

☆RIM LNG INTELLIGENCE DAILY

★NO.2104 Feb 1 2019

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--TOKYO, 17:00 JST Feb 1 2019<Assessment Closing Time>

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OPublication of expected JCC

On Mar 6, Rim Intelligence began publishing the expected CIF price for crude oil imported to Japan, or Japan Crude Cocktail (JCC) on our website. We post market news covering the summary of the expected JCC, as well as commentaries on the trend of Dubai crude prices and yen/ dollar exchange rates, components used to determine the expected JCC, three times every month. The expected JCC has been published for more than 10 years on some of Rim daily reports including LNG, Lorry Rack and Japan Products. The expected JCC, calculated based on our long experience in price assessments and accumulated research data, has been recognized as a reliable benchmark by a wide variety of market players both within and outside Japan.

© RECX-22 index

RECX-22 index for Friday was 94.50, up 0.61 points from the previous day.

-----Introduction of Rim reports-----

Please access the URL below for a lineup of Rim reports. You can view sample reports as well as detailed explanations on the contents:

<https://eng.rim-intelligence.co.jp/first/report>

Lineup:

Bunker Oil	Crude/Condensate	Products	
LPG	Petrochemicals	Polyolefins	
LNG	South Asia Gas (Weekly)	Daily Data	Rim Data File

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©Spot LNG Price Assessment (\$/mmBtu)						
ODES Japan (DJ)						
	Mar	Apr	May	Jun	Jul	Aug
	6.90	6.65	6.60	6.60	6.70	6.80
Daily Changes	-0.50	-0.50	-0.45	-0.45	-0.45	-0.45
	Sep	Oct	Nov	Dec	Jan	Feb
	6.70	6.60	6.70	6.80	6.90	7.00
Daily Changes	-0.45	-0.45	-0.45	-0.45	-0.45	-0.45

ONortheast Asia (DES)						
	Mar 2H	Apr 1H	Apr 2H	RIM Index		
--NEA	6. 75-7. 05	6. 55-6. 85	6. 45-6. 75	6. 73		
Daily Changes	-0. 45	-0. 45	---	---		
RIM Index Monthly Cumulative Avg		6. 73				
*RIM Index is a daily average price of the three delivery periods of NEA.						
*RIM Index Monthly Cumulative Avg is a monthly cumulative average price of RIM Index.						
	May	Jun	Jul	Aug	Sep	Oct
--NEA Forward	6. 45-6. 75	6. 45-6. 75	6. 55-6. 85	6. 65-6. 95	6. 55-6. 85	6. 45-6. 75
Daily Changes	-0. 45	-0. 45	-0. 45	-0. 45	-0. 45	-0. 45
	Spring	Summer				
--NEA Seasonal Index	6. 62	6. 73				
Daily Changes	-0. 46	-0. 45				
*NEA: Northeast Asia						

O0thers			
	Mar 1H	Mar 2H	Apr 1H
--Middle East (FOB)	6.55 - 6.85	6.50 - 6.80	6.40 - 6.70
Daily Changes	-0.45	-0.45	---
--Middle East (DES)	6.75 - 7.05	6.70 - 7.00	6.60 - 6.90
Daily Changes	-0.45	-0.45	---
--South Asia (DES)	6.85 - 7.15	6.80 - 7.10	6.70 - 7.00
Daily Changes	-0.45	-0.45	---
	Feb 2H	Mar 1H	Mar 2H
--Atlantic (FOB)	6.50 - 6.80	6.30 - 6.60	6.25 - 6.55
Daily Changes	-0.45	-0.45	---
--Europe (DES)	6.35 - 6.65	6.15 - 6.45	6.15 - 6.45
Premiums to NBP	-0.60 - -0.30	-0.60 - -0.30	-0.60 - -0.30
Daily Changes	-0.10	-0.10	---
--South America (DES)	6.65 - 6.95	6.50 - 6.80	6.45 - 6.75
Daily Changes	-0.45	-0.45	---

©Freight		
	Freight Rates (\$/mmBtu)	380cst Bunker Prices (Jan 31) (\$/mt)
--Middle East/Northeast Asia	- 0.82 - 0.87 -	--Tokyo 435.50
--Atlantic/Northeast Asia	- 1.51 - 1.56 -	--Singapore 409.50
--Middle East/Europe	- 0.66 - 0.71 -	--Rotterdam 368.50
	Daily Rates (\$)	
--Conventional Tankers	27,500 - 32,500	
--DFDE Tankers	62,500 - 67,500	
*Rates are for conventional and DFDE tankers including all costs.		

*** Please visit <https://eng.rim-intelligence.co.jp/rpt/assessment/select/type/lng-en> to refer to the assessment methodology for the above price assessments.

◎Japan Crude Cocktail (JCC)								
	Expected					Result		
	May	Apr	Mar	Feb	Jan	Dec	Nov	Oct
JCC (bbl)	62.04	62.43	62.69	61.94	61.84	71.68	81.73	79.20
Daily Changes	-1.17	-1.18	-1.01	-0.05	0.00	-0.12	-0.03	-
JCC (mmBtu)	10.52	10.58	10.63	10.50	10.48	12.15	13.85	13.43

◎Natural Gas Futures Prices (\$/mmBtu)									
ONYMEX Henry Hub (Jan 31)					OICE NBP (Jan 31)				
	Mar	Apr	May	Jun		Mar	Apr	May	Jun
Settle	2.814	2.765	2.772	2.818	Settle	6.753	6.517	6.457	6.319
Change	-0.040	-0.043	-0.041	-0.041	Change	-0.136	-0.149	-0.074	-0.024
High	2.918	2.834	2.837	2.883	High	6.882	6.587	6.458	-
Low	2.802	2.760	2.767	2.815	Low	6.705	6.485	6.410	-
Estimated Volume:	240,584				Estimated Volume:	23,430			

◎Petroleum Futures/Physical									
ONYMEX Petroleum Futures (Jan 31)					OPetroleum Physical (Jan 31)				
-WTI Futures (\$/mmBtu)				9.274	-Dubai Crude (\$/mmBtu)				10.663
				53.79					61.85
-Heating Oil (\$/mmBtu)				13.547	-Minas Crude (\$/mmBtu)				10.638
				187.88					62.55
OICE Petroleum Futures (Jan 31)					-LSWR Indonesia (\$/mmBtu)				10.419
-Brent Futures (\$/mmBtu)				10.745					64.60
				61.89	-HSFO Singapore (\$/mmBtu)				9.971
-Gasoil Futures (\$/mmBtu)				13.746					398.75
				584.50	-LPG CFR Japan (\$/mmBtu)				9.648
					(Propane) (\$/mt)				459.25

◎Coal Prices and Electricity Prices									
OCoal Prices (Jan 31)					OElectricity Prices (Yen/kWh) (Feb 01)				
-FOB New Castle-Global Coal (\$/mmBtu)				4.327	-JEPX 24h				10.40
				99.00	-JEPX Daytime				10.63
-ICE Futures FOB Richards Bay (\$/mmBtu)				3.914	-JEPX Peakttime				8.97
				89.55					

◎LNG Benchmark						
	Dec-18	Nov-18	Oct-18	Sep-18	Aug-18	Jul-18
-JLC Japan LNG Cocktail (\$/mmBtu)	11.157	11.009	10.933	10.686	10.177	9.861
	577.92	570.24	566.35	553.54	527.15	510.81
-Asia CIF Cocktail (\$/mmBtu)	-	-	-	-	-	-
	-	-	-	-	-	-
-U.S landed Price Avg (\$/mmBtu)	-	10.240	5.381	3.684	3.334	3.356

◎Transactions

ORecent Spot Transactions									
Reported date	Dealt Date	Origin	Seller	Buyer	Price	FOB/DES	Volume (cargoes)	Timing	Destination
Feb 1	Nov 22	T.B.R.	T.B.R.	KOMIPO	T.B.R.	DES	several	2020-2021 x3/yr 2022-2024 x4/yr	S. Korea
Feb 1	Jan 30	DSLNG	DSLNG	T.B.R.	mid-\$6's	FOB	2	Mar 8-25	T.B.R.
Feb 1	Jan 30	PNGLNG	PNGLNG	Trafigura	mid-\$6's	FOB	1	Mar 5-15 (Japan/Taiwan) Mar 6-14	T.B.R.

								(Korea/China) Mar 10 (India, Dahej)	
Feb 1	Jan 30	Sakhalin 2	Sakhalin Energy	Shell	\$6.88	DES	1	Mar 19 (loading)	T.B.R.
Feb 1	Jan 25	T.B.R.	T.B.R.	Essar Steel	mid-\$7's	DES	1	Feb 22-26	India
Jan 31	T.B.R.	Nigeria	trader	DEPA	T.B.R.	DES	1	Jan 29	Greece
Jan 30	Jan 25	Bontang	Portfolio player	Vitol	Brent x around 12%	FOB	1-3	2019: mid-Mar, early Apr, mid-Jul 2019, 2020: Feb 7-11	T.B.R.
Jan 30	late Jan	T.B.R.	T.B.R.	JERA	T.B.R.	DES	1	mid Feb	Japan
Jan 30	4th week of Jan	T.B.R.	Trafigura	SK E&S	above \$7.00 to mid-\$7's	DES	1	early Mar	S Korea
Jan 29	Jan 25	T.B.R.	Shell, Trafigura	CFE	high \$7-low \$8 (Feb 4-5) low \$7.00 (Feb 16-17)	DES	2	Feb 4-5 and Feb 16-17	Mexico (Altamira)
Jan 28	H1 Jan	Cove Point	Gunvor	T.B.R.	TTF link	DES	1	end Feb	Spain
Jan 28	Jan 24	Cove Point	GAIL	BP or Glencore	T.B.R.	FOB	3	H2 Feb, H2 May, H2 Nov 2020	T.B.R.
Jan 28	Jan 22	Sabine Pass	GAIL	BP or Glencore	T.B.R.	FOB	3	H2 Jan, H2 Jul, H1 Nov 2020	T.B.R.
Jan 25	Jan 24	Angola	Angola LNG	T.B.R.	T.B.R.	DES	1	Feb 12-22	Europe
Jan 24	Dec	Sabine Pass	Naturgy	PGNiG	T.B.R.	DES	1	end Jan	Poland
Jan 24	Dec	Sabine Pass	Gunvor	PGNiG	T.B.R.	DES	1	Jan 19	Poland
Jan 23	Dec	Qatar	Qatargas	Petronet LNG	T.B.R.	DES	1	Jan 5	India
Jan 23	mid Jan	NWS	European trader	JERA	ard \$8.20	DES	1	mid Feb	Japan
Jan 23	T.B.R.	Yamal	PetroChina	trader	European gas link	FOB/DES	1	T.B.R.	T.B.R.
Jan 23	3rd week of Jan	Bontang	CNOOC	T.B.R.	\$8.00 to mid-\$8's	DES	1	end Jan	Japan

Recent Term Transactions

Reported date	Origin	Seller	Buyer	Price	FOB/DES	Volume	Start	Duration
Jan 25	Nigeria	NLNG	Total	T.B.R.	T.B.R.	T.B.R.	2020	T.B.R.
Jan 25	Nigeria	NLNG	ENI	T.B.R.	T.B.R.	T.B.R.	2020	T.B.R.
Jan 25	Nigeria	NLNG	Shell	T.B.R.	T.B.R.	T.B.R.	2020	T.B.R.
Jan 22	NWS, DSLNG, Wheatstone, etc.	Kyushu Elec	Japanese trader	T.B.R.	FOB/DES	several	FY 2018	1 yr
Jan 22	NWS, DSLNG, Wheatstone, etc.	Kyushu Elec	Japanese trader	T.B.R.	FOB/DES	several	FY 2018	1 yr
Dec 21	Corpus Christi	Woodside	RWE	T.B.R.	FOB	T.B.R.	Q4 2020	ard 2 yrs
Dec 21	T.B.R.	Woodside	RWE	T.B.R.	FOB	T.B.R.	Apr 2018	2 yrs
Dec 20	Sabine Pass	Pertamina	T.B.R.	T.B.R.	FOB/DES	0.8 mil mt/year	2018	20 yrs

Recent Tenders

Reported Date	Issuer	Close	Buy/Sell	FOB/DES	Timing	Price(\$)	Origin	Winner
Jan 31	GAIL	Jan 31	Sell	FOB	Apr 27-28	T.B.R.	Cove Point	T.B.R.
Jan 31	GAIL	Feb 1	Sell	FOB	Jul 14-16, Nov 1-3	T.B.R.	Sabine Pass	T.B.R.
Jan 31	GS Energy	Feb 1	Buy	DES	Mar 15-22	T.B.R.	T.B.R.	T.B.R.
Jan 30	IOC	Feb 11	Buy	DES	Feb 25	T.B.R.	T.B.R.	T.B.R.
Jan 29	Sakhalin Energy	Jan 30	Sell	FOB/DES	Mar 19 (loading)	\$6.88	Sakhalin 2	Shell
Jan 29	PNG LNG	Jan 30	Sell	DES	Mar 5-15 (Japan/Taiwan) Mar 6-14 (Korea/China) Mar 10 (India, Dahej)	mid-\$6's	PNG LNG	Trafigura
Jan 28	DSLNG	Jan 30	Sell	DES	Mar 8-25 x2	mid-\$6's	DSLNG	T.B.R.



Jan 28	Essar Steel	Jan 25	Buy	DES	Feb 22-26	mid-\$7's	T.B.R.	T.B.R.
Jan 25	CFE	Jan 25	Buy	DES	Feb 4-5 and Feb 16-17	high \$7-low \$8 (Feb 4-5) low \$7.00 (Feb 16-17)	T.B.R.	Shell, Trafigura
Jan 24	GAIL	Jan 24	Sell	FOB	H2 Feb, H2 May, H2 Nov 2020	T.B.R.	Cove Point	BP or Glencore
Jan 23	PetroChina	T.B.R.	Sell	FOB/DES	T.B.R.	European gas link	Yamal	trader
Jan 22	Angola LNG	Jan 24	Sell	DES	Feb 12-22	T.B.R.	Angola	T.B.R.
Jan 21	Portfolio player	Jan 25	Sell	FOB	2019: mid-Mar, early Apr, mid-Jul 2019, 2020: Feb 7-11	Brent x around 12%	Bontang	trader
Jan 21	GAIL	Jan 22	Sell	FOB	H2 Jan, H2 Jul, H1 Nov 2020	T.B.R.	Sabine Pass	BP or Glencore
Jan 15	PNGLNG	Jan 16	Sell	DES	Feb 15-20 (Japan/Taiwan) Feb 16-19 (Korea/China) Feb 20 (India, Dahej)	\$8.25-\$8.35	PNGLNG	Shell
Jan 15	Angola LNG	Jan 17	Sell	DES	Mar 10-15 (Japan)	low to mid \$7.00	Angola	T.B.R.
Jan 15	IOC	Jan 8	Buy	DES	Jan 20-Feb 8	low \$8's	T.B.R.	trader
Jan 15	Sakhalin Energy	Jan 16	Sell	FOB/DES	Feb 9 (loading)	\$8.20-8.25	Sakhalin 2	Gazprom
Jan 11	Oman LNG	Jan 11	Sell	FOB/DES	Mar, Apr, Oct, Nov 1 cargo/each month	T.B.R.	Oman	T.B.R.
Jan 11	ADNOC LNG	T.B.R.	Sell	FOB/DES	Feb (loading)	T.B.R.	Das Island	T.B.R.
Jan 11	Qalhat LNG	summer 2018	Sell	FOB/DES	2021-2025 (0.7-0.8 mil mt/yr)	T.B.R.	Oman	T.B.R.
Jan 10	GSPC	Jan 9	Buy	DES	Jan 20-Feb 10	low \$8's	T.B.R.	T.B.R.
Jan 10	Tohoku Elec	Jan 10	Buy	DES	Feb 23-28	\$8.28	T.B.R.	Eni
Jan 9	Oman LNG	Jan	Sell	FOB/DES	late Jan (loading)	T.B.R.	Oman	bilateral deal
Jan 9	GAIL	Jan 8	Buy	DES	Jan 22-Feb 5	low \$8's	T.B.R.	T.B.R.
Jan 9	Torrent Power	Jan 9	Buy	DES	Feb, May, Jul, Oct, Dec (1crg/month)	T.B.R.	T.B.R.	cancelled
Jan 9	BHP Billiton	Jan 9	Sell	FOB	Feb 13-15 (loading)	high \$7.00	T.B.R.	Shell
Jan 8	BPCL	Jan 4	Buy	DES	Feb	\$8.20-8.30	T.B.R.	T.B.R.
Jan 8	GSPC	Jan 7	Buy	DES	Jan 20-Feb 10	T.B.R.	T.B.R.	cancelled
Jan 8	CPC	Jan 7	Buy	DES	Feb (not issued)	T.B.R.	T.B.R.	T.B.R.
Jan 7	Angola LNG	Jan 9	Sell	DES	Jan 26-Feb 3 (Middle East or India)	T.B.R.	Angola	T.B.R.
Jan 7	CFE	Jan 7	Buy	DES	Feb 1-Apr 30 (total 5 cargoes)	T.B.R.	T.B.R.	Shell x 3, Gunvor x 2
Jan 7	ExxonMobil	1st week of Jan	Sell	FOB/DES	Feb (loading)	T.B.R.	Gorgon	portfolio player
Jan 7	PLL	Jan 30	Buy	DES	Mar 3-4, 17-18 Apr 2-3, 13-14, 26-27	T.B.R.	T.B.R.	T.B.R.
Jan 7	KUFPEC	Jan 7	Sell	FOB	Feb 15-17	low to mid \$7.00	Wheatstone	Gunvor
Dec 21	Oman LNG	early 5th week of Dec	Sell	FOB/DES	Jan 25-26 (loading)	T.B.R.	Oman	T.B.R.
Dec 20	CFE	Dec 20	Buy	DES	Jan 15-16	T.B.R.	T.B.R.	Cheniere
Dec 19	Petronas	Dec 20	Sell	FOB	Jan 30	around \$8.60	Bintulu	T.B.R.
Dec 19	EWP	Jan 30	Buy	DES	from 2024 (15 yrs, 0.6 mil mt/yr)	T.B.R.	T.B.R.	T.B.R.
Dec 19	Sakhalin Energy	Dec 21	Sell	FOB/DES	Feb 12 (loading)	T.B.R.	Sakhalin 2	cancelled
Dec 18	DSLNG	Dec 20	Sell	DES	Jan 25-26 (NEA)	T.B.R.	DSLNG	T.B.R.
Dec 17	SK Gas	Nov	Buy	DES	from 2024 (15 yrs, 0.4 mil mt/yr with option for 0.25-0.4 mil mt/yr)	T.B.R.	T.B.R.	T.B.R.
Dec 14	KOGAS	Jan 25	Buy	DES	from Apr 2025 (15-20 yrs,	T.B.R.	T.B.R.	T.B.R.

					1.00-2.00mil mt/yr)			
Dec 11	CPC	Dec 13	Buy	DES	Jan 10-31	\$8.70	T.B.R.	portfolio player
Dec 7	Calamari LNG	Dec 3	Buy	DES	Jan to Jun total of 6 crgs	T.B.R.	T.B.R.	Shell and BP
Dec 6	KUFPEC	Dec 7	Sell	DES	Jan 18-23	\$9.00 or below	Wheatstone	BP
Dec 4	BHP Billiton	Dec 7	Sell	DES	Jan 13-15 (loading)	\$9.00-9.10	NWS	trader
Dec 4	ExxonMobil	Dec 5	Sell	DES	Dec 25-Jan 5	mid-\$8.00's	Gorgon	CNOOC
Dec 4	APLNG	Nov 29	Sell (EOI)	FOB/ DES	H1 Jan (delivery)	\$7.50 (FOB)	APLNG	PetroChina
Dec 3	BPCL	Dec 5	Buy	DES	Apr, Jul, Sep (1crg/month)	T.B.R.	T.B.R.	cancelled
Oct 26	KOMIPO	Nov 22	Buy	DES	2020-2021 x3/yr 2022-2024 x4/yr	T.B.R.	T.B.R.	T.B.R.

Recent Shipping Transactions

Reported date	Vessel Name	charterer	counter party	Type	Price	Start	Duration
Feb 1	Creole Spirit	BHP Billiton	Cheniere	S	na	na	na
Feb 1	Trinity Glory	CNOOC	na	MEGI	na	na	several voyages
Feb 1	Yari LNG	BP	na	D	na	na	na
Feb 1	Sean Spirit	Cheniere	na	S	na	na	na
Feb 1	BW Pavilion Leeara	Trafigura	na	D	na	na	na
Jan 28	Seri Balhaf	NLNG	Total	D	\$60k	Feb 15-Mar 15	half a yr + half a yr option
Jan 25	Gaslog Singapore	Gunvor	na	D	ard \$80k	Jan to Feb	short term
Jan 25	Seri Camar	Trafigura	Gunvor	S	na	after Feb	na
Jan 24	Adam LNG	Cheniere	na	D	na	Jan	short term
Jan 21	Golar Mazo	Petronas	na	S	na	Oct	more than 3 months
Jan 18	Gaslog Shanghai	Gunvor	Gaslog	D	na	after Feb	one to two voyages
Jan 18	Magellan Spirit	Trafigura	na	D	na	Feb	short term
Jan 18	Sean Spirit	BP	na	S	na	na	short term
Jan 18	Clean Horizon	GAIL	na	D	na	na	short term

*Types of tankers are indicated as C= Conventional, D = DFDE, T = TFDE, X=X-DF

Updated Maintenance Schedule / Trouble

Report Date	Project	Train No	Country	Start	Period	Remark
Jan 31	Gorgon	T3	Australia	Jan 14-16	short term	to resume operation in early Feb.
Jan 30	Sabine Pass	T5	US	early Jan	na	operation stopped since early Jan.
Jan 30	Bontang	na	Indonesia	mid-Jan	1-2 weeks	planned maintenance. production and shipment was normal during the maintenance.
Jan 29	NWS (Dampier port)	na	Australia	Jan 26-27	2days	Dampier port was closed for 2 days from Jan 26 due to cyclone. It was reopened on Jan 28
Jan 28	NWS	na	Australia	Jan 25-26	na	marginal delay due to cyclone
Jan 28	Sabine Pass	T5	US	2019 Q1	na	expected to start production soon.
Jan 28	Corpus Christi	T1	US	2019 Q1	na	expected to start production soon.
Jan 24	Sabine Pass	one of T1-T4	US	around Jan 20	short term	gas supply to one of four trains stopped.
Jan 24	Corpus Christi	T1	US	late Jan	na	commissioning done. To start operation in 2-3 weeks.
Jan 23	Pajaritos LNG	na	Mexico	na	na	Pemex cancelled tender to charter in FSRU.

*** The information found during the day is highlighted in red in both Spot and Term transactions.

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ODES Japan

Contracts drop from previous day as NE Asia market declines

The March contract on the Japan OTC Exchange (JOE) on Friday was assessed at \$6.90, and the April contract was assessed at \$6.65. Both contracts dropped 50cts from the previous day as a drop was

seen in prices in the DES Northeast Asia market. The May to February contracts also weakened from last Friday. On the other hand, in the JOE physical and swap markets, no bids and offers were posted and no deals were heard as of 17:00 Tokyo time.

ONE Asia

DES Northeast Asia plunges on weak sentiment

DES Northeast Asia prices plunged by 45cts from the previous day to \$6.75-7.05 for second-half March delivery, and to \$6.55-6.85 for first-half April delivery. Several end-users in Japan and South Korea had bought spot cargoes but after those deals no players showed buying interests. Meanwhile, several sell tenders were issued and China National Offshore Oil Corp (CNOOC) still moved to resell a March delivery cargo, so that market sentiment weakened further. Prices for second-half April delivery were set at \$6.45-6.75. In second-half April, gas demand for heating and hot water supply was weak along with rising temperatures. Therefore, prices for second-half April delivery was believed to be slightly lower than first-half April delivery.

SK E&S buys Mar delivery from Trafigura

Korea's SK E&S reportedly bought a cargo for early March delivery from European trader Trafigura at slightly above \$7 to the mid \$7's. As reported, SK E&S purchased the cargo at the end of the fourth week of January. After this, buying interest from Korean players was not seen. Sources perceived that Korea Midland Power (KOMIPO) could meet demand with buying spot cargoes at least until April delivery.

Shell awarded Sakhalin sell tender

A sell tender that Russia's Sakhalin Energy closed on Jan 30 was apparently awarded. Royal Dutch Shell was believed to have been awarded at \$6.88 on a DES basis. The tender was for a cargo for Mar-19 loading. The cargo would arrive by the end of March and the destination was believed to be Northeast Asia. Shell was one of the equity holders

of the Sakhalin 2 project. Sell tenders issued by Sakhalin Energy were basically for equity holders and term buyers.

PNGLNG sell tender awarded by Trafigura

A sell tender that Papua New Guinea's PNGLNG closed on Jan 30 was said to have awarded on an FOB basis. European trader Trafigura was believed to have been awarded in the mid-\$6s. The tender was for a cargo from the 8.00 mil mt/year PNGLNG project. PNGLNG had initially planned to sell on a DES basis and had indicated delivery in first-half to mid-March to Northeast Asia and to the 15.00 mil mt/year Dahej terminal in India.

DSLNG sell tender awarded on FOB basis

A sell tender closed by Indonesia's DSLNG on Jan 30 was apparently awarded. The details were unknown but the cargo was seen to have been awarded in the mid-\$6s on an FOB basis. The tender was for two cargoes from the 2.00 mil mt/year Donggi Senoro project (DSLNG) in Indonesia for Mar 8-25 delivery. It was uncertain whether both cargoes were awarded or not. The tender was initially issued on a DES basis.

KOMIPO term buy tender awarded

Korea Midland Power (KOMIPO) was said to have awarded its term buy tender closed on Nov 22, 2018. Although it was unclear if all the cargoes were awarded, KOMIPO was looking for three cargoes during 2020-2021 and four cargoes during 2022-2024. As reported, KOMIPO was also renegotiating at the same time the price for a term contract with European Vitol for 440,000mt/year.

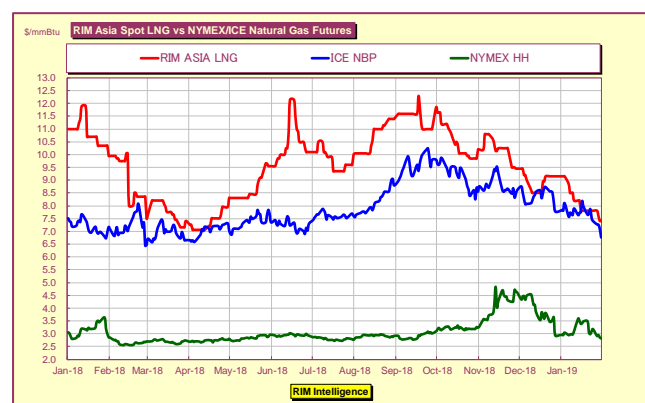
In Korea, several players had conducted term buy tenders since autumn 2018. Besides KOMIPO, SK Gas, Korea Gas Corporation (KOGAS), Korea East West Power (EWP) closed term buy tenders starting 2024-2025. KOGAS' tender closed on Jan 25 but was apparently not awarded yet. A Northeast Asian end-user reckoned that KOGAS was taking time to negotiate with tender participants.

Vitol awarded some cargoes in Bontang sell tender

As reported, a trader was awarded the sell tender closed on Jan 25 for one cargo each loading mid-March, early April and during Feb 7-11, 2020 from the 22.30 mil mt/year Bontang project in Indonesia at about 12% of Brent crude prices. Further investigation indicated that European trader Vitol won some of the cargoes. The tender was not issued by Pertamina as mentioned by several sources but by a portfolio player. Pertamina was currently inactive in selling spot cargoes loading 2019. A portfolio player taking long-term and short-term cargoes from Pertamina from the Bontang project conducted the tender.

Portfolio player sells Bontang cargoes via tender

Current production at the Bontang project was 7.00-8.00 mil m/year. Western Buyers comprising 6 Japanese end-users were taking 2.00 mil mt/year and Italy's Eni was taking about 2.00 mil mt/year produced at the Jangkrik field. Further, 2.00-3.00 mil mt/year were supplied domestically for uses such as power generation. The remaining about 1.00 mil mt/year were apparently sold by Pertamina to portfolio players. While the price to portfolio players was unclear, there were 3 to 4 buyers. One of these portfolio players was believed to have conducted the sell tender this time.



South Asia

DES South Asia falls with loose fundamental

Ex-ship South Asia prices for the first-half March delivery window were assessed down by 45cts at \$6.85-7.15. Prices for the second-half March delivery window were also assessed down by 45cts at \$6.80-7.10. Although demand sustained in India, looseness in supply/demand fundamentals were seen as spot availability increased from the projects in the Middle East, Asia Pacific and Atlantic basin. For the new assessment window of first-half April delivery, prices were assessed at \$6.70-7.00, lower by 10cts than the second-half March window. A backwardation between second-half March and first-half April prices reflected the trend in the Northeast Asia region. However, the price spread between second-half March and first-half April was relatively narrow as Indian demand for spot LNG

risers normally from April onward, during the beginning of the summer months.

GAIL opens buy tender for two cargoes

GAIL (India) Ltd opened a buy tender for one cargo each for delivery to the 5.00 mil mt/year Dabhol terminal in late February and to the 15.00 mil mt/year Dahej terminal in early March. Besides this buy tender, GAIL had conducted sell tenders for cargoes from the US.

Essar Steel buy tender awarded in mid-\$7's

A buy tender closed by Essar Steel in India on Jan 25 was said to have been awarded in mid-\$7's.

Essar Steel intended to buy a Feb 22-26 delivery cargo through this tender.

Trafigura's contract for Kochi terminal to be extended in Mar onward

Among other players, Trafigura's leasing contract for one LNG storage tank at the Petronet-operated 5.00mil mt/year Kochi terminal would end on Mar 31. Sources said, Petronet was expected to let Trafigura continue the lease of one of the two storage tanks at the Kochi terminal beyond March. Utilization of the Kochi terminal had continued to trouble Petronet since it was commissioned in 2013 due to limited connectivity of pipeline with end-users.

PLL unveils participants in buy tender

State-owned Pakistan LNG Ltd, among other importers from the South Asia region, had announced the four lowest bidders for its spot tender closed on Jan 30 for five cargoes. Trading major Gunvor had quoted 12.82% of Brent crude price for a Mar 3-4 delivery window cargo. For a Mar 17-18 delivery cargo, Vitol quoted 12.59%. For an Apr 2-3 cargo, SOKAR quoted 12.20%. Petronas of Malaysia quoted 11.87% for an Apr 13-14 delivery cargo and SOKAR quoted 11.87% for an Apr 26-27 delivery cargo. The final decision on the award was expected to be taken soon during early next week.

OMiddle East

FOB Middle East falls amid prevalent sense of loose fundamentals

FOB Middle East prices fell 45cts from the previous day to \$6.55-6.85 for first-half March loading and to \$6.50-6.80 for second-half March loading. Demand was sporadically seen from India and Northeast Asia but ample availability was witnessed from the 77.00 mil mt/year Qatar project and the 10.70 mil mt/year Oman project. A sense of looseness in supply/demand fundamentals was prevalent. Meanwhile, prices for first-half April loading were assessed at \$6.40-6.70, 10cts lower than second-half March loading. Market sources anticipated that more cargoes would be available from the Middle East along with the onset of a low-demand season in Northeast Asia. But since Indian players would likely move on spot purchase before the monsoon season, there was only a slight price difference between second-half March loading and first-half April loading.

DES Middle East weak, slightly lower than DES South Asia

The DES Middle East market was weak. Prices slipped 45cts from a day before to \$6.75-7.05 for first-half March delivery and to \$6.70-7.00 for second-half March delivery. Prices for first-half April delivery were lower than second-half March delivery by 10cts at \$6.60-6.90. While state-run Kuwait Petroleum Corp (KPC) was expected to buy a March delivery cargo on a spot basis, Dubai Supply Authority (DUSUP) and Egyptian Natural Gas Holding Co (EGAS) continued to skip taking LNG. Portfolio players having available spot cargoes gave a low priority to sales to the Middle East and was not active in selling by revising down offers. But looseness in supply/demand fundamentals did not improve. For the March delivery market, a European trader mentioned that a little demand was seen on a DES South Asia basis such as for delivery to India and Pakistan, adding that the DES Middle East market was lower by around 10cts for timings including first-half April delivery than the DES South Asia market.

OAfrican Region

FOB Atlantic moves down with ample availability

FOB Atlantic prices moved down by 45cts from the previous day to \$6.50-6.80 for second-half February loading and to \$6.30-6.60 for first-half

March loading. Although potential demand was observed from South America, supply/demand fundamentals loosened as many cargoes were available from Angola, Nigeria, the US and Russia.

For the US cargoes, GAIL (India) Ltd floated a sell tender for a total of two cargoes loading at the 18.00 mil mt/year Sabine Pass project on Jul 14-16 and on Nov 1-3 and another tender for a cargo loading at the 18.00 mil mt/year Cove Point project on Apr 27-28. Meanwhile, prices for second-half March

loading were at \$6.25-6.55, lower than first-half March loading by 5cts. Market sources pointed out that the price difference between first-half and second-half March loading was almost the same as that in the FOB Middle East market.

Europe

DES Europe slightly slides with a little demand from northwestern part of Europe

DES Europe prices slid 10cts from the previous day to \$6.35-6.65 for second-half February delivery and to \$6.15-6.45 for first-half March delivery. Prices for second-half March delivery were at the same level as first-half March delivery at \$6.15-6.45. For prompt March delivery, slight demand was observed including for re-exporting. Demand for natural gas was increasing as temperatures were dropping in the winter season in the Netherlands,

Belgium and the UK in the northwestern part of Europe. DES Europe prices were still lower than Britain's NBP futures market due to ample supply of pipeline gas. But looseness in supply/demand fundamentals did not clearly emerge like in Northeast Asia and South America. A European player indicated that prices of March delivery remained at around 93% of NBP, adding that the trend of second-half February delivery was the same as March delivery.

South America

DES South America down sharply on slack fundamentals

DES South America prices fell sharply by 45cts from the previous day to \$6.65-6.95 for second-half February delivery and to \$6.50-6.80 for first-half March delivery. Prices for second-half March delivery were at \$6.45-6.75, lower than first-half March delivery by 5cts. Argentina's state-owned IEASA might move to buy a prompt cargo soon but overall demand from South America was limited. With natural gas production from Bolivia and Colombia increasing, end-users in countries such as Brazil reduced their buying of LNG. In the Atlantic, supply from the Sabine Pass and Cove Point projects in the US and the Yamal project in Russia was rising and supply/demand fundamentals on a DES South America basis was notably slackening. A European trader pointed out that, demand for second-half February and first-half March delivery

was limited and prices fell along with weakness in the FOB Atlantic market. Prices for second-half March delivery were slightly lower than first-half March delivery.

CFE procures 2 cargoes from Shell and others for Altamira terminal

Mexican gas company CFE bought via a tender closed on Jan 25 two cargoes for early and mid-February respectively to the 3.75 mil mt/year Altamira terminal. Royal Dutch Shell and European trader Trafigura sold one cargo each. CFE purchased a Feb 4-5 delivery cargo in the high \$7's to low \$8's and a Feb 16-17 delivery cargo in the low \$7's. It was unclear which cargo was awarded to Shell and which cargo to Trafigura. Shell frequently supplies cargoes from Sabine Pass and the 21.30 mil mt/year Bonny Island project in Nigeria to the Altamira terminal.

Freight Market

Freight market stable amid balanced Freight market unchanged in firm market with strong demand

For short term charter of less than three months, daily rates were unchanged at \$62,500-67,500 for tankers with high-efficiency DFDE engines and \$27,500-32,500 for conventional tankers. While more tankers became free, demand was increasing in Asia Pacific and the Atlantic basin. Therefore, market sources found the chartering market firm.

More tankers chartered in and fundamentals not loosening

More players were moving to charter in tankers in the Atlantic basin and Asia Pacific. Although the

number of free tankers was increasing, supply/demand fundamentals did not loosen. In the Atlantic Basin, European trader Trafigura chartered in the 161,900 cbm DFDE tanker “BW Pavilion Leeara” to transport a cargo to the 4.40 mil mt/year Dragon terminal in the UK. In addition, US Cheniere and Britain’s BP chartered in the 174,000 cbm conventional tanker “Sean Spirit” and the 199,760 cbm DFDE tanker “Yari LNG”, respectively. Meanwhile, in Asia Pacific, Cheniere sublet the 173,400 cbm MEGI tanker “Creole Spirit” to BHP Billiton. China National Offshore Oil Corp (CNOOC) chartered in the 154,000 cbm conventional tanker “Trinity Glory” for several voyages.

Long term and project**Freeport sales contract possibly signed**

A term cargo for cargoes from the 13.20 mil mt/year US Freeport project might have been signed at a premium of about \$2 to 115% of US Henry Hub (H.H.) prices on an FOB basis. Sales for cargoes from Trains 1-3 of the Freeport project were mostly finished. Further, regarding the 3.50 mil mt/year Train 4, Sumitomo signed a long-term contract in September 2018 to secure liquefaction capacity.

As reported, regarding long-term contracts for US cargoes, Venture Global Capital had signed a 20-year contract for 1.00 mil mt/year from the Calcasieu Pass project with Spain’s Repsol in September 2019. Further, new moves were also seen with Canada’s Wood Fiber LNG Export signing a heads of agreement (HOA) in October 2018 with CNOOC Gas & Power Trading and Marketing.

Japan Domestic Natural Gas Market**Eco Bunkering Shipping moving to secure LNG supply ship**

For LNG bunkering or supply of LNG as fuel for tankers, Eco Bunker Shipping as well as Central LNG was preparing to start business. Eco Bunker Shipping, a joint venture of Ueno Transtech, Sumitomo Corp and Yokohama Kawasaki International Port Corp, applied for the subsidy for private companies to set up LNG bunkering stations when the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) was receiving applications in May 2018. The MLIT decided to give the subsidy to Eco Bunkering Shipping. The project to supply LNG by ship-to-ship operations in Tokyo

Bay was eligible for the subsidy as a project for developing facility functions. But the final decision was not made to give the subsidy to the project yet. A market source familiar with the matter said that as contracts to build LNG supply tankers were not signed yet, the final decision was not made. As for LNG bunkering business in Japan, only Central LNG decided to do business in Ise Bay and Mikawa Bay besides Eco Bunkering Shipping as was reported. A spokesman at the MLIT mentioned that a variety of companies were mulling to enter LNG bunkering business but no concrete plans were made except these two projects.

ONYMEX/ICE Natural Gas Future Market Commentary (Jan 31)

H.H. Mar gas slides with forecasts that the cold wave would ease

The March natural gas contract on NYMEX closed at \$2.814 per million British thermal units (mmBtu) on Thursday, down 4.0cts from the previous day amid selling tied to an expected drop in heating gas demand as weather forecasts stated that the cold wave would ease from the end of this week in the US Midwest, prime gas consuming area. According to the US Energy Information Administration, inventories as of Jan 25 were at 2.197 trillion cubic feet, down 173 bil cubic feet (bcf) from a week earlier.

The March natural gas contracts of NBP on ICE in London settled at \$6.753, down 13.6cts from the previous day amid selling tied to an increase in domestic gas production in the U.K. Meanwhile, according to the latest data provided by British multinational electricity and gas utility National Grid plc, the physical price for gas delivered on Wednesday, Jan 30, correlated to \$7.110, down 9.9cts from the previous day.

In NYMEX ACCESS TRADE, the front-month March natural gas contract as of 9:30am local time on Friday was trading at \$2.845/mmBtu, up 3.1cts from the close on Thursday.

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○ Hyundai Chemical to boost splitter capacity during maintenance in Apr

South Korea's Hyundai Chemical will shut its 130,000 barrels per day (b/d) condensate splitter at its Daesan complex from early April, a company source at its petrochemical sector said on Friday. The closure would last about 40 days. The company, at the same time as the regular maintenance, also plans to conduct works to raise capacity of the splitter by 40,000 barrels per day (b/d) to 170,000 b/d. Hyundai Chemical is set up in 2016, equally invested by Hyundai Oilbank and Lotte Chemical.

○ TEPCO Daily: oil, gas & coal fired capacity estimated at 33,660MW

Japanese largest utility Tokyo Electric Power Co (TEPCO) had 33,660 megawatts (MW) of available capacity tied to fossil fuel (oil, gas, coal) power generation, a figure that represents roughly 69% of its total capacity including solar power and so on, as of 08:30 Tokyo time on Friday based on Rim Intelligence's projection. The total capacity was forecast to reach 48,790 MW, while estimated peak demand was at 43,220 MW in Tokyo area.

The Japan Meteorological Agency has forecasted temperatures in Tokyo to reach a daily high of 9 degrees Celsius.

Meanwhile, total peak demand for nine areas (excluding Okinawa) has been foreseen at 142,270 MW for which a total of 162,530 MW of power will be available.

(unit: MW)	Estimated Available Capacity		Estimated Peak Demand in Tokyo Area
	Oil, Gas & Coal	Total	
Friday	33,660	48,790	43,220
Thursday	34,540	49,340	42,780

○ Japan nuclear reactors running as of Feb 1: Nine

The number of nuclear reactors transmitting electricity in Japan as of February 1 was nine, unchanged from a week earlier.

	Existing Plant		Operational Plant			Shutdown Plant		
	No. of Units	Capacity (MW)	No. of Units	Capacity (MW)	Share(%)	No. of Units	Capacity (MW)	Share(%)
Company	38	38,042	9	9,130	24.0%	29	28,912	76.0%
Hokkaido Elec	3	2,070	0	0	0.0%	3	2,070	100.0%
Tohoku Elec	3	2,750	0	0	0.0%	3	2,750	100.0%
Tokyo Elec	11	12,612	0	0	0.0%	11	12,612	100.0%
Chubu Elec	3	3,617	0	0	0.0%	3	3,617	100.0%
Hokuriku Elec	2	1,746	0	0	0.0%	2	1,746	100.0%
Kansai Elec	7	6,578	4	4,100	62.3%	3	2,478	37.7%
Chugoku Elec	1	820	0	0	0.0%	1	820	100.0%
Shikoku Elec	1	890	1	890	100.0%	0	0	0.0%
Kyushu Elec	5	4,699	4	4,140	88.1%	1	559	11.9%
Japan Atomic	2	2,260	0	0	0.0%	2	2,260	100.0%

TABLE 2/1 LNG Cargo Arrivals at Ise Bay

Japan LNG Terminal Cargo Arrivals						
Arrival	Terminal	Carrier	Capacity(cum)	Capacity(mt)	Origin/Last_Port	Note
Ise_Bay						
07-Feb-19	Yokkaichi	Zekreer	135,420	62,293	Qatar	
06-Feb-19	Yokkaichi	Al Wajbah	137,354	63,183	Qatar	
05-Feb-19	Nagoya	Puteri Nilam Satu	137,100	63,066	Malaysia	
03-Feb-19	Yokkaichi	LNG Maleo	127,500	58,650	Indonesia	
03-Feb-19	Nagoya	Grand Mereya	147,200	67,712	Russia	
02-Feb-19	Nagoya	Al Rayyan	135,358	62,265	Nagoya	
Total			819,932	377,169		

TABLE 2/1 LNG Cargo Arrivals at Taiwan Terminal

LNG Cargo Arrivals at Taiwanese Terminals						
Arrival	Terminal	Carrier	Capacity(cum)	Capacity(mt)	Origin	Note
30-Jan-19	Yung An	Gaslog Salem	155,000	71,300	NWS, Australia	
28-Jan-19	Yung An	Pacific Breeze	180,000	82,800	Ichthys, Australia	
27-Jan-19	Yung An	British Emerald	155,000	71,300	Oman	
25-Jan-19	Taichung	Titor No1	145,000	66,700	Qatar	
24-Jan-19	Yung An	Creole Spirit	173,400	79,764	NWS, Australia	
21-Jan-19	Yung An	Ob river	150,000	69,000	Sakhalin 2	
21-Jan-19	Taichung	Titor No4	145,000	66,700	Qatar	
19-Jan-19	Yung An	LNG Ogun	149,600	68,816	Nigeria	
18-Jan-19	Taichung	Al Deebel	145,000	66,700	Qatar	

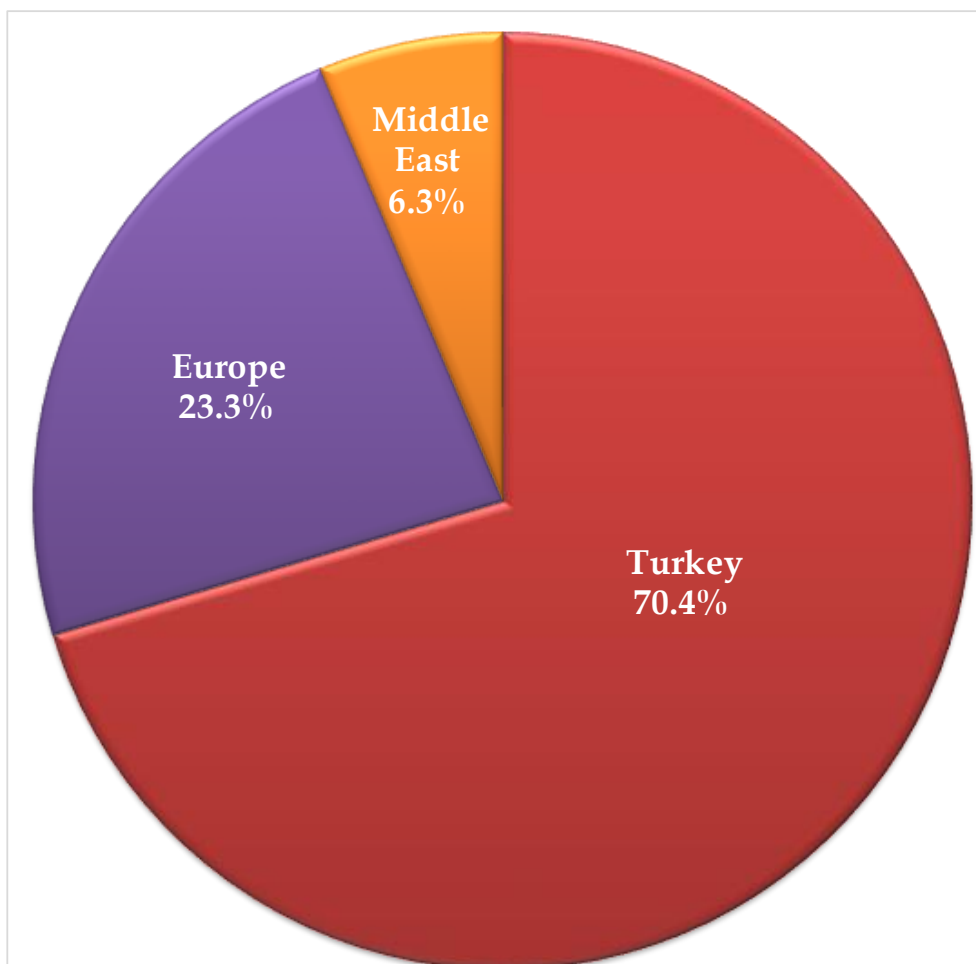
15-Jan-19	Yung An	Golar Mazo	135,225	62,204	Malaysia	
12-Jan-19	Taichung	Golar Grand	145,700	67,022	Gorgon, Australia	
12-Jan-19	Yung An	British Achiever	173,400	79,764	Ttinidad & Tobago	
11-Jan-19	Yung An	Papua	171,800	79,028	Papua New Guinea	
09-Jan-19	Taichung	Titor No3	145,000	66,700	Qatar	
09-Jan-19	Yung An	Golar Seal	160,000	73,600	Sabine Pass, USA	
06-Jan-19	Yung An	Pacific Breeze	180,000	82,800	Ichthys, Australia	
05-Jan-19	Taichung	Titor No2	145,000	66,700	Qatar	
05-Jan-19	Yung An	Amur River	150,000	69,000	Sakhalin 2	
03-Jan-19	Taichung	Al Thakhira	145,000	66,700	Qatar	
03-Jan-19	Yung An	Puteli Mutiara Satu	137,100	63,066	Malaysia	
01-Jan-19	Yung An	Golar Mazo	135,225	62,204	Malaysia	
		Total	3,221,450	1,481,867		

TABLE 2/1 LNG exports from Darwin, Australia

LNG Exports from Australia				
Departure	Carrier	Capacity(cum)	Capacity(mt)	Destination
Darwin				
08-Feb-19	Pacific Eurus	137,000	63,020	
04-Feb-19	Symphonic Breeze	145,000	66,700	
02-Feb-19	Diamond Gas Orchid	165,000	75,900	
		447,000	205,620	
26-Jan-19	Energy Advance	145,000	66,700	
20-Jan-19	LNG Vesta	127,547	58,672	Ogishima, Japan (Jan-31)
16-Jan-19	Pacific Eurus	137,000	63,020	Sodegaura, Japan (Jan-25)

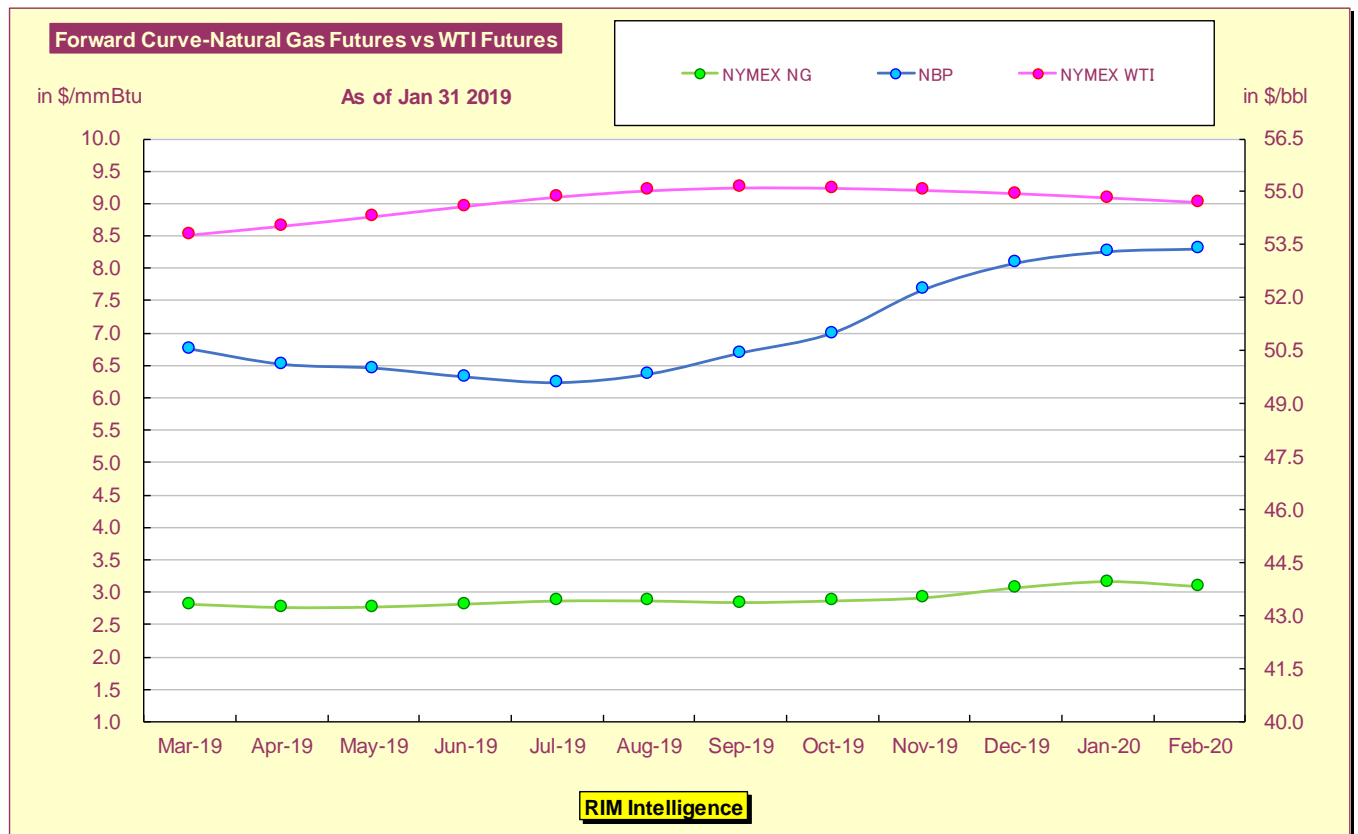
World pipeline gas –Export from Azerbaijan–

Azerbaijan's pipeline gas exports in 2017

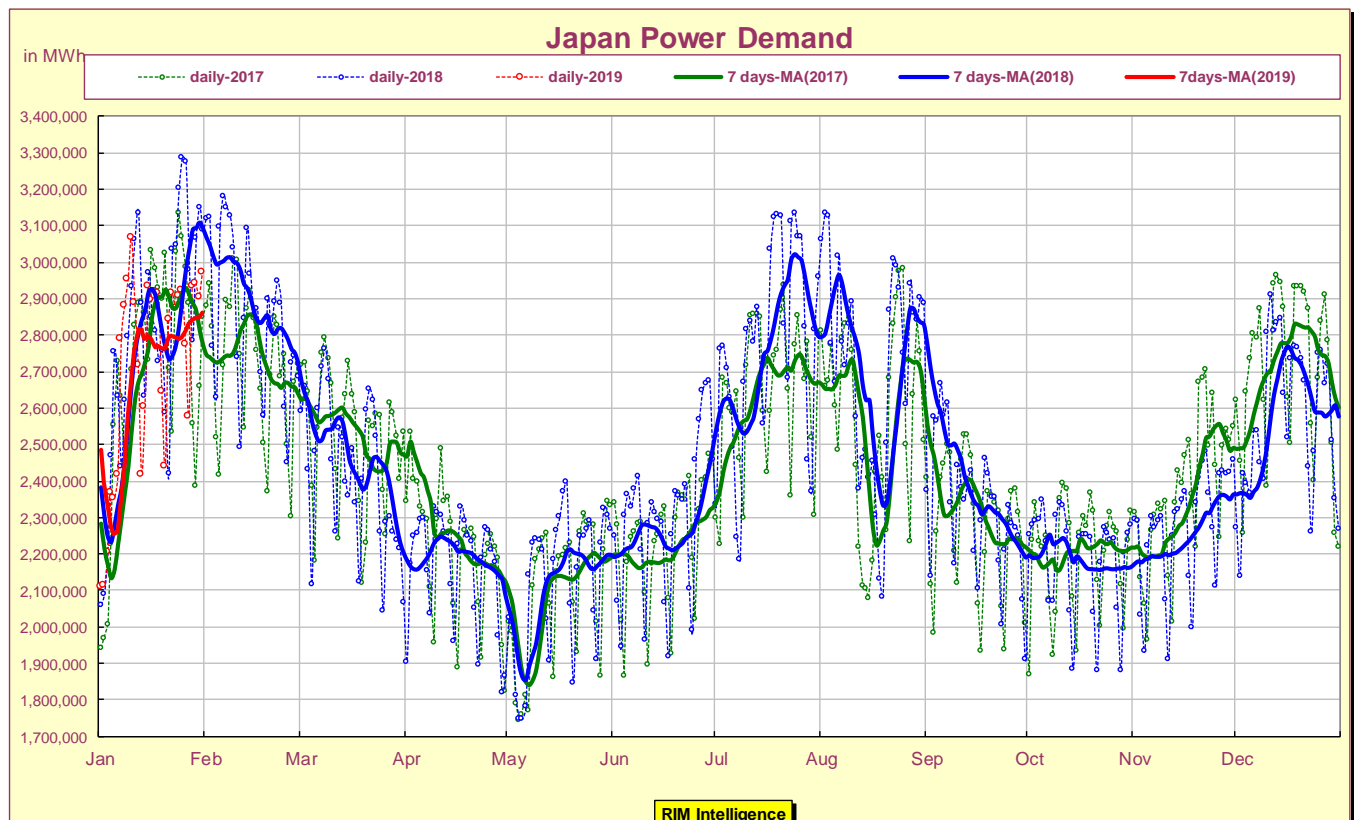


Azerbaijan pipeline gas exports 2017 Unit: billion cubic meters (bcm)	
Turkey	6.30
Europe	2.08
Middle East	0.57

Forward Curve-natural Gas Futures vs WTI Futures



Japan Power Demand



Spark Spread

Rim Index (yen/kWh Feb.2)			
	DT	Peak	Night
9.46	9.23	7.18	9.77

Fuel	thermal efficiency(%)	Fuel Price yen /ton · kl	After tax yen/ton · kl	Generation cost yen/kWh	Spread (yen/kWh)			
					24 hr	DT	Peak	Night
L N G	44.10	42,150	44,010	6.58	+2.88	+2.65	+0.60	+3.19
	50.00			5.80	+3.66	+3.43	+1.38	+3.97
	59.00			4.92	+4.54	+4.31	+2.26	+4.85
Coal	40.50	11,986	13,356	4.62	+4.84	+4.61	+2.56	+5.15
	45.00			4.16	+5.30	+5.07	+3.02	+5.61
imported CFO	38.40	53,599	53,599	12.20	-2.74	-2.97	-5.02	-2.43
domestic CFO								
0.3% sulfur	38.40	49,000	49,000	11.15	-1.69	-1.92	-3.97	-1.38
3.0% sulfur	38.40	45,000	45,000	10.24	-0.78	-1.01	-3.06	-0.47
Crude	38.40	42,600	45,400	10.80	-1.34	-1.57	-3.62	-1.03



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