in July. Tokyo Electric Power (Tepco), Osaka Gas, Sinopec and CPC Corporation of Taiwan respectively have 20-year supply agreements with the project, which will be an important supply source to Northeast Asia.

The advanced start of operation contributed significantly in increasing LNG supply in 2014 and demonstrated that steady and disciplined project management enables early operation and consequent early cash-flows.

By the end of December 2014 the QCLNG project led by BG Group with annual production capacity of 8.5 million tonnes started operation, shipping out its first cargo on 5 January 2015. Tokyo Gas and China National Offshore Oil Corporation (CNOOC) have 20-year term contracts to purchase LNG from the project, while Chubu Electric Power has a contract to purchase from BG Group's portfolio including QCLNG.

It is the first LNG project in the world that is based on coalbed methane (CBM). As additional two CBM-to-LNG projects are expected to come online in 2015 in Australia, the industry is closely monitoring whether QCLNG is steadily ramping up production.

Elsewhere in the Asia Pacific region, several other new liquefaction projects are under construction in Australia, Indonesia and Malaysia.

**Table 1 New LNG production projects that started operation in 2014**

Country	Project	Start	Capacity (million tonnes per year)	Buyers (million tonnes per year)
Papua New Guinea	PNG LNG	May 2014	6.9	Tepco 1.8, Osaka Gas 1.5, Sinopec 2, CPC 1.2
Australia	Queensland Curtis LNG (QCLNG)	December 2014	8.5	Tokyo Gas 1.2, CNOOC 3.60, *Chubu 122 cargoes over 21 years, *Quintero LNG 1.3, *GSPC 2.5, *Singapore LNG 3

\*Portfolio agreements that may include supply from the project

(Source) Compiled by the authors based on company announcements and media reports

**Table 2 LNG production projects under construction in the Asia Pacific region**

Country	Project	Start	Capacity (million tonnes per year)	Buyers (including HoAs) (million tonnes per year)
Indonesia	Donggi Senoro LNG	2015	2	Chubu Electric Power 1.00, Kyushu Electric Power 0.30, KOGAS 70
Malaysia	Petronas LNG 9	2015	3.6	-
	Petronas FLNG 1	2015	1.2	-
	Petronas FLNG 2	2018	1.5	-
Australia	Australia Pacific LNG (APLNG)	2015	9	Kansai Electric Power 1.00, Sinopec 7.60
	GLNG	2015	7.8	KOGAS 3.50, Petronas 3.50
	Gorgon LNG	2015	15.6	Chubu Electric up to 1.44, Kyushu Electric 0.3, Tokyo Gas 1.1, Osaka Gas 1.375, JX Energy 0.30, PetroChina 3.25-4.25, GS Caltex 0.50, Petronet LNG 1.50
	Wheatstone LNG	2016	8.9	Tepco 4.20, Chubu Electric Power 1.00, Tohoku Electric Power 0.92, Kyushu Electric Power 0.83
	Ichthys LNG	2016	8.4	Tepco 1.05, Kansai Electric Power 0.80, Chubu Electric Power 0.49, Kyushu Electric Power 0.30, Tokyo Gas 1.05, Osaka Gas 0.80, Toho Gas 0.28, CPC 1.75, Inpex 0.90, Total 0.90
	Prelude FLNG	2017	3.6	Tepco 0.56, Shizuoka Gas 0.07 *Osaka Gas 0.80, *Chubu Electric Power up to 12 cargoes, *JX Energy 0.20, *Kogas up to 3.64, *CPC 2.00

\*Portfolio agreements that may include supply from the project

(Source) Compiled by the authors based on company announcements and media reports

## 2. LNG export projects start construction in the United States

The year 2014 witnessed major progress in regulatory approval processes of LNG export projects in the United States at both the Department of Energy (DoE) and the Federal Energy Regulatory Commission (FERC), with three projects targeting the Japanese market all receiving approvals to commence construction activities, moving closer to realization of exports to Japan.

The Cameron LNG project in Louisiana was granted conditional approval from the DoE to export LNG to countries that do not have a Free Trade Agreement (FTA) with the United States in February 2014 (and was granted final approval in September) and obtained construction approval from the FERC in June, becoming the first project with long-term lifting commitments by Japanese companies to have both non-FTA approval from the DoE and FERC approval. The project commenced construction in October and commercial operation is expected to start in 2017 - 2018.

The Freeport LNG project in Texas, which was granted DOE's non-FTA approval in 2013, and the Cove Point LNG project in Maryland were approved by the FERC in July and September 2014, respectively. The Texas project was granted final approval from the DOE in November 2014, immediately followed by construction activities to commence operation

in 2018. The Maryland project also started construction in October.

The Corpus Christi LNG project in Texas, which does not have any long-term sale commitments to supply Japan, is waiting for DOE approval to export LNG to non-FTA countries, after obtaining FERC approval in December 2014.

**Table 3 Progress in LNG export approval processes in the United States in 2014**

Project	DOE's non-FTA approval	FERC approval	Start	Agreements to sell LNG to Japan (million tonnes per year)
Cameron LNG	September 2014	June 2014	2017 - 2018	Tepeco 0.80, Kansai Electric Power 0.40, Tohoku Electric Power 0.57, Tokyo Gas 0.52, Toho Gas 0.30, [Tolling capacity holders] Mitsubishi Corporation 4.00, Mitsui and Company 4.00, GDF Suez 400
Freeport LNG	November 2014	July 2014	2018	[Tolling capacity holders] Osaka Gas 2.20, Chubu Electric Power 2.20, Toshiba 2.20
Cove Point LNG	September 2013*	September 2014	2017	Tokyo Gas 1.40, Kansai Electric Power 0.80 [Tolling capacity holders] ST Cove Point** 230
Corpus Christi LNG	Under review	December 2014	2018	

\*Conditional approval

\*\*ST Cove Point: a joint venture between Sumitomo Corporation (51%) and Tokyo Gas (49%)

(Source) Compiled by the authors based on company announcements and media reports

There were heightened activities in 2014 by Japanese electric power and city gas utility companies to procure LNG from the United States, including purchasing contracts and HoAs (Heads of Agreements) from the Cameron LNG capacity holders by Toho Gas, Kansai Electric Power, Tohoku Electric Power and Tokyo Gas. These developments have been driven by motives to reduce procurement costs, diversify pricing, enhance negotiating positions and improve energy security by diversifying supply source through introducing LNG from the United States with Henry Hub linked prices. However, as demonstrated by the collapse of oil prices in late 2014, it is difficult to predict future directions of energy prices requiring companies to closely watch competitiveness of LNG from the United States.

In a matter relating to costs of LNG procured from the United States, the Panama Canal Authority released proposed transit tariffs in January 2015. The calculation is based on cargo capacity, resulting in USD 0.17 / million Btu for a round trip for a 173,000m<sup>3</sup> LNG carrier.

Buyers from other countries also stepped up purchases of LNG from the United States in 2014. CPC Corporation of Taiwan inked an HoA to procure volumes from Cameron LNG. Indonesia's Pertamina, the trading arm of Australia's Woodside, Spain's Endesa (including some volumes to Italian parent Enel), Iberdrola, Gas Natural Fenosa,

France's EDF, and Portugal's EDP signed long-term purchasing contracts with Corpus Christi LNG.

**Table 4 Sale contracts and HoAs concluded in 2014  
from LNG projects in the United States**

Project	Importing country	Buyer	Volume (million tonnes per year)	Duration	Remark
Cameron LNG	Japan	Toho Gas	0.30	2017-2037	Bought from Mitsui and Company
		Kansai Electric Power	0.40	2017-2037	
		Tokyo Gas	0.52	2020-2040	
		Tohoku Electric Power	0.30	2022-2038	Bought from Mitsubishi Corporation
	Chinese Taipei	CPC	0.27	2018-2028	Bought from GDF Suez
Corpus Christi LNG	Indonesia	Pertamina	1.52	2019-2029 Optional 10 years	0.76 added to the previous 0.76
	N.A.	Woodside Energy Trading	0.85	2019-2029 Optional 10 years	Included into buyer's portfolio
	Spain	Endesa	1.50	2018-2028 Optional 10 years	
		Iberdrola	0.76	2018-2028 Optional 10 years	
		Gas Natural Fenosa	1.50	2019-2029 Optional 10 years	
	Italy	Endesa (Enel)	0.75	2018-2028 Optional 10 years	Destined to Enel, contracted through Endesa
	France	EDF	0.77	2019-2029 Optional 10 years	0.38 until the third train starts operation
	Portugal	EDP	0.77	2019-2029 Optional 10 years	

(Source) Compiled by the authors based on company announcements and media reports

### 3. Large-scale liquefaction projects in Western Canada and East Africa advance slowly

Large-scale LNG export projects are planned on the West Coast of Canada and in Mozambique and Tanzania in East Africa. There were both progresses and setbacks in project developments in 2014.

Canada steps up efforts to develop LNG export projects after losing its historical huge natural gas markets in the United States. Taking advantage of relative proximity and direct seaborne access to the Asian markets, the Western Province of British Columbia boasts a large number of LNG export projects<sup>1</sup>. Triton LNG and Aurora LNG were granted approvals to export LNG from Ottawa's National Energy Board (NEB), while Stewart Energy LNG, WesPac LNG Marine Terminal, Steelhead LNG, Grassy Point LNG, Discovery LNG, Ceder LNG (1-3) and Orca LNG made their respective export applications to the federal agency in 2014. Among them, Grassy Point LNG was granted an approval to export

<sup>1</sup> See "Latest Developments in Canada's Natural Gas/LNG Sector" 12/26/2014, Thomas Kearns, IEEJ

LNG from the NEB in February 2015.

The government of British Columbia released a revised LNG taxation proposal in October 2014, which looks more favourable LNG project developers with lower taxation rates than the previous proposal released in February 2014. Project developers are still evaluating impacts of the proposed taxes. Additionally the federal government in February 2015 proposed tax reliefs to increase the capital cost allowance (CCA) rate for equipment used in natural gas liquefaction from 8% to 30% and increase the CCA rate for buildings at a liquefaction facility from 6% to 10%.

China's Sinopec and Indian Oil Corporation (IOC) acquired 15% and 10% stakes respectively in Pertonas-led Pacific NorthWest LNG project, among the most advanced schemes in the province. Japan's Mitsubishi Gas Chemicals Company indirectly acquired a 1% stake in the project through a 10% acquisition of Japex subsidiary which has in turn a 10% stake in the project. Although the project made notable progress including an Environmental Assessment Certificate from the provincial authorities, the project postponed its final investment decision (FID) that was previously scheduled by the end of 2014 due to rapidly falling oil prices.

While Chevron-led Kitimat LNG awarded an EPC contract for its liquefaction facilities, Apache sold its 50% stake to Woodside. Although Shell-led LNG Canada also made some progress in FEED / EPC and environmental permitting fronts, the project also needs to re-evaluate plans due to increasing estimated investment.

Projects in the province also have some issues to overcome, including those relating to native rights of local people, labour forces, and provincial regulations on CO<sub>2</sub> emissions.

Two consortia led by Anadarko and Eni, respectively, plan LNG export project developments in Mozambique. While previously the two consortia have advanced a joint development plans, separate projects may be developed independently from each other.

Anadarko's plans call for construction of two 5 million tonne per year liquefaction trains at an onshore site. Although details including potential buyers are not available on marketing, the company claims it has secured several HOAs with LNG buyers in Asia. It is said that pricing may include hybrid structures linked to both oil prices and natural gas prices in either the United States or the United Kingdom. In the meantime Eni is advancing plans of floating liquefaction facilities. The company signed an FLNG FEED contract with an engineering consortium of KBR and DSME (Daewoo Shipbuilding and Marine Engineering).

As lack of clarity over legal framework was long considered to be hindrance of LNG projects, the decree law issued in December 2014 that would guarantee fiscal stability for the 30-year period under the existing exploration and production concessions should be a

major encouragement to realise the LNG projects. However, issues are abound to overcome including infrastructure development, securing human resources, competition against North America and Australia, as well as falling crude oil and LNG spot prices in Asia, resulting in a difficult road ahead toward LNG project fruition.

Statoil, BG Group, and Ophir Energy are considering LNG exports in Tanzania. While significant gas resources have been found in offshore blocks and potential is huge, the country is still in an early stage of project development.

#### **4. The big pipeline gas deal between Russia and China could have effects on LNG prices**

After a long-awaited giant pipeline gas supply deal was agreed between Russia's Gazprom and China National Petroleum Corporation (CNPC), the deal's likely implications on LNG pricing in Northeast Asia attract attention in the industry.

The two companies signed a contract in May 2014 for 38 billion cubic meters (bcm) (28 million tonnes of LNG equivalent) per year for 30 years starting in 2018. The gas will be delivered through the planned Power of Siberia pipeline spanning from Eastern Siberia to Northeast China. Although exact pricing arrangement was not publicly available, reports at the time suggested a total contract value of USD 400 billion, translated into around USD 10 per million Btu. Construction activities on the Power of Siberia line started in September.

The two companies in November further agreed on a framework deal for additional pipeline gas supply from Western Siberia of 30 bcm (22 million tonnes of LNG equivalent) per year for 30 years.

Some observers (including the authors of this paper) view these mega pipeline gas deals facilitate gas reserve developments in Siberia, resulting in greater availability of feedgas for new LNG projects. However, there are rumours that Gazprom may consider scrapping the Vladivostok LNG project to increase pipeline gas supply to China. In this case increasing LNG production could be less likely.

Having said that, huge volumes of relatively competitively priced gas supply into Northeast Asia are expected to mount downward pressure on expensive LNG prices in the region, leading to wiping out the Asian premium of gas prices.

#### **5. Russia's Yamal LNG project makes progress in marketing and other fronts**

Russia's Yamal LNG project showed some progress in LNG marketing, LNG ship building, and financing arrangement in 2014.

After CNPC's participation in January 2014, the Novatek-led 16.5 million-tonne-per

year Yamal LNG project has three equity partners: Novatek (60%), Total (20%) and CNPC (20%). The project is under construction to start LNG production in 2017.

Two LNG supply deals from the project were signed in 2014, including a 20-year 3 million tonne per year SPA (Sale and Purchase Agreement) with CNPC and an HoA (Heads of Agreement) with Gazprom Marketing & Trading Singapore (GMTS) for up to 3 million tonnes per year for more than 20 years. As GMTS has an LNG supply contract with India's GAIL, GMTS' Yamal volumes are expected to be sent to India.

Ice-class vessels are being procured for the project. As Yamal LNG has initiated a shipping tender for up to 16 ice-class tankers, Teekay of Canada has been awarded 6 and MOL (Mitsui O.S.K. Line) has been awarded 3, respectively. The all 9 ships will be constructed by Korea's DSME (Daewoo Shipbuilding & Marine Engineering).

In order to enable year-round deliveries, including winter months when the Northern Sea Route (NSR) is not available, the project company has agreed with Belgium's Fluxys on transferring LNG from the ice-class vessels to regular LNG carriers at the latter's Zeebrugge terminal.

Yamal LNG signed a Memorandum on project financing for the project with China Development Bank Corporation, Vnesheconombank (VEB), and Gazprombank in May 2014. The Russian government also stepped in late 2014 with state funds worth RUB 150 billion (USD 2.5 billion) for the project.

Despite those progresses in various fronts mentioned above, the project still faces many issues including increasing construction costs at the port of Sabetta and possible construction delays caused by Western sanctions against Russian institutions and individuals.

## **6. More LNG purchasing deals are signed and buyers mull alliances**

A number of sale and purchase agreements (SPAs), heads of agreements (HoAs) and memoranda of understanding (MoUs) for LNG supply were signed by Japanese players in 2014. There were also initiatives to partner with other parties from inside and outside Japan to reduce LNG procurement costs.

In addition to the previously mentioned deals to procure LNG from the United States, several so-called portfolio deals were signed where sellers provide volumes from undesignated supply sources. While deals with the projects in the United States cover relatively long durations, deals from other regions have shorter contract periods.

This may reflect uncertain demand outlook caused by lack of numeric targets of future energy mix and unclear schedule of nuclear restarts, as well as expectation of diversified and more flexible LNG procurement strategy in the more amply supplied LNG



market with increasing production capacity from the Pacific region and North America in coming years.

Some Japanese companies and counterparts from other countries formed alliances aiming at reducing LNG procurement prices in 2014. Chubu Electric Power and India's Gail signed a memorandum of understanding (MoU) to explore possibilities for collaboration in the area of joint LNG procurement in March. Tokyo Gas and Korea Gas Corporation (Kogas) signed an MOU in September on strategic collaboration, including optimizing LNG inventory, joint LNG procurement in the mid to long term and upstream project investment opportunities.

Tokyo Electric Power (Tepco) and Chubu Electric Power entered into an MoU on the formation of a comprehensive alliance covering the entire energy supply chain in October. The two companies initiated an international LNG purchasing tender for the first time for Japanese companies in December.

**Table 5 SPAs, HoAs and MoUs signed in 2014 to supply LNG into Japan**

Exporting country	Project	Buyer	Volume (million tonnes per year)	Duration	Remark
Australia	Prelude FLNG	Tepco	0.56	2017-2025	Bought from INPEX
		Shizuoka Gas	0.07	2017-2025	Bought from INPEX
Qatar	Qatargas 3	Tohoku Electric Power	0.06 - 0.18	2016-2030	
Malaysia	Malaysia LNG	Tohoku Electric Power	0.37	2016-2026	Renewal with reduced volumes
		JX Energy	0.38	2015-2025	
		Saibu Gas	0.39 - 0.45	2014-2028	Renewal with increased volumes
United States	Cameron LNG	Toho Gas	0.30	2017-2037	Bought from Mitsui and Company
		Kansai Electric Power	0.40	2017-2037	
		Tokyo Gas	0.52	2020-2040	Bought from Mitsubishi Corporation
		Tohoku Electric Power	0.30	2022-2038	
			0.27	2018-2028	Bought from GDF Suez
Canada	Pacific NorthWest LNG	Mitsubishi Gas Chemical	0.12	N.A.	Volumes allocated in proportion with equity
Portfolio	Shell	Chubu Electric Power	Up to 0.72	2014-2034	
	Woodside	Chubu Electric Power	1.50 in 3 years	2014-2017	
	GDF Suez	Chubu Electric Power	20 cargoes in 2.25 years	2015-2017	
	BP Singapore	Tepco	Up to 1.20	2017-2034	

(Source) Compiled by the authors based on company announcements and media reports

## 7. Southeast Asia grows as an LNG consuming region

Southeast Asia, traditionally viewed as an LNG supplying region, is expected to increase gas consumption in the region itself in parallel with economic expansion with some countries turning themselves into LNG consumers.

Indonesia is increasing gas demand in urban areas while it continues being a major

LNG supplier. The country opened its first LNG receiving terminal, West Java FSRU (floating storage and regasification unit), in 2012 to introduce initially domestically produced LNG.

The country's national oil and gas company, Pertamina, signed its first long-term LNG purchasing contract from the Corpus Christi LNG project in the United States in 2013, followed by another one for additional volumes from the same project in July 2014.

In the same month the second LNG receiving terminal in the country, Lampung LNG, opened for business. The Arun LNG as a liquefaction plant stopped LNG production in October before being converted into an LNG receiving facility to start accepting cargoes in early 2015. The country has additional LNG receiving plans.

Malaysia, also continuing LNG exports, inaugurated its Melaka LNG receiving terminal in 2013, as the country has seen gas supply shortages on the peninsula. Additional receiving terminal plans have been proposed, including one at Pengerang. Petronas is the lead developer of the Pacific NorthWest LNG project and an equity partner in the GLNG project in Australia to procure LNG from overseas.

PTT, Thailand's oil and gas company, received its first cargo at its Map Ta Phut terminal in January 2015 under its first long-term contract with Qatar concluded in 2012. PTT has plans to expand the terminal, as well as to construct a 5 million tonne per year LNG import terminal in Myanmar to send the regasified gas to Thailand via pipeline.

## **8. Oil and spot LNG prices are coming down while Japan still pays another record amount**

Although crude oil and spot LNG prices have dropped significantly, the total amount in Japanese yen paid to import LNG is expected to register another record high due to high volumes and the weaker Japanese currency.

While crude oil prices went down significantly in the latter half of 2014, spot LNG assessments in Northeast Asia were almost halved in the year after a brief rise in autumn. The average spot LNG prices in Japan, that the Ministry of Economy, Trade and Industry (METI) started publishing in May 2014, followed the trend.

However, amid rapid depreciation of the Japanese yen, continuing higher levels of imports and a few month time lags of long-term contracted LNG prices to follow declining crude oil prices led to another record amount of payments for Japan's LNG imports of JPY 7.8 trillion in the year.

## **9. LNG demand is relatively calm but positive after two years of little growth**

Due to continuing high import levels in Japan and steady growth of gas demand in China, Asian LNG imports increased slightly in 2014, despite slowdown in Korea. Europe continued decreasing LNG demand in the year because of the sluggish economy and lost price competitiveness of natural gas. As a whole the global LNG industry apparently registered about 1% of positive growth in 2014 after two years of little growth.

## **10. Japanese institutions dominates LNG project financing**

A few project financing deals were concluded in 2014 by Japanese financial institutions for LNG production projects.

The Japan Bank for International Cooperation (JBIC) signed a loan agreement totalling up to USD 2.5 billion with Cameron LNG in August 2014. Private financial institutions including 11 Japanese private financial institutions<sup>2</sup> agreed to provide another USD 4.9 billion to the project. The Cameron LNG project took a final investment decision (FID) on the same day as the loan agreements.

JBIC also signed a loan agreement totalling up to approximately USD 2.6 billion with FLNG Liquefaction in October for the first train of the Freeport LNG project. Private financial institutions<sup>3</sup> agreed to provide additional loans and the project partners announced an FID on the same day on the first train<sup>4</sup>.

JBIC and three Japanese private banks<sup>5</sup> signed loan agreements in November for USD 7.63 million (JBIC portion) and USD 3.82 million (private portion) respectively with the Donggi-Senoro LNG project in Indonesia. The project announced its FID in January 2011.

JBIC also signed additional two loan agreements totalling up to USD 58.8 million and USD254.9 million, respectively, with Mitsubishi Corporation to provide MC with funds required for the company to develop upstream natural gas fields and construct and operate

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<sup>2</sup> The Bank of Tokyo-Mitsubishi UFJ, Ltd., Sumitomo Mitsui Banking Corporation, Mizuho Bank, Ltd., Sumitomo Mitsui Trust Bank, Limited, Mitsubishi UFJ Trust and Banking Corporation, The Norinchukin Bank, Shinsei Bank, Limited., Aozora Bank, Ltd., Shinkin Central Bank, The Chiba Bank, Ltd. and The Shizuoka Bank, Ltd.

<sup>3</sup> The Bank of Tokyo-Mitsubishi UFJ, Ltd., Sumitomo Mitsui Banking Corporation, Mizuho Bank, Ltd., Sumitomo Mitsui Trust Bank, Limited, Mitsubishi UFJ Trust and Banking Corporation, and ING Bank N.V., Tokyo Branch.

<sup>4</sup> The project company stated USD 4.369 billion debt financing is being provided by JBIC and private financial institutions for the first train. Additional USD 4.025 billion in debt financing is being provided by a syndicate of 25 commercial banks.

<sup>5</sup> The Bank of Tokyo-Mitsubishi UFJ, Ltd., Mizuho Bank, Ltd., and Sumitomo Mitsui Banking Corporation.

the LNG plant. The loans are also cofinanced with private financial institutions.

The three above-mentioned projects involve Japanese companies and expect to supply significant portions of their LNG production to Japan. The loans provided by private banks are insured by Nippon Export and Investment Insurance (NEXI).

Those financing arrangements ensure stable project development.

### **11. Greater flexibility in LNG trades is requested**

The G7 energy ministers' meeting in May and summit meeting in June confirmed their further efforts to promote flexible LNG markets, including relaxation of destination clauses and producer-consumer dialogue. At the annual LNG Producer - Consumer Conference in November, as well as other international industry conferences - including the Gastech conference in March - the Japanese and other government officials and company representatives also called for greater flexibility in LNG trades

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