



RIM INTELLIGENCE

LNG

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Information

Holiday notice

RIM Intelligence will not issue the LNG Daily reports on November 4 due to national holiday in Japan.

Learn the impact of shale gas on India's oil and gas markets

RIM organizes India Delhi seminar, Nov 22:
Indian companies are some of the few first in the world to chase the shale gas dream by investing in shale gas development in the US. With shale gas production increasing, what is the likelihood of it replacing petroleum products in India or at least compensating for the shortfall in some cases? To provide a platform for players from the natural gas, LNG, refinery and downstream product businesses to interact and discuss this issue, Rim Intelligence is organizing a seminar in Delhi, India on Nov 22. Participation fee is US\$400 (excluding accommodation).

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**Spot LNG Price Assessment (\$/mmBtu)**

	<u>Dec 2H</u>	<u>Jan 1H</u>	<u>Jan 2H</u>	<u>RIM Index</u>
--Northeast Asia (DES)	17.90-18.20	18.10-18.40	18.10-18.40	18.18
Daily Changes	+0.30	+0.20	---	---
RIM Index Monthly Cumulative Avg	18.18			

*RIM North Asia Index is the cumulative average of the average price of North Asia price assessment.

	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>
--NEA Forward	18.25-18.55	17.30-17.60	16.55-16.85	16.05-16.35	15.90-16.20	16.45-16.75
Daily Changes	+0.20	+0.15	+0.10	+0.05	0.00	+0.10

	<u>Winter</u>	<u>Spring</u>
Northeast Asia Seasonal Index	18.03	16.32
Daily Changes	+0.18	+0.05

	<u>Dec 1H</u>	<u>Dec 2H</u>	<u>Jan 1H</u>
--Middle East (FOB)	15.45-15.75	15.50-15.80	15.70-16.00
Daily Changes	+0.20	+0.20	---
--Middle East (DES)	15.50-15.80	15.50-15.80	15.75-16.05
Daily Changes	+0.20	+0.20	---
--India (DES)	15.55-15.85	15.55-15.85	15.75-16.05
Daily Changes	+0.10	+0.10	---
	<u>Nov 2H</u>	<u>Dec 1H</u>	<u>Dec 2H</u>
--Atlantic (FOB)	14.25-14.55	14.40-14.70	14.40-14.70
Daily Changes	---	---	---
--Europe (DES)	12.68-12.98	12.74-13.04	12.84-13.14
Premium/NBP	1.60/1.90	1.50/1.80	1.60/1.90
Daily Changes	+0.15	+0.15	---
--South America (DES)	16.20-16.50	16.30-16.60	16.30-16.60
Daily Changes	---	---	---

Freight Market

	Prompt (\$mmBtu)	380cst Bunker Prices (Oct 31) (\$/mt)
--Middle East/Northeast Asia	+ 1.85- 1.90 +	--Tokyo 638.50
--Atlantic/Northeast Asia	+ 3.78- 3.83 +	--Singapore 618.50
--Middle East/Europe	+ 1.35- 1.40 +	--Rotterdam 586.00

*All chartering rate are based on the loading for the prompt cargoes

*Rates are on conventional size for single voyage including all costs

	Daily Rates (\$)
--Conventional tankers	85,000- 90,000
--Tankers with DFDE engine	91,000- 96,000

***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) Price

	----- Expected -----	----- Result -----
	Feb Jan Dec Nov Oct Sep Aug Jul	
JCC (bbl)	110.66 111.47 112.72 113.07 114.19 110.99 107.09 104.65	
Daily change	--- +0.95 +0.82 +0.07 0.00 --- --- ---	



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JCC (mmBtu)	18.76	18.90	19.11	19.17	19.36	18.82	18.15	17.74
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Natural Gas Future Prices

NYMEX Henry Hub (\$/mmBtu) (Oct 31)					ICE NBP (\$/mmBtu) (Oct 31)				
	Dec	Jan	Feb	Mar		Dec	Jan	Feb	Mar
Settle	3.581	3.663	3.672	3.658	Settle	11.243	11.500	11.504	11.122
Change	-0.039	-0.048	-0.051	-0.050	Change	-0.173	-0.132	-0.134	0.000
High	3.659	3.748	3.757	3.741	High	11.484	11.644	11.628	11.259
Low	3.560	3.648	3.655	3.643	Low	11.215	11.488	11.492	11.116
Estimated Volume: 198,355					Estimated Volume: 13,815				

Petroleum Future/Physical

NYMEX Petroleum Future (Oct 31)			Petroleum Physical (Oct 31)		
-WTI Futures (\$/mmBtu)	16.617		-Dubai crude (\$/mmBtu)	18.541	
	(\$/bbl)	96.38		(\$/bbl)	107.54
-Heating oil (\$/mmBtu)	21.399		-Minas crude (\$/mmBtu)	18.605	
	(cts/gal)	296.78		(\$/bbl)	109.40
			-LSWR Indonesia (\$/mmBtu)	16.565	
				(\$/bbl)	102.70
-Brent Futures (\$/mmBtu)	18.896		-HSFO Singapore (\$/mmBtu)	15.691	
	(\$/bbl)	108.84		(\$/mt)	627.50
-Gasoil Futures (\$/mmBtu)	21.930		-LPG CFR Japan (\$/mmBtu)	17.712	
	(\$/mt)	932.50	(Propane)	(\$/mt)	917.50

Coal price and Electricity Prices

Coal price (Oct 31)			Electricity Prices (Yen/kWh) (Nov 01)		
-FOB New Castle-Global coal (\$/mmBtu)	3.678		-Jepx 24h baseload	16.48	
	(\$/mt)	84.15	-Jepx daytime	18.67	
-ICE futures FOB Richards Bay (\$/mmBtu)	3.754		-Jepx peakload	22.62	
	(\$/mt)	85.90			

LNG Benchmark

	Sep-13	Aug-13	Jul-13	Jun-13	May-13	Apr-13
-JLC Japan LNG Cocktail (\$/mmBtu)	15.122	15.579	16.398	16.291	16.583	16.616
	(\$/MT)	782.71	806.19	848.77	858.33	860.03
-Asia CIF Cocktail price (\$/mmBtu)	14.605	14.698	15.122	15.188	15.045	15.159
	(\$/MT)	756.13	765.50	790.33	778.79	789.37
-U.S landed price avg (\$/mmBtu)	---	6.846	4.270	8.230	4.290	4.670

Transactions

Recent Spot Transactions							
Dealt Date	Origin	Seller	Buyer	Price	FOB/DES	Timing	Destination
early Oct	Atlantic	BG Group	Japanese utility	\$17.00-17.30	DES	Dec	Japan
early Oct	Atlantic	BG Group	NE Asian utility	\$17.00-17.30	DES	Dec	NE Asia
mid Oct	T.B.R.	T.B.R.	Kyushu Elec	T.B.R.	DES	Dec	Japan
Oct 22	Angola	Japanese trader	TEPCO	\$17.00's	DES	Nov 18	Japan
Oct 22	Angola	Angola LNG	Japanse trader	low \$17.00	DES	Nov 18	Japan
H2 Oct	T.B.R.	T.B.R.	Chubu Elec	\$17.25	DES	Dec	Japan
H2 Oct	T.B.R.	T.B.R.	PetroChina	T.B.R.	DES	winter x 3	China
Oct 18	T.B.R.	portfolio player	PetroChina	mid to high \$17.00	DES	T.B.R.	China

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early to mid-Oct	US Freeport	ConocoPhillips	T.B.R.	T.B.R.	FOB	Nov	South America
mid Oct	T.B.R.	T.B.R.	Chubu Elec	\$17.10	DES	mid Dec	Japan

Recent Term Transactions								
Reported Date	Origin	Seller	Buyer	Price	FOB/DES	Volume	Start	Duration
Oct 31	Qatar	Qatargas	KEPCO	T.B.R.	DES	T.B.R.	Jan 2014	around 1 yr (extension of existing contract)
Oct 22	Asia Pacific	Asian producer	Japanese utility	oil link	DES	4 cargoes	Dec 2013	4 months
Oct 22	T.B.R.	Gas Natural Fenosa	YPF	H.H. link	DES	12 cargoes	Jan 2014	1 yr
Oct 22	T.B.R.	Gas Natural Fenosa	YPF	H.H. link	DES	12 cargoes	Jan 2015	1 yr
Oct 21	T.B.R.	Gazprom	YPF	H.H.link	DES	6 cargoes	2014-2015	T.B.R.

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

Market commentary

Topics **Please refer to the commentary below for the detail

【Northeast Asia】

-Spot prices rose to around \$18.00 to the low \$18.00's level for December delivery and to the low to mid-\$18.00's for January delivery.

-Tokyo and Kyushu Electric Power came up with additional spot demand for December delivery

-South Korea's KOGAS and China's CNOOC continued to seek for cargoes for December delivery.

-BG Group in early October sold at least two cargoes for December delivery on ex-ship Northeast Asia.

-Japan will see temperatures below the seasonal norm for next three months.

【India】

-DES India and FOB Middle East pushed up by Northeast Asian market

-India's Ratnagiri considers to close down the thermal power station adjacent to Dabhol terminal

-GAIL skipped the spot procurement of November cargo for the Dahej terminal.

-FOB Middle East gained December and January loading with the sense of thin supply

【Atlantic/Europe】

-FOB Atlantic prices were discussed in the low to mid-\$14.00's for November loading and in the mid to high \$14.00's for December loading.

-Ex-Spain reload cargoes available for November and December loading, not profitable to the sale to NE Asia

-DES South America was strong

【Freight Market】

-The market unchanged, some tankers available for very short term in the Atlantic

【Long term Contract and Project】

-Angola LNG considering the sale of sixth cargo, seeing the rise in Northeast Asian market

【Japan Domestic】



-Towada Gas of Aomori prefecture received LNG out of Hachinohe secondary LNG terminal.

Northeast Asia

Spot market prices on an ex-ship Northeast Asia basis for Friday gained further ground from the previous day rising by 30cts to the range of \$17.90-18.20 per million British thermal unit for second-half December delivery and by 20cts to the range of \$18.10-18.40 for first-half January delivery. Prices for second-half January delivery were assessed at similar levels to those for first-half January delivery. As mentioned below, demand stayed strong as Japanese power companies and a few other Northeast Asian end-users have been quietly seeking additional cargoes for December delivery. Meanwhile, thin spot cargo availability has left buyers no choice but to follow suit to sellers from the beginning of this week.

For talks over December delivery, sources saw Tokyo Electric Power and Kyushu Electric Power seeking additional cargoes and also expected Chugoku Electric Power to emerge as a potential spot buyer. Elsewhere, it seemed that South Korea's KOGAS and China's CNOOC also showed buying interest for December delivery. One of them was said to have raised a bid close to the \$18.00 level. Meanwhile, looking at such brisk demand among Northeast Asian end-users, sellers revised up their ideas to well above an \$18.00 level. A European major, which mostly deals in Atlantic cargoes, seemed confident to offer on an ex-ship Northeast Asia basis for December delivery above \$18.00, though declined to show a clear offer as the major is still for the best outlet in the global market.

There was information that Britain's BG Group in early October sold at least two cargoes for December delivery to Northeast Asian end-users, one of which was a Japanese power company. Some sources speculated that these cargoes were dealt at around \$17.00 to the low \$17.00's, levels at which bids and offers were exchanged during the above period.

Japan Metrological Agency forecast that temperatures will be below the seasonal norm nationwide in December through February. Along with the forecast, players have emerged looking for cargoes expecting an increase in demand for heating. A Japanese trading house indicated that some power utilities intend to secure cargoes at an early stage as December and January delivery spot markets show contango and a steady upward trend. Though the current Northeast Asian market at about \$18.00 is above long-term contract price levels, as was previously reported, some players finding that cargoes supplied via upward quantity tolerance (UQT) will not be enough will have spot demand.

The above mentioned trading house mentioned that some projects such as Sakhalin, which often holds surplus, is currently not offering additional cargoes to the long-term customers, adding that most prompt surplus cargoes were likely to have already been sold to such customers including as an additional supply.

India/Middle East

Ex-ship basis India spot prices have moved up again on Friday by 10 cts to \$15.55-15.85 for first-half and second-half December delivery. Those for first-half January were set at \$15.75-16.05. Consistent demand pressure from the Japanese bulk buyers has increased assessment for the Northeastern Market and that in turn has affected the prices in Indian market.



Ratnagiri Gas and Power Limited which manages 5.0 mil mt/year Dabhol LNG terminal and 1968 MW gas fired power project, is planning to hive off the gas fired power project and sell it. According to GAIL official, plant has been shutdown since July this year as there is no gas available for the project from Reliance operated Krishna Godavari basin D6 block. Gas fired power project has been allocated around 8 million standard cubic meters per day of gas but it has not been receiving adequate volume of gas since more than a year with depletion in production from KG D6 block. The gas fired power project is unable to use RLNG imported by GAIL at Dabhol terminal as its contract with end users of electric power, does not allow it to pass on the cost of RLNG to end users. The power project causes major losses to RGPPL and also affects the finances of LNG terminal business, said sources. However, this will not affect the spot LNG cargoes that GAIL plans to bring in at Dabhol from November onwards, said sources.

Spot prices on an FOB Middle East basis for Friday gained ground from the previous day rising up by 20cts to the range of \$15.45-15.75 for first-half December loading and \$15.50-15.80 for second-half December loading. Prices for first-half January loading were assessed in the range of \$15.70-16.00, showing a 20cts contango against prices of second-half December loading. Northeast Asia usually sees temperatures hitting the lowest in mid-January through mid-February during the year. Thus, more sources believe at present that spot prices on an ex-ship Northeast Asia for delivery in February, when FOB Middle East cargoes for first-half January loading will be delivered, will likely hit the highest. Thus, sources understood that FOB Middle East cargos for first-half January loading would be valued higher than those for December loading.

There appeared to have been extremely thin spot avails of FOB Middle East cargoes. Spot cargoes from the 6.7-mil mt/year Yemen as well as the Oman's 7.2-mil/mt year Oman and 3.6-mil mt/year Qalhat project have been all offered on an ex-ship basis. Sources only saw Qatargas and Rasgas proceeding discussions on an FOB basis with destination restriction.

Atlantic/Europe

Spot prices on an FOB Atlantic basis were assessed in the range of \$14.25-14.55 for second-half November loading and \$14.40-14.70 for first-half and second-half December loading. As mentioned above, ex-ship Northeast Asia spot prices were discussed at around \$18.00 to the low \$18.00's for December delivery and in the low- to mid-\$18.00's for January delivery. Thus, buyers of FOB Atlantic cargoes set buying ideas in the low \$14.00's for November loading and in the low- to mid-\$14.00's for December loading after estimating spot freight rate at around \$3.70-3.80 for an Atlantic-Northeast Asia voyage.

Sources, however, saw just a few FOB cargoes available for sale from Spanish re-export terminals and Nigeria LNG, which means that supply is not necessarily sufficient. Under such circumstances, sellers raised offers for second-half November through December loading in the high \$14.00's to above \$15.00. Theoretically speaking, procurement of FOB Atlantic cargoes at such prices levels would not make sense for resale to Japanese and other Northeast Asian end-users under condition that one take tankers on ongoing spot freight rates. A Japanese trader perceived that FOB Atlantic cargoes would be sold to South America such as Brazil or Argentina with lower freight cost. In fact, there appeared to be players in an attempt to buy back cargoes for November through December delivery which they won in the tender closed by Argentina's state-run YPF late last year but have yet to secure.



Prices in the European ex-ship market linked to the UK National Balancing Point (NBP) natural gas futures market rose by 15cts on Friday to a premium of \$1.60-1.90 to the NBP for second-half November delivery, and a premium of \$1.50-1.80 for first-half December delivery. Prices for second-half December delivery were assessed at a premium of \$1.60-1.90 to the quotation. All of the fixed prices stood at around \$13.00.

In Europe, most demand is for re-export to Northeast Asia with little to no market activity on cargoes for the domestic market. A trader estimated that the mid-\$14.00's would be the upper limit to secure an FOB cargo for the reload to Northeast Asia. Since a cost of about \$1.00 is needed for storage and some others to reload a cargo from Spanish terminals, market players could see a profit by re-exporting a cargo to Northeast Asia off an ex-ship Spain cargo procurement cost at around \$13.00.

Spot market prices on an ex-ship South America basis were all set in the range of \$16.20-16.50 per million British thermal unit for second-half November delivery and at \$16.30-16.60 for first-half and second-half December delivery. It was understood that deals are made at around \$1.50 below the Northeast Asian market, considering the freight cost from Atlantic projects. For South America, a trader indicated that some winners of the earlier tenders by Argentina's state-run YPF and Mexico's state-run CFE hold spot demand (short positions) created by the tender, spot demand that was seen only in Chile.

Freight Market

With regard to shipping contracts lasting for less than three months, daily rates for conventional carriers were left unrevised in the range of \$85,000-90,000 on Friday. A trader mentioned that the market, showing a downward trend since mid-October, remains in the high \$80,000's currently.

In the Atlantic basin, where more FOB cargoes are sold, tankers have been only intermittently available. A Japanese trader pointed out that majors can charter out not only their own vessels, but also they can charter out vessels that they have charter contracts on. Most of the available period is not for several months but for a few weeks to one month between the operation of vessels. Thus, the above mentioned trader indicated that most FOB cargoes are mainly supplied to Europe and South America close to Atlantic projects and found it difficult to transport a FOB cargo to Northeast Asia even if it charters in a vessel.

Long Term Contract and Project

At the 5.2 mil mt/year Angola project, where the fifth cargo since commissioning was sold last month through a tender and is slated to be delivered to Tokyo Electric Power Co (TEPCO) on Nov 18, supply of spot cargoes continues. The project has been expected to conduct maintenance after the selling the above mentioned fifth cargo, but there has been no concrete information that the maintenance has started. The proposed maintenance comes at a time when the Northeast Asian market is on the rise as the high-demand winter season approaches. It was said that the fifth cargo was sold to TEPCO in the low \$17.00's. Some traders speculated that a trader, not Japan's Marubeni, won the Angolan cargo in the tender and resold it to TEPCO.

Japan Domestic Natural Gas Market

Towada Gas runs city gas business in Towada city, Aomori prefecture. Upon the completion



of an LNG satellite terminal in Aug 2008, it started off-take of LNG from the Hachinohe secondary LNG terminal, which is run by JX Energy. Since Towada Gas supplies propane as well, it acknowledged taking LNG from one source and propane from another, but declined to release the names of suppliers. The company official added that Towada Gas supplies a limited amount of city gas, which is mostly produced from natural gas, since its city gas pipeline network is limited to the center of Towada city.

NYMEX/ICE Natural Gas Future Market Commentary (Oct 31)

NYMEX December natural gas contracts added a 3.9cts loss to settle at \$3.581 million British thermal units on Thursday, pushed down by bearish U.S. inventory report. According to the U.S. Energy Information Administration, U.S. natural gas stocks stood at 3.779 trillion cubic feet as of Oct 25, up 38 billion cubic feet (bcf) from a week earlier. Market sources predicted to see an around 36 bcf increase. Physical gas prices at Henry Hub, the NYMEX delivery point, rose 1.12cts to finish at \$3.5350.

ICE December gas contracts slipped 17.3cts to settle at \$11.243. The downslide came with expected ease in supply demand balance of domestic natural gas market as an LNG tanker is expected to arrive. The spread between NYMEX and ICE December gas futures widened 34.0cts from a day before to result in \$7.661 (ICE is higher). According to the latest data of National Grid, within-day delivery physical average gas prices in the U.S. dollar term ended at \$10.904 on Wednesday, up 30.6cts from a day before.

In the Access electronics trade, NYMEX front-month December natural gas is traded at \$3.562/mmBtu at 9:15 am Friday Tokyo hours, down 1.9cts from Thursday's close.

Market News

Royal Dutch Shell Q3 LNG sales slide 2% on year

Royal Dutch Shell reported 4.88-mil mt in sales of liquefied natural gas (LNG) for the quarter to September 2013, down 2% from sales for the corresponding period a year earlier, the company announced Oct 31 in its 2013 third quarter results. The Q3 figure, however, was up from LNG sales of 4.68-mil mt in the previous quarter. Natural gas production available for sale for the quarter reached 8.38-bil cubic feet per day, up 5% from Q3 2012 while liquids production fell 7% on year to 1.48-mil b/d.

South Korea restarts 950-MW nuclear reactor at Hanbit, shuts down another

Following completion of a two-month planned maintenance, the No.1 950-MW nuclear powered reactor at the Hanbit nuclear power station has been restarted, according to the most recent status of nuclear power plants provided by the Korea Hydro & Nuclear Power Co (KHNP). Also at the Hanbit nuclear power station, the No.2 unit of the same capacity was shut down on Oct 30 as part of planned maintenance activities. The plus-minus sum of activity has left available nuclear power generating capacity in South Korea relatively unchanged at 15,137-MW or 73.07% of capacity.

Thailand Map Ta Phut LNG to receive re-export cargo from France

A re-export cargo of liquefied natural gas (LNG) from the For Cavaou terminal in France is en route to the 5-mil mt/year Map Ta Phut PNG terminal in Thailand. According to updated shipping reports, the "Methane Allison Victoria" with a rated carrying capacity of 66,700mt is scheduled to arrive at Map Ta Phut on Nov 4.

Arrival	Carrier	Cubic Meters	Metric Ton	Origin
4-Nov-13	Methane_Alison_Victoria	145,000	66,700	Fos Cavaou
14-Oct-13	Duhail	210,100	96,646	Qatar
2-Oct-13	Methane_Lydon_Volney	145,000	66,700	Nigeria
11-Sep-13	LNG Lokoja	148,300	68,218	Nigeria
24-Aug-13	LNG Bayelsa	137,500	63,250	Nigeria
30-Jul-13	Al Sadd	210,100	96,646	Qatar
10-Jul-13	Neo Energy	150,000	69,000	Eq. Guinea
30-Jun-13	Methane Rita Andrea	145,000	66,700	Nigeria
17-Jun-13	Onaiza	210,100	96,646	Qatar
2-Jun-13	Al Hamla	216,200	99,452	Qatar
14-May-13	GDF Suez Point Fortin	154,200	70,932	Yemen
24-Apr-13	Al Hamla	216,200	99,452	Qatar
3-Apr-13	Al Ruwais	210,100	96,646	Qatar
11-Mar-13	Al Gharaffa	216,200	99,452	Qatar
9-Feb-13	Murwab	210,000	96,600	Qatar
13-Jan	na (Q-flex ship)	210,000	96,600	Qatar

Statoil Snohvit LNG shipments over 400,000mt four months running

Shipments of liquefied natural gas (LNG) by Norway's Statoil from the Hammerfest liquefaction facility tied to the 4.3-mil mt/year Snohvit LNG were above 400,000mt in October marking the fourth month in a row the producer has exceeded that mark. According to updated shipping reports, the latest vessel to depart from Hammerfest was the "Arctic Discoverer" with a rated carrying capacity of 64,400mt when it departed Oct 31. The carrier is bound for Gibraltar and scheduled to be in that area on Nov 10.

Norway LNG Shipments					
Departure	Carrier	Cubic Meters	Metric Ton	Destination	Arrival
31-Oct-13	Arctic_Discoverer	140,000	64,400	Gibraltar for order (Nov-10)	
27-Oct-13	LNG_Jupiter	153,000	70,380	Gibraltar (Nov-01)	
22-Oct-13	Arctic_Lady	147,200	67,712	Fos Cavaou, France	5-Nov-13
16-Oct-13	Arctic_Princess	147,200	67,712	Montior, France	26-Oct-13
12-Oct-13	Arctic_Voyager	140,000	64,400	Isle of Grain, UK	21-Oct-13
5-Oct-13	Arctic_Lady	147,200	67,712	Montior, France	11-Oct-13
	Total	874,600	402,316		

TABLE 11/1 LNG Exports from Yemen

Yemen LNG Shipments					
Departure	Carrier	Capacity(cum)	Capacity(mt)	Destination	Arrival
16-Nov-13	SK Splendor	138,375	63,653		
03-Nov-13*	Provalys	153,500	70,610		
01-Nov-13*	BW GDF Suez Paris	162,000	74,520		
	Total	453,875	208,783		
25-Oct-13*	Hyundai Ecopia	145,000	66,700	Korea	
21-Oct-13	Arwa Spirit	165,500	76,130		
20-Oct-13	Marib Spirit	165,000	75,900	Fujian, China	1-Nov-13
15-Oct-13	STX Kolt	145,700	67,022	Korea	
11-Oct-13	Grace Cosmos	150,000	69,000	Mejillones, Chile	13-Nov-13
9-Oct-13	Seri Balhaf	152,000	69,920	Yokkaichi,	3-Nov-13



				Japan	
8-Oct-13	Hanjin Sur	138,333	63,633	Pyeongtaek, Korea	23-Oct-13
3-Oct-13	BW Suez Everett	138,028	63,493	TongYeong, Korea	21-Oct-13
	Total	1,199,561	551,798		

TABLE 11/1 LNG Cargo Arrivals at Niigata

Japan LNG Terminal Cargo Arrivals					
Arrival	Carrier	Capacity(cum)	Capacity(mt)	Origin/Last Port	Note
Niigata					
3-Nov-13	Northwest Swan	138,000	63,480	Dampier, Australia	
30-Oct-13	Al Aamriya	210,100	96,646	Qatar	
12-Oct-13	Woodside_Rogers	159,800	73,508	Pluto, Australia	
2-Oct-13	Broog	135,466	62,314	Qatar	
24-Sep-13	NW Sanderling	127,525	58,662	Dampier, Australia	
15-Sep-13	Al Khor	137,354	63,183	Qatar	
13-Sep-13	Grand Elena	147,200	67,712	Sakhalin, Russia	
8-Sep-13	NW Stormpetrel	127,606	58,699	Dampier, Australia	
27-Aug-13	Al Bahiya	216,000	99,360	Qatar	
23-Aug-13	Malanje	160,276	73,727	Dampier, Australia	
13-Aug-13	Al Khor	137,354	63,183	Qatar	
4-Aug-13	NW Sanderling	127,525	58,662	Dampier, Australia	
31-Jul-13	NW Shearwater	127,500	58,650	Dampier, Australia	
22-Jul-13	Methane Heather Sally	145,000	66,700	Nigeria	
17-Jul-13	Al Sheehaniya	210,100	96,646	Qatar	

**World leading LNG players****- Israeli project -****1. LNG receiving terminal in Israel**

Project	Capacity (mil mt/yr)	Numbe of tanks	Start-up	remark
Hadera	2.5	FSRU x 1	Jan 2013	U.S. Excerelate offers "Excellence" for FSRU.

(As of Oct 2013, RIM Intelligence)

2. Long term contracts of Israel

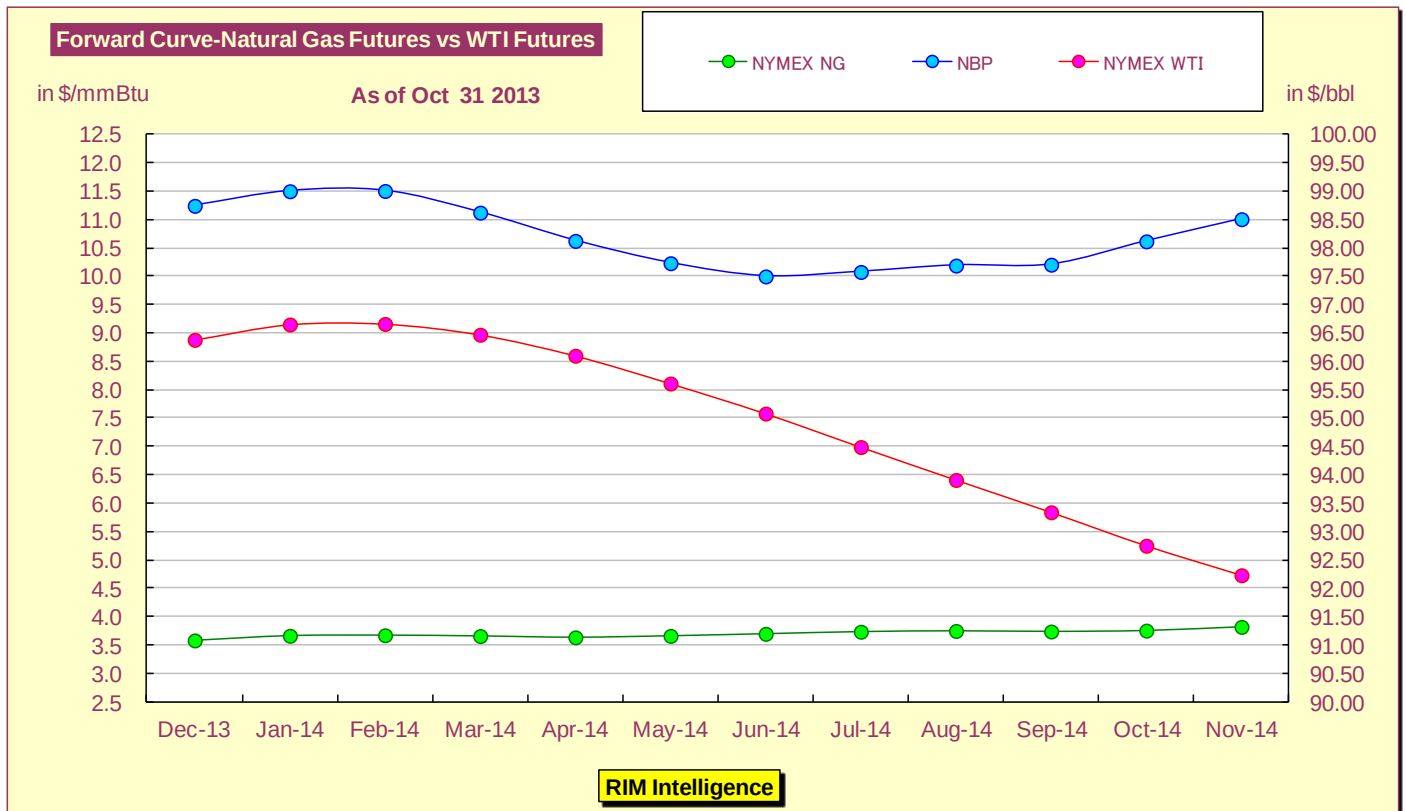
Supplier	Project	Supply country	Supply Volume (mtpa)	Start-up	Contract period (year)	Remarks
BP	Portfolio	T&T, Spain etc	0.5	Jan 2013	na	for Israel Electric Company (IEC)

(As of Oct 2013, RIM Intelligence)

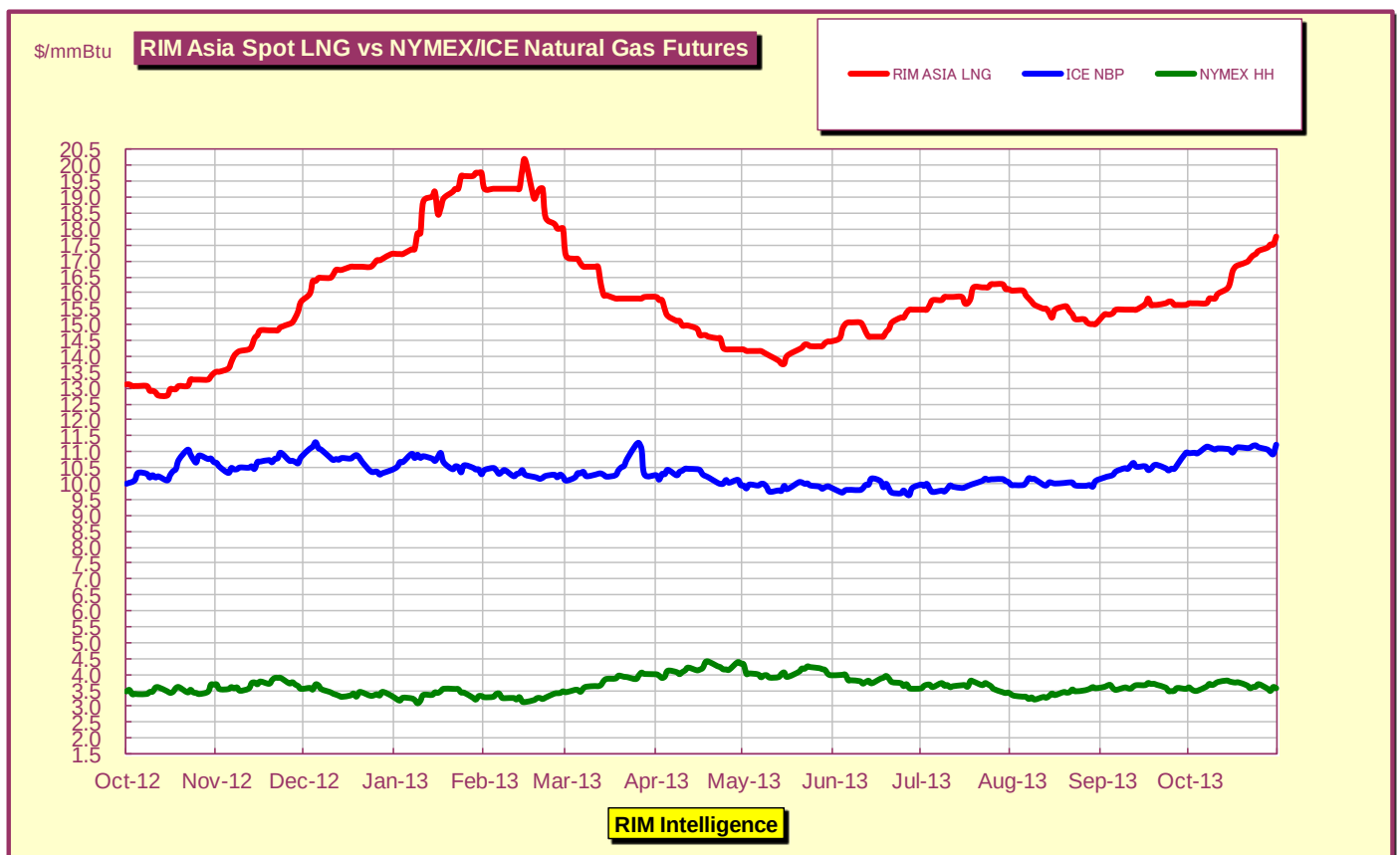
3. LNG cargo arrival of Israel

Israel_Hadera_LNG_Terminal_Cargo_Arrivals					
Arrival	Carrier	Capacity(cum)	Capacity(mt)	Origin	Note
18-Aug-13	Galea	134,425	61,836	Nigeria	6th commercial cargo
03-Jul-13	British_Ruby	155,000	71,300	Huelva, Spain	5th commercial cargo
05-Apr-13	British_Ruby	155,000	71,300	Mugardos, Spain	4th commercial cargo
15-Mar-13	British_Sapphire	155,000	71,300	Trinidad and Tobago	3rd commercial cargo
25-Feb-13	British_Diamond	155,000	71,300	Trinidad and Tobago	2nd commercial cargo
09-Feb-13	British_Sapphire	155,000	71,300	Trinidad and Tobago	1st commercial cargo
28-Nov-12	Excellence	138,000	63,480	Mugardos, Spain	in service as FSRU, re-export cargo

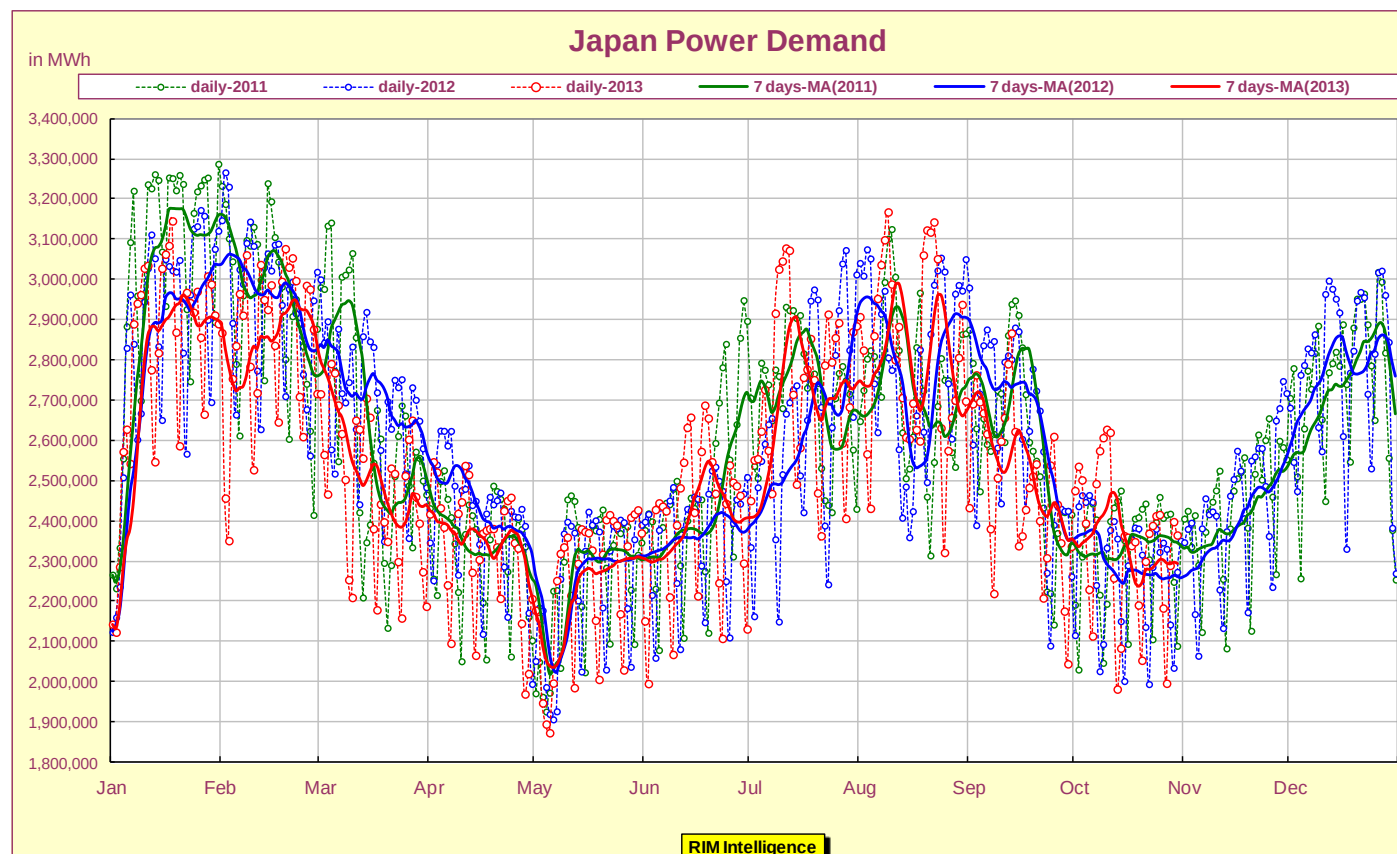
Forward Curve-natural Gas Futures vs WTI Futures



RIM Asia Spot LNG vs NYMEX/ICE Natural Gas futures



Japan Power Demand



Spark Spread

Rim Index (yen/kWh, Nov 5)			
24 hr	DT	Peak	Night
16.20	17.70	18.00	14.10

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	43.64	91,237	92,577	13.99	+2.21	+3.71	+4.01	+0.11
	50.00			12.21	+3.99	+5.49	+5.79	+1.89
	59.00			10.35	+5.85	+7.35	+7.65	+3.75
Coal	40.12	9,739	10,659	3.72	+12.48	+13.98	+14.28	+10.38
	45.00			3.32	+12.88	+14.38	+14.68	+10.78
imported CFO	40.00	72,268	74,807	16.34	-0.14	+1.36	+1.66	-2.24
domestic CFO								
0.3% sulfur	40.00	71,700	71,700	15.66	+0.54	+2.04	+2.34	-1.56
3.0% sulfur	40.00	64,150	64,150	14.01	+2.19	+3.69	+3.99	+0.09
Crude	40.00	71,170	73,460	16.78	-0.58	+0.92	+1.22	-2.68

**Learn the impact of shale gas on India's oil and gas markets**

RIM organizes India Delhi seminar, Nov 22:

Indian companies are some of the few first in the world to chase the shale gas dream by investing in shale gas development in the US. With shale gas production increasing, what is the likelihood of it replacing petroleum products in India or at least compensating for the shortfall in some cases? To provide a platform for players from the natural gas, LNG, refinery and downstream product businesses to interact and discuss this issue, Rim Intelligence is organizing a seminar in Delhi, India on Nov 22. Participation fee is US\$400 (excluding accommodation).

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