Argus Media's response to the Australian Energy Market Commission (AEMC) East Coast Wholesale Gas Market and Pipeline Frameworks Review

Argus Media (Argus) welcomes the opportunity to comment on the East Coast Wholesale Gas Market and Pipeline Frameworks Review. Argus focuses its comments on recommendations for promoting greater price transparency in gas markets. There are three brief sections to our response:

1. **About Argus** - an introduction to Argus as an independent Price Reporting Agency.
2. **International gas markets** – providing context for the Australian market.
3. **Australia's gas markets** – recommendations for promoting greater price transparency, and building liquidity.

1. About Argus

- Argus is an independent media organisation with more than 700 full-time staff and whose activities include publication of price assessments for physical energy and related commodities. Data provided by Argus are widely used for indexation in physical trade, and as a settlement price for derivatives contracts. Companies, governments and international agencies use Argus for analysis and planning purposes.

- Argus' services are created by an international editorial operation with news bureaus located in the world's principal energy centres under the editorial direction of an editor-in-chief, who reports to the chief executive and who has responsibility for the quality of content. Its well-trained journalists operate according to a rigorous and transparent Editorial Code of Conduct and an Ethics Policy (available at: www.argusmedia.com/About-Argus/How-We-Work) that align with the highest standards of journalistic best practice, including the avoidance of conflicts of interest. The company began operations 45 years ago, and has been active in Asia-Pacific for almost 30 years.

- Argus is not a financial services company. It is an independent media organisation that reports on energy and commodity markets, but is not a participant in the markets and has no vested interest whatsoever in the level of prices in those markets. Its worldwide reputation and continued business success depend on maintaining that independence.

- Argus' prices are used extensively in energy supply contracts and derivatives markets around the world. For example, the Argus Sour Crude Index (ASCI) is the price benchmark for Middle East crude exports to the US, and Argus is used as an official oil price reference by many governments around the world. Argus is the principal provider of price indexation for physical and derivative coal markets internationally. Increasingly, European companies are signing gas supply contracts based on gas hub indexation, rather than oil indexation. Argus' prices for the Dutch gas market (TTF) now form the basis of several key European gas supply contracts.

- Argus is committed to transparency in its own operations including through making public its submissions and responses to public consultations. As a corporate function, Argus maintains an active public policy programme to keep abreast of relevant public policy developments internationally, hence our interest in responding to the AEMC Review.

2. International gas markets – providing context for the Australian market

- International gas markets are shifting away from oil indexation towards gas-to-gas pricing. In Europe, weak demand resulting from the recession, and surplus LNG no longer required by the US, are two factors that have contributed to the move away from oil indexation. Gas sold on gas-to-gas pricing now accounts for around half of the gas sold in Europe, a significant increase from only a few years ago.

- Oil indexation is a weak instrument for generating a competitive natural gas price, undermining the ability of gas to compete with other fuels. The oil linkage is coming under increasing pressure as oil's role in power generation becomes more limited, and it is coal, nuclear and renewables that compete with gas as a fuel feedstock to generate power. The gas industry will continue to question the validity of oil-price linkage, as it seeks a reliable reference that is capable of reflecting supply and demand fundamentals in the gas markets themselves.

- LNG producers often argue that oil indexation is needed to underpin huge investments in LNG infrastructure. But some large gas infrastructure projects in Europe have been built on the basis of the UK's NBP prices, highlighting that it is a liquid price reference, rather than an oil indexed formula, that is a prerequisite for investment purposes.

- A move away from oil indexation to gas-to gas-pricing in Asia is likely to be driven by evolving approaches to risk management. These include the development of financial markets, increased cross participation of buyers in upstream projects and sellers in downstream projects, and a growing number of portfolio players with flexibility. The emergence of a liquid and transparent Asian gas spot market is essential in driving the move away from oil indexation. The IEA notes in its recent report *The Asian Quest for LNG in a Globalising Market* that the following steps are needed to create an Asian gas hub:

    1. A hands-off government approach
    2. Unbundling of transport and commercial activities
    3. Price deregulation at the wholesale level

- In Europe, a number of physical and virtual gas hubs have emerged, with pricing points such as the Netherland's TTF becoming increasingly liquid in recent years due to developing interconnections and the move away from oil indexation.

- In Asia, the regulatory landscape is gradually shifting. China is implementing domestic gas pricing reforms, India is looking to reform energy prices, and Indonesia is removing fossil fuel subsidies, enabling domestic prices to move closer to market prices. International gas markets are structurally changing and moving towards market pricing. The role of oil indexation will therefore continue to come under pressure.

- A vibrant physical market is needed in order to build liquidity in the financial markets. In the case of the UK gas market, strong liquidity in the OTC forward market was critical to enabling a paper-traded market to successfully emerge. The involvement of trading houses and financial players such as investment banks and hedge funds was another important element underpinning the success of the paper market in Europe.

3. Australia's gas markets – the role of price transparency in building liquidity

- The Australian east coast natural gas market is changing rapidly. Queensland began loading its first LNG cargo at the end of 2014, marking the first time the east coast domestic gas market will directly compete with Asia-Pacific consumers for supplies. East coast spot and Argus forward prices moved sharply higher as a result of the start of exports, responding directly to supply and demand fundamentals in the international gas markets.

- As the east coast gas market moves into this new era of competition with high LNG demand centres such as northeast Asia and China, a liquid and transparent spot market that reflects regional supply and demand fundamentals is key to ensuring competitive east coast gas prices. Australia's state and federal energy ministers said at the end of 2014 that improving gas market transparency and gas price discovery is an integral part of the next phase of reform for the country's east coast gas market.

- Argus publishes over 10,000 price assessments on a daily basis, many of which have become established as a leading price reference in the energy and commodities markets, bringing transparency to otherwise opaque markets. Argus frequently produces new price assessments in markets where there is a clear need for independently published, transparent pricing for commodities.

- One such example is in the Australian domestic gas market, where many fixed-price long-term gas contracts on the east coast are expiring, leaving scope to replace these with contracts indexed to transparent price references. Oil-indexed LNG netback pricing is starting to work its way into east coast gas supply contracts, but this is not a long-term answer. As oil indexation continues to fade out in Europe, and comes under increasing pressure in Asia, Australia's domestic gas market needs to look at alternative pricing structures, such as gas-on-gas pricing. Wallumbilla could become a key gas pricing point for the east coast, given its position between Gladstone, Brisbane and more southerly Australian demand centres. The east coast gas market should look to Europe particularly as a guide for reform, given the developed nature of Europe's regulatory regime.

- In June 2014, Argus launched the first month-ahead index for Australia's east coast Wallumbilla natural gas market in the *Argus LNG Daily* market report. The index, known as the Argus Wallumbilla Index, or AWX, addresses the need to improve price transparency in the east coast gas market. It is designed to offer the Australian gas industry a reliable weekly price reference for natural gas traded at Wallumbilla for delivery on a month-ahead basis. It appears in a weekly east coast Australian markets page in *Argus LNG Daily*. Please see Appendix 1 attached.

- Argus Gladstone LNG netback pricing allows the Australian gas industry to compare the value of a cargo in the international export market with the AWX. Please see Appendix 2 attached.

- Whilst price transparency will help to drive liquidity in the east coast gas market, the start-up of LNG plants at Gladstone will play a key role in boosting liquidity. The plants need to balance their gas portfolios, sometimes on a daily basis, and the Wallumbilla gas hub could enable this. But addressing pipeline capacity issues and a lack of gas storage is also key to driving liquidity in the east coast market, as these mechanisms give market participants the flexibility needed to take trading positions.

- East coast gas pipeline capacity is currently sold at a fixed price, but introducing an auctioning model, similar to those used in the European gas markets, would allow for more flexible pricing structures, and help drive liquidity in the east coast gas markets, as it has done in Europe.

- East coast gas storage sites are very limited, with only two facilities offering third-party access. Open-access underground gas storage facilities are critical to enable counterparties to balance their physical positions. Mature gas markets such as those in the US, Europe and Canada have vastly more open-access underground gas storage facilities than Australia.

- In Europe, a number of forward OTC gas markets have emerged, with the two key ones being the NBP and the TTF. The east coast gas markets of Wallumbilla, Victoria and the Short Term Traded Markets (STTMs) are structurally very different. Some form of standardisation in these markets could help to promote liquidity across the east coast.

- Developments in international gas and energy markets have demonstrated that the development of liquidity in the physical market is a prerequisite before a paper-traded market can successfully emerge. Most recently in the Asian LNG markets, we have seen the swaps market fail to establish itself because liquidity is not yet sufficient in the physical market. As in Europe, the participation of trading houses and financial players is key to enabling an Australian east coast financial gas market to evolve.

4. Conclusion

- Price transparency can best be promoted by encouraging independent media organisations such as energy Price Reporting Agencies to produce price assessments that most accurately reflect the supply and demand

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fundamentals of a freely operating, non-price regulated market. A good example of this is the AWX, an independent price assessment of Wallumbilla's east coast natural gas market.

- Argus urges the AEMC to be aware of the role that independent Price Reporting Agencies such as Argus perform in bringing transparency to otherwise opaque energy markets. These organisations should be left to function without government interference, oversight or regulation.

- Moreover, the government and government agencies should have an important role to play in enhancing price transparency by:

    - publicly encouraging market participants to report comprehensive transactional and market information to Price Reporting Agencies
    - avoiding the adoption of legislation that might deter the flow of information to Price Reporting Agencies (i.e. which might have a chilling effect on the market)
    - adopting independent price assessments such as the AWX for tax reference purposes

- International gas markets are shifting away from oil indexation towards gas-to-gas pricing. Oil-indexed LNG netback pricing is starting to work its way into east coast gas supply contracts, but this is not a long-term answer. As oil indexation continues to fade out in Europe, and comes under increasing pressure in Asia, Australia's domestic gas market needs to look at alternative pricing structures, such as gas-on-gas pricing. A liquid and transparent spot market is essential if market participants are to become comfortable using gas-on-gas pricing in their long-term contracts. The east coast gas market should look to Europe particularly as a guide for reform, given the developed nature of Europe's regulatory regime.

- Price transparency will help to drive liquidity in the east coast gas market, and the start-up of LNG plants at Gladstone will play a key role in boosting liquidity. But addressing pipeline capacity issues and a lack of gas storage is also key to driving liquidity, as these mechanisms give market participants the flexibility needed to take trading positions.

- In Europe, a number of forward OTC gas markets have emerged, with the two key ones being the NBP and the TTF. The east coast gas markets of Wallumbilla, Victoria and the Short Term Traded Markets (STTMs) are structurally very different. Some form of standardisation in these markets could help to promote liquidity across the east coast.

- A vibrant physical market is needed in order to build liquidity in the financial markets. In the case of the UK gas market, strong liquidity in the OTC forward market was critical to enabling a paper-traded market to successfully emerge. The involvement of trading houses and financial players such as investment banks and hedge funds was key to the success of the paper market in Europe.

- Argus is available to provide further information and details as required to support the AEMC consultation.

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Argus *LNG Daily*

Daily LNG prices, news and analysis

Issue 15-27   Friday 6 March 2015

MARKET COMMENTARY

Darwin tender results awaited

Northeast Asian spot prices were steady to slightly lower today, as market participants await the results of the Darwin LNG tender to provide a price reference.

The 3.7mn t/yr Darwin LNG plant in Australia issued a tender for one 6-7 April loading cargo that closed on 3 March, with bids valid until today. Firm results are likely to emerge only from 9 March, but several traders expect strong bids at over $8/mn Btu on a des basis from portfolio suppliers. It remains unclear if consumer buyers submitted bids, but any such bids are expected to be under the high-$7/mn Btu level. The Darwin cargo was offered on a fob basis, but with a delivered option.

April bids and offers are relatively strong because of thin supply liquidity amid firm demand from consumer buyers as well as portfolio suppliers and trading firms seeking optimisation opportunities. But falling UK NBP gas hub prices are likely to change optimisation economics. The NBP April settlement fell to $7.04/mn Btu yesterday from $7.33/mn Btu a day earlier.

The softening NBP is putting pressure on May spot LNG prices, along with other factors such as mild shoulder season demand, weaker freight rates and expectations May-delivery spot supplies will soon emerge from Asia-Pacific LNG plants including Australia's 16.3mn t/yr North West Shelf (NWS), Russia's 9.6mn t/yr Sakhalin, Indonesia's 22.6mn t/yr Bontang and 7.6mn t/yr Tangguh and the 6.9mn t/yr Papua New Guinea (PNG) LNG.

PRICES

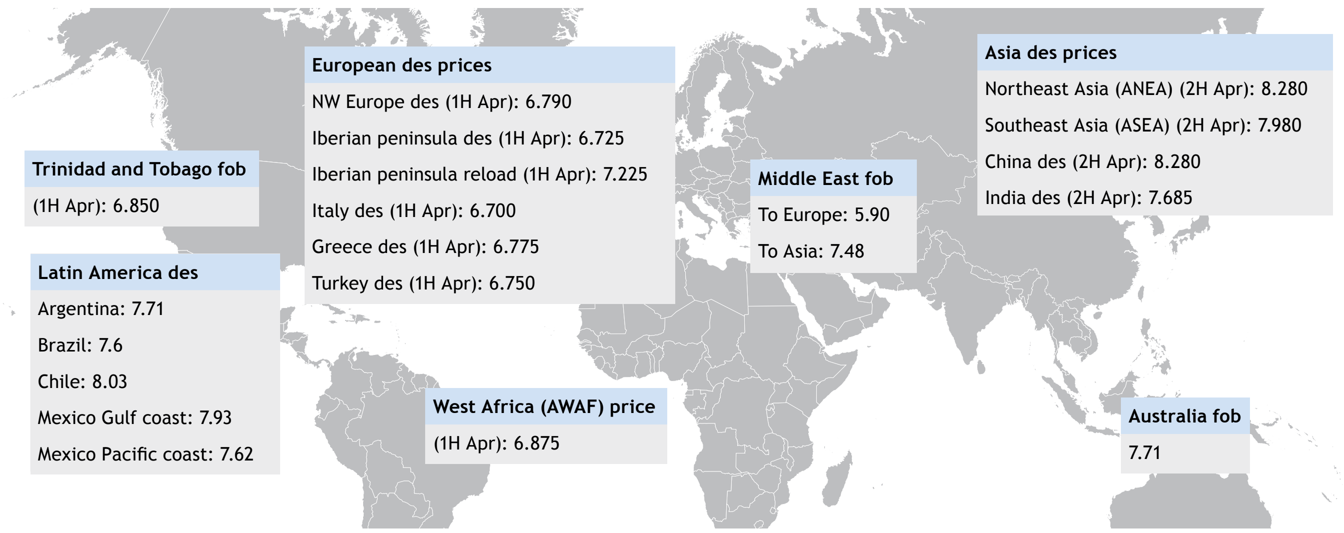
Argus Asia-Pacific des spot LNG					*$/mn Btu*
	Delivery	Bid	Offer	Midpoint	±
Northeast Asia (ANEA™)	2H Apr	7.90	8.66	8.280	0.000
	1H May	7.36	8.23	7.795	-0.035
	2H May	7.36	8.23	7.795	-0.035
China	2H Apr	7.86	8.70	8.280	0.000
	1H May	7.31	8.28	7.795	-0.035
	2H May	7.31	8.28	7.795	-0.035
India	2H Apr	7.27	8.10	7.685	0.000
	1H May	7.06	7.94	7.500	0.000
	2H May	7.06	7.94	7.500	0.000

Argus fob spot LNG					*$/mn Btu*
	Loading	Bid	Offer	Midpoint	±
Iberian peninsula reload	1H Apr	6.65	7.80	7.225	-0.090
	2H Apr	6.65	7.80	7.225	-0.090
	1H May	6.35	7.50	6.925	-0.115
West Africa (AWAF™)	1H Apr	6.65	7.10	6.875	-0.065
	2H Apr	6.65	7.10	6.875	-0.065
	1H May	6.35	6.85	6.600	-0.100
Trinidad and Tobago	1H Apr	6.65	7.05	6.850	-0.105
	2H Apr	6.65	7.05	6.850	-0.105
	1H May	6.35	6.80	6.575	-0.115

Argus Atlantic Basin fob spot LNG					*$/mn Btu*
	Loading	Bid	Offer	Midpoint	±
Atlantic Basin	1H Apr	6.65	7.45	7.050	-0.077
	2H Apr	6.65	7.45	7.050	-0.077
	1H May	6.35	7.18	6.762	-0.108

Latest price snapshot

$/mn Btu



Several trading firms and state-controlled importers are expecting PNG LNG and NWS to soon issue tenders for May cargoes. NWS is looking to switch to an equity marketing model from 1 April, under which plant stakeholders will sell their equity share of spot supplies directly. But it is unclear if details such as the allotment of supplies and marketing structure have been finalised.

Thailand's state-controlled PTT has bought a spot cargo for first-half May delivery in the low-$7s/mn Btu on a des basis. The deal was done about 1-2 weeks ago, but supplier and cargo source remain unclear. The ANEA, the *Argus*-assessed price for deliveries to northeast Asia, and the ASEA, a derived price for deliveries to southeast Asia, were between the high-$6/mn Btu and low-$7/mn Btu level from 18-26 February. The freight rate differential between southeast Asia and northeast Asia was at around 10-20¢/mn Btu during the period.

The PTT purchase is the only Asia-Pacific spot deal to have emerged so far for May, and provides a price reference amid buying and selling ideas that remain largely indicative. Tentative May bids are in the low-$7s/mn Btu, against offers in the low-$8s/mn Btu. The May backwardation to April is now close to 50¢/mn Btu.

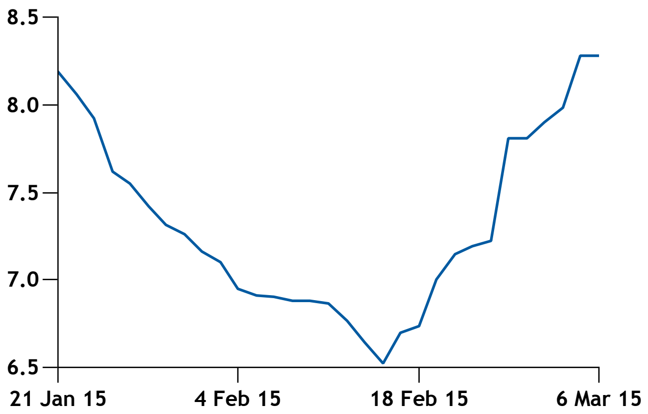
But May prices could still find support if the NBP rebounds because of geopolitical issues or other factors.

"There could still be unexpected supporting factors for the NBP. A fresh dispute between Russia and Ukraine, for instance, could threaten the supply security of Russian gas to Europe via Ukraine," a trader said.

The ANEA price, the *Argus* assessment for northeast Asia des, is unchanged at $8.28/mn Btu for second-half April, and down by 3.5¢/mn Btu to $7.795/mn Btu for first- and second-half May deliveries. China's des prices are assessed in line with the ANEA.

India's des prices are stable at $7.685/mn Btu for second-half April and $7.50/mn Btu for first- and second-half May deliveries. The market was largely closed today because of a religious holiday in most states, including Delhi and Maharashtra.

Northeast Asia (Anea) LNG first-half month *$/mn Btu*



Argus Latin America des spot LNG	Delivery	Price	± $/mn Btu
Argentina	Prompt	7.71	-0.08
Brazil	Prompt	7.60	-0.08
Chile	Prompt	8.03	-0.08
Mexico Gulf coast	Prompt	7.93	-0.08
Mexico Pacific coast	Prompt	7.62	-0.03

Argus European des spot LNG	Delivery	Bid	Offer	Midpoint	± $/mn Btu
NW Europe	1H Apr	6.58	7.00	6.790	-0.135
	2H Apr	6.58	7.00	6.790	-0.135
Iberian peninsula	1H Apr	6.45	7.00	6.725	-0.100
	2H Apr	6.45	7.00	6.725	-0.100
Italy	1H Apr	6.40	7.00	6.700	-0.100
	2H Apr	6.40	7.00	6.700	-0.100
Greece	1H Apr	6.50	7.05	6.775	-0.125
	2H Apr	6.50	7.05	6.775	-0.125
Turkey	1H Apr	6.50	7.00	6.750	-0.125
	2H Apr	6.50	7.00	6.750	-0.125

Key netbacks	Delivery	Price	± $/mn Btu
Southeast Asia (ASEA)	2H Apr	7.98	+0.01
	1H May	7.55	-0.03
	2H May	7.55	-0.03
Australia fob	Prompt	7.71	+0.01
Middle East fob (Asia-Pacific bound)	Prompt	7.48	0.00
Middle East fob (Europe-bound)	Prompt	5.90	-0.11

Argus Northeast Asia swaps — Delivery	Price	± $/mn Btu
Jun	7.00	0.00
Jul	7.10	0.00
Aug	7.30	0.00

Argus spot LNG freight	Price	± $/day
Freight west of Suez	34,000	-1,000
Freight east of Suez	32,000	-1,000

Argus Wallumbilla Index (AWX) - Friday 6 Mar 2015 — Delivery	Units	Bid	Offer	Midpoint	±
April	*A$/GJ*	3.64	4.20	3.920	+0.420
April	*$/mn Btu*	3.00	3.46	3.226	+0.337

Argus Victoria Index (AVX) - Friday 6 Mar 2015 — Delivery	Units	Bid	Offer	Midpoint	±
April	*A$/GJ*	3.38	3.83	3.600	+0.350
April	*$/mn Btu*	2.78	3.15	2.963	+0.280

The AWX and AVX indexes, the first month-ahead indexes for Australia's east coast Wallumbilla and Victorian natural gas markets, are assessed each Friday and reproduced through the week. The date shown is the date of the assessment. The indexes will also appear in the east coast Australian gas markets page each Friday.

Soft NBP continues to drag

Lower UK NBP gas hub prices continued to drag down Atlantic basin LNG prices on Friday, despite lower supply availability and pockets of demand from South America.

April delivered prices at the NBP fell by 17¢/mn Btu to $6.87/mn Btu on Friday. Concerns over a European gas transit disruption were further allayed as Ukraine made another prepayment to Russia's Gazprom, and the government insisted that Russia would fulfil gas transit obligations through Ukraine to European customers.

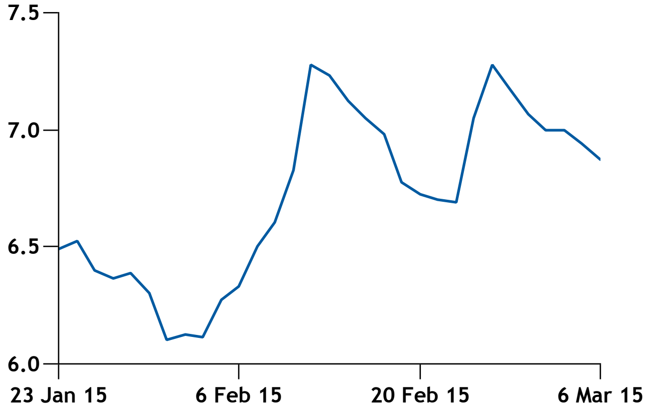
However, some pockets of demand slowed declines. Argentina's state-owned importer YPF bought a partial cargo from Eni this week, several traders said. The cargo will be re-exported from Belgium's 7.2mn t/yr Zeebrugge LNG import terminal onto the Eni-controlled 155,900m³ Wilforce on 9 March. The Wilforce was heading north along the Portuguese coast on Friday.

Traders said that Argentina's gas demand was limited, and that the transaction was an opportunistic purchase. It may be used to supply gas to a Brazilian power station at the border.

Brazil's Petrobras has also bought at least one March loading cargo from Nigeria's 22mn t/yr Bonny that was offered by a term buyer. With spot availability limited in the Atlantic basin, Petrobras may have paid higher than NBP levels, one trader who sells to South America said.

Traders who have commitments to supply Egypt may also be looking for spot LNG, with suppliers Trafigura, Vitol, and Noble Clean Fuels are not known to have long term LNG sup-

West Africa (AWAF) LNG fob *$/mn Btu*



Benchmark price snapshot

Market	Delivery	Price
Natural gas		*$/mn Btu*
Nymex	Apr	2.83
NBP	Apr	6.87
Zeebrugge	Apr	6.73
Peg Nord	Apr	6.85
PSV	Apr	7.34
AOC	Apr	7.48
Crude		*$/bl*
WTI	Apr	49.21
Brent	Apr	59.50
JCC*	Dec	79.13

**Japanese Crude Cocktail*

Global supply highlights

Supply	Loading period	First reported	Last updated	Comments
At least 1 cargo from Nigeria	Mar	24 Feb	06 Mar	Spot cargo may have been sold to Petrobras
1 partial cargo from Dubai's Adgas	9-11 Mar	02 Mar	06 Mar	Tender closes 3 March, cargo awarded to Shell
1 cargo from Darwin LNG	1H Apr	25 Feb	06 Mar	Offered fob 6-7 Apr, with option for des. Tender closed 3 Mar
1 reload from Belgium	1H Mar	06 Mar	06 Mar	Sold des to YPF, loading 9 Mar
1 reload from Spain	Mar	02 Feb	05 Mar	Full-sized, down from two reloads
1 reload from Spain	Apr	05 Mar	05 Mar	Full-sized
1 cargo from NWS	4-8 Mar	11 Feb	26 Feb	Up to 3 cargoes awarded on fob/des basis. Mid-$6 fob, low-$7 des: traders
8 cargoes from Sakhalin	Apr 2015 - Mar 2016	09 Jan	23 Feb	Cargoes awarded to Asian portfolio producer, European major: Sakhalin offtaker
1 cargo from PNG LNG	April	09 Feb	13 Feb	Sold at $6.50/mn Btu to Japanese utility
2-3 cargoes from Tangguh LNG	Feb-March	09 Feb	09 Feb	According to buyers
14 cargoes from Bontang, Indonesia	Calendar 2015	03 Feb	05 Feb	Total surplus of 25 cargoes; 3 sold Jan-Mar; 8 allocated to domestic market
Unspecified number of cargoes from NWS	Apr-Jun	12 Jan	04 Feb	Tender closed 26 Jan. 6 cargoes sold in first tranche at high $6/mn Btu des - traders

Global demand highlights				
Demand	**Delivery period**	**First reported**	**Last updated**	**Comments**
Up to 3 cargoes from Japanese utilities	Apr	26 Jan	06 Mar	Mostly secured, 1 cargo outstanding: traders
At least 1 cargo from Greek buyer	Mar	10 Feb	03 Mar	Still enquiring, now bidding flat to NBP according to traders
6 cargoes from Gail	May 2015-Oct 2016	16 Feb	16 Feb	Tender closes 18 Feb. Delivery windows: May, Sep 2015; Jan, Apr, Jun, Oct 2016
1 partial cargo from Italy's Adriatic LNG	9-16 Feb	05 Jan	10 Feb	Tender closed, awarded to Edison. Peak-shaving tender for 60,000m³-65,000m³
1 cargo from Brazil	Feb-Mar	13 Jan	04 Feb	Bought 2 Freeport reloads at around $6/mn Btu, delivering Feb
13 cargoes from Mexico's CFE	Feb-Nov	12 Jan	28 Jan	1 cargo/month, extra in Aug-Sep. Cargoes awarded to Trafi and BP
6 cargoes from Tepco and Chubu	1 Apr 2015 - 31 Mar 2016	17 Dec	16 Jan	Suppliers shortlisted; possible transactions around 13.5-13.7pc Brent
Around 2 cargoes from PetroChina	Jan-Mar	04 Dec	15 Jan	About 5 possibly bought

ply. The price Egypt paid for LNG is likely higher than European hub prices due to the risk of delivering to Egypt, which may mean suppliers are willing to pay more for fob cargoes. Enquires have already been made for Spanish reloads, an Iberian trader said this week.

The spread between Atlantic basin fob prices and northeast Asian delivered prices widened on Friday, but not sufficiently to encourage cross-basin trade. The spread between the *Argus* West Africa (AWAF) fob assessment and northeast Asia (ANEA) delivered prices was $1.405/mn Btu for front-month assessments, while the cost of shipping a cargo from Bonny to northeast Asia was $1.54/mn Btu according to *Argus* calculations.

Meanwhile, LNG shipments to Europe continued. The 216,200m³ Al Sahla, a RasGas-controlled tanker, was heading to Europe. The vessel was initially expected to deliver to Belgium's 7.2mn t/yr Zeebrugge terminal, but was removed from the port schedule on Friday. The tanker could instead deliver to the Netherlands' 8.7mn t/yr Gate LNG import terminal, which is expecting two Qatari cargoes this month according to market sources.

The 133,000m³ LNG Bonny has also been scheduled to deliver a cargo to France's 7.25mn t/yr Montoir LNG terminal on 21 March.

Elsewhere the 138,800m³ Cadiz Knutsen was taking a Trinidadian cargo to China. The tanker left Trinidad and Tobago's 15.4mn t/yr Atlantic LNG on 28 February and is scheduled to arrive at China's 3mn t/yr Dalian LNG import terminal on 13 April.

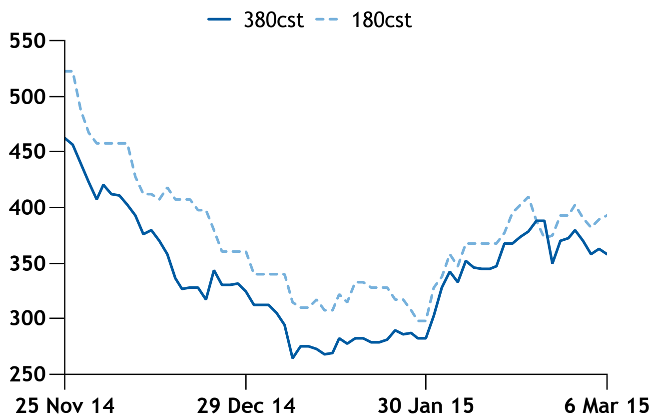
Indicative USGC fob LNG (05 Mar 2015)		*$/mn Btu*
Contract	**Price**	**±**
Apr 15	6.26	0.08
May 15	6.30	0.08
Jun 15	6.35	0.09
2Q15	6.30	0.08
3Q15	6.41	0.08
4Q15	6.56	0.06
1Q16	6.81	0.04
Summer 2015	6.36	0.08
Winter 2015	6.69	0.06
Summer 2016	6.64	0.02
Winter 2016	6.98	0.02
Cal 2016	6.73	0.03
Cal 2017	7.00	0.01
Cal 2018	7.12	-0.01

Japan oil-linked des LNG (05 Mar 2015)		*$/mn Btu*
Contract	**Price**	**±**
Apr 15	11.30	0.00
May 15	10.36	0.00
Jun 15	9.66	-0.01
2Q15	10.44	0.00
3Q15	9.18	-0.02
4Q15	9.61	-0.05
1Q16	9.89	-0.06
Summer 2015	9.81	-0.01
Winter 2015	9.75	-0.05
Summer 2016	10.18	-0.09
Winter 2016	10.47	-0.11
Cal 2016	10.17	-0.08
Cal 2017	10.68	-0.11
Cal 2018	10.99	-0.10

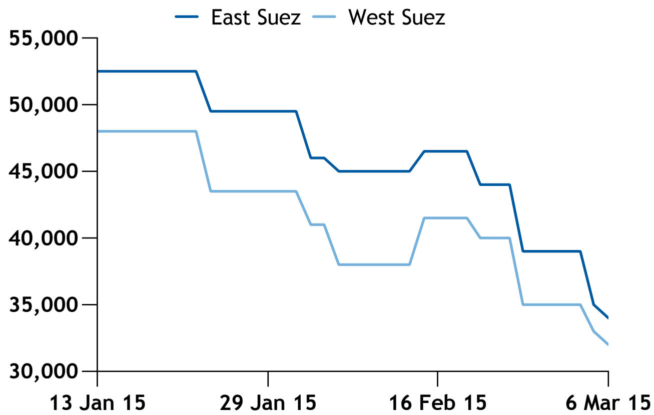
Global shipping highlights

Vessel	Capacity m^3	From	To	Loading	Arrival	Notes
British Sapphire	155,000	Point Fortin, Trinidad	Caribbean	10 Feb	06 Mar	Diverted twice
Esshu Maru	155,300	Ras Laffan, Qatar	Salvador, Brazil	07 Feb	06 Mar	
Rasheeda	266,000	Ras Laffan, Qatar	South Hook, UK	15 Feb	06 Mar	
Gaslog Sydney	155,000	Equitorial Guinea	South America	18 Feb	07 Mar	Diverted from Indian Ocean
Stena Crystal Sky	174,000	Bonny, Nigeria	Futtsu, Japan	09 Feb	07 Mar	
Gaslog Seattle	155,000	P. Melchorita, Peru	Bilbao, Spain	08 Feb	08 Mar	
Neo Energy	150,000	Queensland, Australia	Japan	15 Feb	08 Mar	
Yari LNG	159,800	Ras Laffan, Qatar	Zeebrugge, Belgium	19 Feb	08 Mar	
Arctic Spirit	89,880	Point Fortin, Trinidad	Escobar, Argentina	26 Feb	09 Mar	
Golar Maria	145,700	Arzew, Algeria	Incheon, South Korea	12 Feb	09 Mar	
Methane Jane Elizabeth	145,000	Point Fortin, Trinidad	Europe	27 Feb	09 Mar	Likely Dragon
Yenisei River	155,000	Bonny, Nigeria	Singapore FO	19 Feb	09 Mar	
Al Gharrafa	216,200	Ras Laffan, Qatar	South Hook, UK	24 Feb	13 Mar	
LNG Borno	149,600	Bonny, Nigeria	Chita, Japan	14 Feb	13 Mar	
Al Sahla	216,200	Ras Laffan, Qatar	Europe	26 Feb	14 Mar	Removed from Zee schedule
Al Samriya	261,700	Ras Laffan, Qatar	UK	26 Feb	15 Mar	
Al Thumama	216,200	Ras Laffan, Qatar	Zeebrugge, Belgium	28 Feb	16 Mar	
Palu LNG	159,800	Ras Laffan, Qatar	Zeebrugge, Belgium	28 Feb	18 Mar	
Arctic Lady	147,200	Snohvit, Norway	Salvador, Brazil	28 Feb	19 Mar	
Lalla Fatma N'Soumer	145,000	Arzew, Algeria	Incheon, South Korea	23 Feb	21 Mar	
Pskov	170,200	Ras Laffan, Qatar	Rio de Janeiro, Brazil	23 Feb	21 Mar	
Provalys	153,500	Bonny, Nigeria	Kawagoe, Japan	24 Feb	24 Mar	Loaded partial at Montoir
LNG Lokoja	148,300	Bonny, Nigeria	Joetsu, Japan	04 Mar	01 Apr	
Cadiz Knutsen	138,800	Point Fortin, Trinidad	Dalian, China	28 Feb	13 Apr	

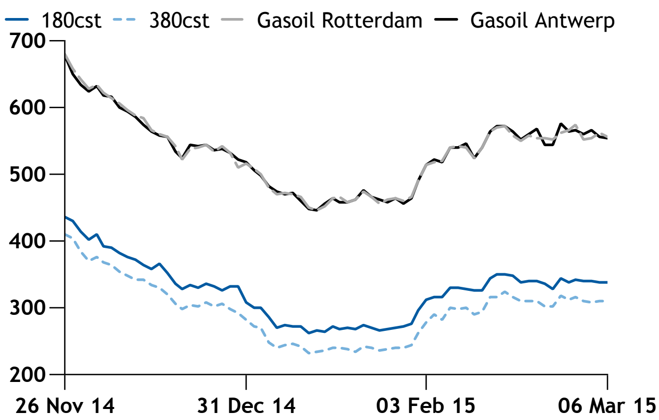
Middle East bunker fuel - Fujairah $/t



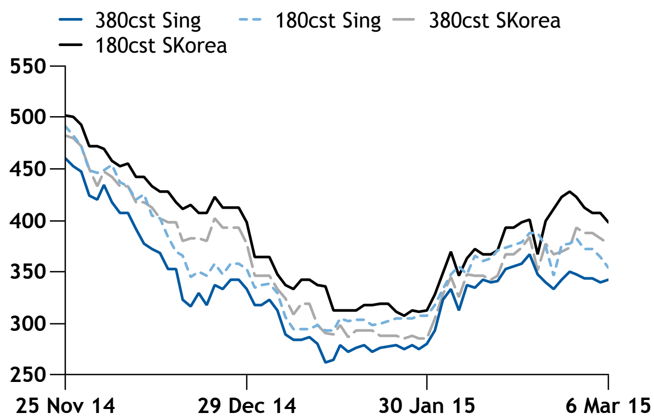
Freight $/d



European bunker fuel - Rotterdam $/t



Asia Pacific bunker fuel $/t



NEWS

Shell wins Adgas LNG tender

Shell was awarded a partial cargo tendered by Abu Dhabi's Adgas for loading from the 5.6mn t/yr Das Island terminal in the UAE between 9 and 11 March for over $6.50/mn Btu fob, according to multiple market sources.

The partial cargo was offered in a tender that closed on 3 March.

Shell is expected to use the cargo to meet a supply commitment in Asia-Pacific or the Middle East. Portfolio suppliers such as Shell have taken advantage of weak prices in the Middle East and Asia-Pacific in recent weeks by bidding for cargoes available in recent tenders in order to optimise cross-basin positions.

Bidding interest from portfolio suppliers has contributed to gains to delivered prices in the Pacific basin this week. The *Argus* northeast Asian (ANEA) des front half-month price closed at $8.28/mn Btu today, 47¢/mn Btu higher than the close on 2 March.

Gains to Indian prices have been considerably more muted, with the India des front half-month contract closing just 5¢/mn Btu higher today at $7.685/mn Btu compared with at the start of the week. The cost of shipping a cargo from Das Island to India's Dahej terminal stands at about 17¢/mn Btu, in a journey that would take just under three days.

The Das Island facility is expected to shut for planned maintenance from mid-March to the end of April. The majority of LNG from the facility is sold to Japanese utility Tokyo Electric Power on a long-term oil-linked deal, but the plant occasionally tenders spot cargoes.

Eni sells Belgian reload to Argentina's YPF

Eni has sold a partial LNG reload from the 7.2mn t/yr Zeebrugge facility in Belgium to Argentina's YPF for loading on 9 March, market participants said.

The cargo will be loaded onto the Eni-operated 155,900m³ *Wilforce*.

YPF had issued a buy tender and is likely to use the volumes to supply Brazil's Petrobras which was not in a position to make additional purchases because of high inventory levels, traders said.

YPF has not been active in the LNG spot market in recent months because of weak gas demand in Argentina and financial constraints.

Eni would have an incentive to sell the reload at a premium to the pipeline gas market price. The Zeebrugge balance of March market closed at $6.94/mn Btu yesterday.

In mid-February Eni was said to be offering a reload from Zeebrugge. But it did not find a buyer for this cargo because of weak demand for European reloads with cheaper volumes available to meet any Asian end-user demand in the Pacific basin, and limited spot demand from South American buyers.

Brazil can import LNG through Argentina's 3.7mn t/yr Bahia Blanca terminal to supply regasified volumes by a pipeline to the 640MW Uruguaiana power plant in the southern state of Rio Grande do Sul. Brazil had resumed imports from Bahia Blanca in mid-February. The plant restarted on 11 February and will run for 60 days.

Brazil has been dispatching nearly all of its thermal generating capacity because severe drought depleted its hydroelectric reservoirs.

Hydro reservoirs in Brazil's critical southeast-centerwest subsystem increased by four percentage points in February to 20.7pc of capacity on 28 February, and declined by 2.6 percentage points in January.

Latest estimated LNG distribution by destination	*m³*
Asia-Pacific	11,207,537
Europe	3,899,936
North America	438,730
South America	434,100
Upstream	21,176,003

Based on vessels at sea, final destination and estimated arrival time. Upstream figure includes all major production regions.

Netbacks — *$/mn Btu (front half month)*

	India	China	Japan	South Korea	Taiwan	Iberian peninsula	Greece	Italy	Turkey	NW Europe	North-east US	US Gulf
Middle East	7.52	7.49	7.39	7.44	7.57	5.81	6.04	5.87	6.02	5.77	2.52	1.59
Australia	7.19	7.84	7.79	7.80	7.92	5.38	5.60	5.49	5.57	5.39	2.21	1.30
Nigeria	6.76	6.94	6.85	6.89	7.01	6.27	6.17	6.13	6.12	6.26	3.11	2.22
Norway	6.46	6.49	6.40	6.45	6.57	6.41	6.27	6.23	6.22	6.57	3.30	2.33
Algeria	6.81	6.83	6.74	6.78	6.91	6.63	6.66	6.57	6.62	6.62	3.29	2.34
Trinidad and Tobago	6.33	6.56	6.47	6.51	6.64	6.27	6.15	6.11	6.11	6.29	3.43	2.62
Russia	6.91	8.07	8.11	8.11	8.04	5.09	5.32	5.21	5.30	5.10	2.21	1.31

Reserves are expected to be insufficient to meet demand at the end of the dry season in November, unless reservoirs in the critical subsystem reach 30-35pc of capacity at the end of the rainy season in April.

BG poised to expand Singapore gas market share

UK-listed BG, Singapore's exclusive LNG aggregator, is poised to expand its share of the country's domestic regasified LNG (RLNG) market after receiving a gas shipper licence from the Energy Market Authority (EMA).

BG obtained the licence in December, enabling it to deliver RLNG directly through the gas pipeline network to consumers, rather than being restricted to deliveries at the outlet of the 6mn t/yr Singapore LNG terminal.

BG is the only one of the 12 approved gas shippers in Singapore to have access to its own LNG supply. The other shippers are City Gas, Gas Supply, Keppel Gas, YTL Power Seraya, Senoko Gas Supply, SembCorp, Pacific Light Power, Tuas Power Generation, Tuaspring, Singapore Gas and Pavilion Gas.

BG was appointed in 2008 as Singapore's exclusive supplier of up to 3mn t/yr of LNG. It has so far agreed sales totalling 90pc or around 2.7mn t/yr of that amount with local power generators and gas retailers, based on long-term contracts with a minimum duration of 10 years.

The firm's franchise will end as soon as it supplies its 3mn t/yr limit, which will trigger the start of the next tranche of LNG imports. Singapore is reviewing proposals from nine firms to be appointed as the country's next LNG importer. EMA launched a two-stage selection process last year that is expected to end by December. The regulator can appoint up to two importers that will each have an exclusive three-year licence for 1mn t/yr.

BG will still be able to sell spot cargoes to customers after its franchise ends. Any other firms interested in importing spot LNG cargoes for domestic use will be allowed to apply for import licences once BG's franchise is fulfilled. But consumers requiring a new supply of LNG, other than spot cargoes, will have to buy from the newly appointed importers.

Russia to fulfil Ukrainian transit to Europe

The Kremlin has insisted that Russia should fulfil gas transit through Ukraine to European customers unconditionally, as state-controlled Gazprom increased exports after deliveries had fallen short of nominations in recent months.

President Vladimir Putin discussed Ukrainian transit with the permanent members of Russia's security council and noted the necessity of the "unconditional security of the full volume of gas transit" through Ukraine, the Kremlin said on Friday.

NBP				$/mn Btu
Delivery	Bid	Offer	Midpoint	±
Day-ahead	6.86	6.89	6.872	-0.266
Apr	6.86	6.88	6.870	-0.164
May	6.64	6.67	6.658	-0.146
Jun	6.45	6.47	6.457	-0.140
2Q15	6.65	6.67	6.658	-0.150
3Q15	6.52	6.54	6.529	-0.155
4Q15	7.29	7.32	7.305	-0.175
Summer 2015	6.58	6.61	6.594	-0.151
Winter 2015-16	7.55	7.57	7.559	-0.176
Summer 2016	6.69	6.72	6.705	-0.061
2016	7.14	7.17	7.154	-0.120
2017	7.22	7.25	7.234	-0.155
2018	7.36	7.39	7.376	-0.142

Gazprom increased transit nominations through Ukraine to 174.3mn m^3 today from 110.3mn m^3 yesterday, Ukraine's state-owned Naftogaz said.

The 58pc increase in orders was above the band of 4.5pc at Uzhgorod and 6.5pc at the western border that nominations can deviate by on a day according to the "existing technical agreement", Naftogaz said.

Gazprom is required to have sufficient gas in Ukrainian storage or supply the extra volumes 36 hours before the expected fulfilment of an order, which the Russian firm has not done, Naftogaz said. But Naftogaz said it planned to meet today's transit nominations.

Aggregate Russian flows to western Europe — through the Nord Stream pipeline, at Mallnow on the Germany-Poland border and at the Ukraine-Slovakia border — increased to 271mn m^3/d early on today's gas day from 189mn m^3 yesterday.

Flows had been in a tight range around 161mn m^3/d since the middle of January until rising yesterday evening. The stronger Russian exports were led by Ukrainian transit to the

Slovak border rising to 106.2mn m^3/d early this afternoon from 59.5mn m^3 yesterday. Flows had been in a tight range around 48.1mn m^3/d since the start of October. Some of Gazprom's European customers, particularly those receiving gas through Ukraine, had said that Russian flows had been below nominations since September before deliveries started ramping up yesterday.

Russian exports through other routes also increased. Nord Stream volumes rose to 93.4mn m^3/d this morning from 62.4mn m^3 yesterday and a steady 45.2mn m^3/d since mid-January as deliveries into the Opal and Nel pipelines climbed.

Yamal-Europe deliveries to Mallnow also quickened this morning, although the pipeline has operated at not far short of full capacity this winter.

Russian deliveries to western Europe of about 193mn m^3/d so far this winter have been considerably lower than the 309mn m^3/d a year earlier. In the fourth quarter this was largely driven by lower transit through Ukraine. Buyers that received gas through other routes — in particular Germany — imported heavily through Nord Stream and Yamal-Europe as Gazprom's average realised price was lower in the second half of 2014 than earlier in the year.

But buyers through Nord Stream have reduced their take in the first quarter of 2015, as crude-linked import costs are set to be higher than later this year, given prevailing prices. Ukrainian transit remained low and in a tight range in the first quarter, resulting in lower Russian deliveries to central Europe and Italy than in previous years, but broadly in line with the fourth quarter.

Naftogaz makes another Russian gas prepayment

Russian state-controlled Gazprom received a payment of $15mn from Ukrainian state-controlled Naftogaz today, in addition to the $15mn received yesterday.

The payment would cover 45.6mn m^3 at the first-quarter price of $329/'000$m^3$. Naftogaz nominated 10mn m^3 for 6 March and the firm's prepaid balance would last until the middle of the month at recent rates, Gazprom said.

Ukrainian withdrawals have increased early this month, as Naftogaz has reduced its take from Gazprom. But Ukraine still had just over 8bn m^3 in storage on 4 March, although about 5bn m^3 of this is cushion gas. Overnight temperatures in Kiev are forecast to remain well above the seasonal norm over the coming month, which could curb heating demand.

Fluxys finalises transshipment deal with Yamal LNG

Belgian system operator Fluxys and Russian project developer Yamal LNG have finalised a 20-year contract for up to 8mn t/yr of LNG to be transshipped at the Zeebrugge terminal, which has an import capacity of 7.2mn t/yr.

Transshipment at the Zeebrugge terminal will take place in the winter, when volumes will be transferred from heavy icebreaker vessels to conventional vessels for delivery to Asia-Pacific markets via the Suez canal. This will allow Yamal LNG, a consortium comprised of Russia’s Novatek (60pc), China’s CNPC (20pc) and France’s Total (20pc), to save fuel and continue deliveries to Asia-Pacific buyers throughout the year.

During the summer volumes from Yamal would be transferred to northeast Asia via the northern route. This route would allow volumes from Sabetta port to be transported to Japan within two weeks — a comparable shipping period to northeast Asia as from Qatar. But the northern route would not be passable during the winter, necessitating the transport of volumes via the Suez canal.

The transshipment will involve developing a fifth storage tank and further processing facilities at Zeebrugge. Yamal LNG said it requires a dedicated storage tank at the European terminal to ensure there are no delays in conducting transshipments by allowing vessels to be serviced on arrival. This is particularly important because the arrival of icebreaker vessels from the Arctic port is likely to be subject to delays because of adverse weather conditions.

Last September Yamal LNG was mulling selecting a second European terminal to be used for transshipments. In late February the Dutch 8.7mn t/yr Gate terminal said it will begin offering transshipment services in the second half of this year, making it a potential contender if Yamal LNG selects a second terminal.

Prior to the latest deal, Fluxys signed a preliminary agreement with Yamal LNG in April 2014. Like other European LNG terminal operators, Fluxys has been keen to develop transshipment and break-bulk services that will sustain activity when European LNG import demand is weak.

Yamal LNG has sold 3mn t/yr to Gazprom trading subsidiary Gazprom Marketing and Trading (GMT). Volumes received by GMT are to be received on a fob basis at the European terminal where transshipments take place, although Yamal LNG typically prefers to sell LNG on a des basis. Other offtakers from Yamal LNG include Gas Natural Fenosa, Novatek trading arm NGP, Total and CNPC.

The first 5.5mn t/yr train from the 16.5mn t/yr Yamal LNG export project in the Russian Arctic is scheduled to come on line in late 2017, the second in late 2018 and the third in 2019. Full capacity is expected to be reached in 2019. Novatek said on 2 March that the project is developing according to schedule, but Total said last year that US sanctions against Novatek would delay the process of raising funds for the project.

Yamal LNG shareholders have been financing the project from their own budgets, but plan to stop doing so once project financing is secured in the middle of this year. The consortium also sold more than 75bn roubles ($1.3bn) of dollar-denominated bonds to the Russian state in February, and plans to raise a further Rbs75bn from the same source in another bond issue planned for this summer. Yamal LNG is also discussing project financing with Chinese banks.

The 2015 budget for Yamal LNG was cut to slightly above $7bn, down from $8bn because of depreciation of the rouble. Around 30pc of the project's costs will be funded in roubles, Novatek said.

Lithuania regasses under half an LNG cargo in Feb

Lithuania's 2.2mn t/yr Klaipeda LNG import terminal sent around 376.6GWh of gas to the grid in February, or around 60,000m^3 of LNG.

This was less than half a standard LNG cargo of around 145,000m^3. Revenue from February was €5.4mn ($5.9mn) according to state-run terminal operator Klaipedos Nafta.

Lithuania received its first LNG cargo in December last year, and its second in early March.

State-controlled gas firm Litgas has a five-year LNG supply contract with Norway's Statoil for 540mn m^3/yr of gas, equivalent to 391,500t of LNG or six to seven cargoes a year.

It also signed two preliminary supply deals with US firms Cheniere and Delfin to import US LNG.

In late February, Litgas also signed an agreement with Latvian company Latvijas Gaze for the transit of natural gas through Latvia. The deal will enable Litgas to begin exporting gas in the Baltic states.

Montoir schedules first March LNG delivery

The 133,000m^3 *LNG Bonny* has been scheduled to deliver a cargo to France's 7.25mn t/yr Montoir LNG terminal on 21 March.

The terminal has yet to receive any cargoes in March, but has two berthing slots allocated for deliveries during the month.

The last vessel to deliver to the terminal was the 122,000m^3 *LNG Port Harcourt* on 24 February. The terminal has only received cargoes from Nigeria's 22mn t/yr Bonny LNG export plant since mid-November last year.

France has received roughly 1.04mn m^3 of LNG from Nigeria in October-February this winter judging from tanker sizes, compared with 1.46mn m^3 in the same period last winter.

The Nigerian-owned *LNG Bonny* was off the coast of west Africa today. Sendout at Montoir was nominated to rise slightly to 38 GWh/d from 31 GWh/d, two days after the scheduled arrival of the *LNG Bonny*.

BP to develop West Nile Delta

BP will go ahead with the West Nile Delta project to develop 5 trillion ft^3 (141bn m^3) of gas resources from five deepwater offshore fields.

BP expects production to reach up to 1.2bn ft^3/d, or around 25pc of Egypt's current gas output.

The gas will be processed using existing facilities rather than building a new onshore terminal and will be developed in two phases; the Rosetta concession in North Alexandria will come on stream in 2017 and the West Delta Deep Marine concession by 2019. BP expects to add a further 5-7 trillion ft³ through future exploration.

The gas will be fed into Egypt's national grid and sold for \$3-\$4.1/mn btu as decided in the deal that was signed in 2010.

BP and its partners, which include Germany's RWE Dea, will invest an estimated \$12bn in the project, up from the original \$9bn budgeted in 2010. BP said \$2bn had already been spent on processes such as drilling. BP and its partners currently produce over 30pc of Egypt's gas.

Demand has burgeoned and Egypt needs to import at least 700mn ft³/d to meet the needs of industry and generators during the summer, Egypt's oil minister Sherif Ismail said last month. Ismail hopes to close the supply-demand gap by 2020 as a result of increased exploration and the development of existing reserves.

Egypt is to receive its first LNG cargo by the end of March as the country turns to imports to meet domestic demand. The floating storage and regasification unit (FSRU) should be in place by the end of the month, when it will receive its inaugural cargo.

State-owned Egas has so far secured 55 cargoes from Algerian state-owned Sonatrach, Vitol, Trafigura and Noble Clean Fuels. A deal to buy 21 cargoes from BP is on track to be finalised by the end of the month and discussions with Gazprom are in the final stages, the oil ministry said this week.

US Delfin LNG signs initial deal with BTG

US energy firm Delfin has signed an initial agreement with Brazil-based BTG Pactual Commodities for a processing deal regarding the liquefaction capacity of the first floating liquefaction vessel (FLNG) to be deployed at the Delfin LNG Deepwater Port Project.

The agreement includes the option to expand the processing arrangement to include the full liquefaction capacity of additional FLNG vessels in development by Delfin LNG to be located on the US Gulf coast.

The first liquefaction facility is expected to come on line in 2019.

The US Department of Energy granted approval in February 2014 for the project to export LNG to countries that have a free-trade agreement (FTA) with the US. This allows the project to export up to 657.5bn ft³/yr of domestically-sourced gas (13mn t/yr of LNG) to FTA countries. Delfin LNG has also applied for a licence to export LNG to countries that do not have an FTA with the US.

Delfin announced the signing of a joint development agreement with Norwegian firm Hoegh LNG last week. Hoegh will act as co-owner, engineer and operator of the floating liquefaction vessels.

Delfin has also signed a preliminary supply deal with Lithuania's Litgas a non-FTA country.

China signals more action on pollution

China will aggressively cut its emissions and reduce energy use in the economy, raising the prospect of more costs for steelmakers and disruption to their operations.

Premier Li Keqiang told the national people's congress in Beijing the government is seeking to cut CO2 emissions by 3.1pc, SOx emissions by 3pc and NOx emissions by around 5pc. He also set a target to cut energy intensity per unit of GDP by 3.1pc.

The *Argus* ICX, the price of 62pc Fe Chinese imported iron ore, fell to \$59.05/t and an index low yesterday, with steelmakers concerned by the shutdown of mills in Shandong province for environmental violations.

Many mills are already losing 100-200 yuan/t (\$16-32/t) on the sale of construction steel products because of sluggish domestic demand, said a trader with a large Chinese steel mill, with additional costs of Yn100/t to comply with China's new environmental law enforced from 1 January making business unsustainable. Several steel mills that took maintenance breaks in February are not lighting up their blast furnaces as they wait for clarity on environmental inspections.

Environmental laws and regulations will be enforced strictly, Li said, with crackdown on illegal emissions. Heavy penalties will be handed out to offenders and government officials that allow such emissions will be made accountable. For traditional industries, which includes the steel and cement sectors, elimination of outdated production capacity will continue this year, he added.

The focus on environmental controls comes as China's economy is slowing down, which could keep steel demand from construction and manufacturing sectors subdued. China will cut its 2015 economic growth target to 7pc, Li said, which is a 24-year low. A 7.5pc target had been announced earlier in the year.

But a budget of Yn477.6bn has been set aside for infrastructure investment in 2015, Li said, which will give some support to the steel and construction industries. The spending will include redeveloping shanty towns, building underground pipelines in urban areas and laying new railway lines. The government will encourage private-sector investment in the infrastructure sector, Li said.

Woodside gets regulatory OK on Apache asset deal

The \$2.75bn acquisition by Australian independent Woodside Petroleum of upstream assets in Australia and Canada from US independent Apache has received approval from the Australian anti-competition regulator.

The Australian Competition and Consumer Commission

(ACCC) will not oppose Woodside's proposed acquisition of Apache's interests in the Chevron-operated 8.9mn t/yr Wheatstone LNG project and the Balnaves oil project, which are both located offshore Western Australia (WA) and the Kitimat LNG project in British Columbia on the west coast of Canada.

Woodside and Apache overlap in the wholesale supply of natural gas to the WA domestic. Woodside supplies domestic gas market through its 16.66pc stake in the North West Shelf LNG project. Apache is retaining its interests in the Reindeer and Macedon gas fields offshore WA and the onshore Devils Creek and Varanus island gas processing plants.

"Apache will continue to supply gas to the market through its interests in the Macedon, Varanus Island and Devil Creek Projects. As a result, Apache will remain a larger supplier of domestic gas in WA than Woodside following the proposed acquisition," ACCC chairman Rod Sims said.

Apache's 13pc interest in domestic gas produced by the Wheatstone LNG project will represent only a small fraction of the total gas to be supplied to WA, when it comes on line in around 2018, the ACCC said. "The acquisition will not change the structure of the market in a material way, with Woodside's share of the total market changing by less than 5pc," Sims said.

Floridian Natural Gas seeks US LNG export approval

The planned Floridian Natural Gas liquefaction and storage project in southeast Florida has applied to the US Department of Energy (DOE) for licenses to export small volumes of LNG.

Floridian would not export the LNG on its own, but would use the licenses to allow its customers to export the fuel. LNG from the facility in Indiantown, Florida, would be trucked in ISO containers to various ports in the state. The containers would then be loaded on vessels for delivery to relatively close markets, likely in the Caribbean or Central America.

The project is seeking 20-year licenses to export LNG equivalent to up to 40mn cf/d (1.1mn m^3/d) of gas to countries that have free trade agreements (FTAs) and those that do not. The volume is equivalent to the planned capacity of Floridian's truck-loading station.

Floridian likely will come on line in 2017, later than the previously announced start-up date of 2016, it told *Argus* today. Initial liquefaction capacity will be 25mn cf/d, with possible expansions up to 100mn cf/d from four trains.

At least three companies have said they plan to buy LNG produced at Floridian from BP, which has capacity at Floridian. One of those is Carib Energy, a wholly owned subsidiary of Jacksonville, Florida-based shipper Crowley Maritime.

The DOE in September authorized Carib to export LNG up to a gas equivalent of 40mn cf/d to non-FTA nations in Central America, South America or the Caribbean. Carib so far has not contracted for any volumes from Floridian, so Floridian would use its licenses to allow other customers to export volumes that are not dedicated to Carib. Floridian will register with the DOE any customers that export its LNG.

Carib is also buying LNG from Pivotal LNG, a subsidiary of AGL Resources. It did not reply to an *Argus* inquiry asking if it plans to buy LNG from Floridian.

Another company that plans to buy from BP LNG produced at Floridian is Florida LNG Group, which is based in Indiantown, near the facility.

Florida LNG Group chief executive Shay Grinfeld said at an industry conference last week that it is targeting potential small buyers in the Caribbean that have demand of 60MW or less. Fuel and diesel account for the vast majority of power generation in the region, and savings of $2-3/mmBtu can be realized even at current low oil prices by switching to gas generation, since it is expensive to deliver oil to small isolated ports in the Caribbean, Grinfeld said.

A 10MW facility would need about 15 ISO containers a week filled with LNG he said. A typical ISO container holds about 10,000 USG, equivalent to about 834,000 cf of gas.

Advanced Energy Solutions also plans to buy from BP LNG that is produced at Floridian. It has been authorized by the DOE to export up to a gas equivalent of 20mn cf/d to countries in the Caribbean, Central America or South America that have FTAs with the US.

The US Federal Energy Regulatory Commission (FERC) in 2008 authorized Floridian to build up to two phases, each with two liquefaction trains with combined capacity of 50mn cf/d, a 4 Bcf storage tank and regasification capacity of 400mn cf/d. The project would include two four-mile (6km) pipelines to connect with the Florida Gas Transmission and Gulf Stream interstate pipeline systems.

Floridian in 2013 asked FERC to approve a reduction of the first phase to 1 Bcf of storage and regasification capacity of 100mn cf/d. It plans to initially install one liquefaction train in the first phase, with capacity of 25mn cf/d. Floridian expects FERC to approve the new design this year.

The major investor in Floridian is private equity firm Warburg Pincus.

Spanish industrial output up in January

Spanish seasonally adjusted industrial output inched 0.4pc higher in January compared with a year earlier, but output from gas-intensive industries was mixed.

Production in Spain's chemical industry rose by 2.9pc but output of basic chemicals, fertilisers and nitrogen compounds, one of the most gas-intensive divisions of the chemical industry as a whole, rose by a slower 2.3pc.

The manufacture of pulp and paper in contrast fell by 5.3pc over the same period but the output of products made from paper grew by 2.2pc. Paper manufacturers are among the industrial gas users that have been affected by cuts to Spanish subsidies for combined heat and power plants (CHP), as the industry has a little over 1GW of installed CHP capacity, of which around 70pc is gas-fired.

Output of clay building materials, which includes the manufacture of bricks and tiles, fell even more sharply despite a wider recovery in the construction industry. The production of clay building materials fell by 6.8pc while the value of new construction contracts was up 34.9pc from January to November last year, the most recent date for when statistics are available.

Spain's combined consumption in the industrial and residential sectors was roughly flat in January, at 889 GWh/d compared with 886 GWh/d in January last year. But temperatures were considerably lower than a year earlier, boosting implied heating load.

Higher coal, renewables dent Turkish power prices

Turkish spot power prices averaged lower in February than previously expected, as higher generation from imported coal and renewables offset gas supply curtailments to some power plants owing to a cold snap.

The day-ahead price averaged TL140.10/MWh ($53.07/MWh) in February, compared with the TL169/MWh at which the February base-load contract expired on the over-the-counter market at the end of January.

Participants had been pricing in a risk premium for the month on expectations of a possible gas supply bottleneck similar to that in February 2014, when spot prices averaged TL171.57/MWh, or 27pc higher than prices in February 2013.

But higher generation from imported coal, hydropower and wind power — most of which have seen capacity increase in the past year — as well as favourable hydrological conditions, weighed on February spot prices. The downside fed through to other contracts along the curve.

Total coal-fired generation rose by 9pc year on year to 6TWh in February, while average daily coal-fired generation was 1pc higher compared with January. Total coal-fired capacity was 7.3GW at the end of January, 2.2GW higher compared with the beginning of last year, supporting higher coal-fired power generation.

Total hydropower output rose by 3pc year on year to 3.8TWh in February. Of this, 2.1TWh came from reservoirs and the remainder from run-of-river generation. Installed reservoir and run-of-river capacities increased by 115MW and 44MW, respectively, in February compared with January.

Run-of-river hydro output was 116pc higher compared with February 2014 and average daily output rose by 14pc month on month as rainfall levels in February were 238pc higher than in January and 20pc above the long-term average, according to the state meteorological service.

But daily average hydro generation from reservoirs fell by 27pc month on month, suggesting that state-run utility Euas, which owns half of the country's hydropower capacity, could be preserving water for coming peak demand periods, such as summer.

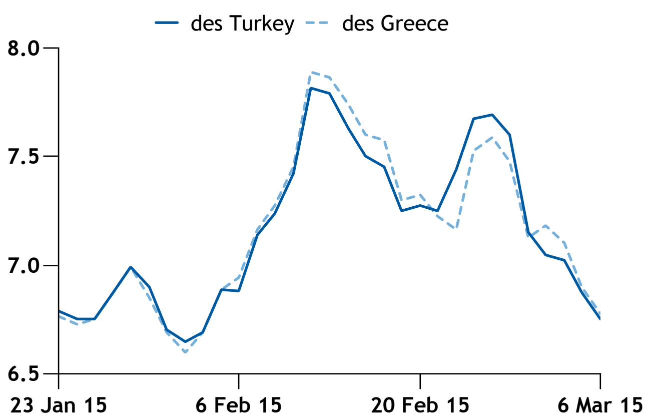
Euas' daily generation fell by 7pc in February from January, and its output fell by 28pc from the same month a year earlier, partly because of gas supply restrictions to plants operated by Euas and state-run wholesale company Tetas. A cold snap during February resulted in gas supply being prioritised for heating demand.

The supply cuts resulted in Turkish gas-fired generation falling by 13pc from a year earlier. Average daily gas-fired generation fell by 2pc month on month.

Lower-than-expected power demand and prices also weighed on gas-fired output. Turkey's average daily power demand fell by 0.3pc in February compared with January. But total power consumption rose by 3.2pc year on year in February, to 20.3TWh, while the country's total installed capacity has increased by 9pc over the past year.

Wind power generation was 1.1TWh, or 93pc, higher in February compared with the same month in 2014.

Argus Turkey and Greece LNG des *$/mn Btu*



AUSTRALIA WEEKLY - MARKET COMMENTARY

Wallumbilla extends gains

Gas prices assessed by Argus for month-ahead April deliveries on the Wallumbilla hub rose further this week because of smooth production at the 8.5mn t/yr Queensland-Curtis LNG (QCLNG) plant and strong prompt prices.

QCLNG has loaded around one cargo a week since it started operations at the end of last year. Seven cargoes have so far been loaded, with an eighth cargo now being loaded on the 159,000m3 Maran Gas Delphi. Plant operator QGC has scheduled the 149,700m3 Clean Force to arrive at the QCLNG jetty at Gladstone port on 9 March, according to port data. The 145,000m3 Methane Nile Eagle had been scheduled for a 12 March arrival, port data showed on 27 February, but this listing has been removed. QCLNG has yet to undergo an expected shutdown for performance tests, as is typical for new LNG plants.

Wallumbilla spot prices for prompt deliveries have gained significantly since late February because of a spike in demand from gas-fired power utilites. Warmer-than-expected weather has triggered a surge in electricity demand and prices, prompting utilities to seek more gas for incremental power generation. The Queensland regional reference price for electricity has been above A$100/MWh ($78/MWh) since early this week, peaking at A$1,885.92/MWh because of strong demand and transmission constraints on the interconnecting grid to New South Wales.

But high temperatures are not expected to last. The most recent Wallumbilla spot deal was done yesterday for 1TJ (26,700m3) of gas at the A$4/GJ ($3.29/mn Btu) level for delivery on the 233TJ/d Roma-Brisbane Pipeline (RBP) a week out. The lower price suggests forward downside, at least in the near term. Australia's meteorology bureau says there is a less than 50pc chance that April's maximum temperatures will exceed the median level for most of Queensland, including the key demand centre of Brisbane. Price gains will also be capped by an anticipated increase in ramp-up gas supplies as upstream processes intensify at QCLNG Train 2 and the 9mn t/yr Australia-Pacific LNG and 7.8mn t/yr Gladstone LNG plants.

Prices in Victoria are being supported by spot strength amid warm weather. Net gas flows on the QSN Link, an indicator of supply between Queensland and the southern states, have been negative over the past three days, according to data from the Australian gas bulletin board. The flows have been largely negative since mid-February, indicating gas is flowing from the southern states to Queensland rather than the other way around, reducing supply pressure on Victorian prices. But an expected increase in ramp-up gas supplies could push QSN Link flows to revert to positive.

The 70TJ/d BassGas (Lang Lang) gas plant has been shut for planned maintenance since 24 February and will resume operations only around mid-March. But the price impact on prompt and forward markets has been minimal because of the plant's small capacity and soft shoulder season demand. The 1,145TJ/d Longford gas plant has been producing steadily, with a reported drop in output to 11.2TJ on 25 February likely a result of an error or delay in data submission. Gas bulletin board data now show the plant's output at 434TJ.

The AWX, the *Argus*-assessed index for month-ahead Wallumbilla gas deliveries, is at A$3.92/GJ ($3.226/mn Btu) today, up by A42¢/GJ from 27 February. The AVX, the index for gas traded month-ahead on the Victorian Declared Transmission System, is assessed at A$3.60/GJ ($2.963/mn Btu), up by A35¢/GJ from 27 February.

Argus Wallumbilla Index (AWX)

Delivery	Units	Bid	Offer	Midpoint	±
April	*A$/GJ*	3.64	4.20	3.920	+0.420
April	*$/mn Btu*	3.00	3.46	3.226	+0.337

Argus Victoria Index (AVX)

Delivery	Units	Bid	Offer	Midpoint	±
April	*A$/GJ*	3.38	3.83	3.600	+0.350
April	*$/mn Btu*	2.78	3.15	2.963	+0.280

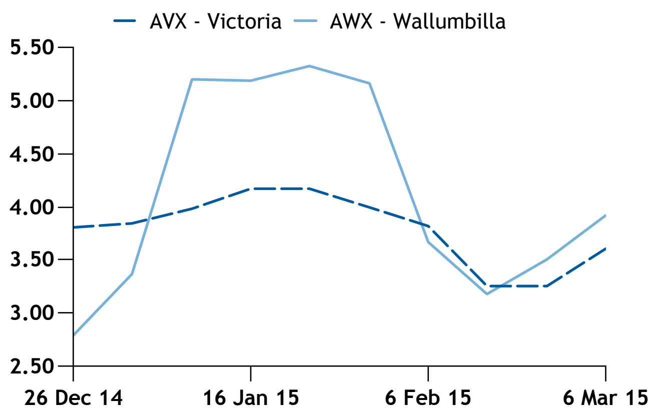
AEMO weekly average Victoria 6am price

Delivery	Units	Price	±
Prompt	*A$/GJ*	4.00	+0.37
Prompt	*$/mn Btu*	3.30	+0.30

LNG netbacks weekly average

	Units	Price	±
Gladstone oil-linked LNG	*A$/GJ*	14.83	-1.61
	$/mn Btu	12.21	-1.37
Gladstone spot LNG	*A$/GJ*	9.15	+0.84
	$/mn Btu	7.53	+0.67

Argus Victoria Index vs Wallumbilla Index *AUD/GJ*



NEWS

Pacific basin LNG heads for surplus: Goldman

The start-up of six Australian LNG projects with 57.55mn t/yr of capacity over the next four years may lead to a supply surplus in the Pacific basin, US bank Goldman Sachs said.

"We forecast Australian exports to expand from 24mn t in 2014 to 73mn t in 2018, in the process sending the Pacific basin into surplus, with net trade flows into the Atlantic," Goldman Sachs said.

But the supply balance is likely to reverse from 2020, as Australian output stabilises and US projects come to the fore, it said.

The *Argus* northeast Asia (ANEA) price already dropped to all-time-lows of $6.525/m Btu this winter due to additional supplies and tepid demand. This was also the first time ANEA prices were below UK NBP gas prices since the LNG assessments began.

The projected new capacity includes the second train at the 8.5mn t/yr Queensland Curtis LNG (QCLNG) project operated by UK-listed BG. QCLNG's first train started in December. The second train, together with three other LNG projects in Australia, is expected to start shipments this year.

Four LNG projects are operating in Australia with a total capacity of 28.55mn t/yr. The additional six projects under construction will take total capacity to 86.1mn t/yr by the end of the decade.

Australia and US are forecast to deliver more than 120mn t/yr of aggregate incremental capacity in 2015-20. These projects, together with more modest expansions in Russia and a few other regions, will boost global liquefaction capacity by an average of 6pc/yr in the period, slightly outpacing demand growth and ensuring the market remains well supplied, Goldman Sachs said.

This indicates global utilisation rates will average 80pc in 2015-22, below the 85pc average of the last five years. "In our view, producers can afford to delay new investment decisions while project costs are reassessed and only the best projects move forward," the bank said.

Chinese LNG demand is likely to rise to 39.2mn t by 2020 from an estimated 20mn t in 2014, while Japanese demand will be relatively steady at 88.6mn t from 88.8mn t over the same period, Goldman Sachs said.

Australian projects will add to LNG volatility: BG

UK-listed BG expects increased volatility in the global LNG market over the next few years in response to "lumpy" supply, mainly from new Australian projects and other market additions.

BG's 8.5mn t/yr Queensland Curtis LNG (QCLNG) project started in December, the first of seven Australian projects that are expected to add 58mn t/yr of new supply by 2019, BG said in its Global LNG Market Outlook 2014/15 report.

"We are expecting five new trains and one FLNG with a total capacity of 21mn t/yr to start up in 2015, mostly in the second half of the year. As a result, we are expecting trade to grow 3pc to 250mn t/yr in 2015 with an incremental 7mn t/yr delivered," BG said.

On the demand side, 12 new regasification terminals and one expansion will start up this year. The projects include six in new markets — Egypt, Jordan, Pakistan, Philippines, Poland and Uruguay.

Demand uncertainties include the return of Japanese nuclear power plants, some of which are expected back on line in 2015, and the strength of Chinese LNG demand.

Three other Australian LNG projects are expected to start shipments in 2015 — the7.8mn t/yr Gladstone LNG (GLNG) facility operated by Australian independent Santos, the 9mn t/yr Australia Pacific LNG (APLNG) project operated by ConocoPhillips and Australian independent Origin Energy, and Chevron's 15.6mn t/yr Gorgon LNG. APLNG, GLNG and QCLNG are all located at Gladstone in Queensland.

Over 20mn t/yr of supply capacity has been sanctioned in each of the last four years. But the extent to which the industry sustains its supply growth momentum will depend upon how it responds to recent fall in commodity prices. "A key indicator to watch will be the number of FIDs (final investment decisions) taken in 2015," BG said.

The balance of supply and demand may result in some cargoes flowing back into European markets at some periods in the next couple of years. But it seems unlikely that European LNG imports will return to their 2011 peak until much later in the decade, assuming Asia continues to grow as expected.

"At current oil price levels the range between crude oil prices and the European market price, between which LNG in Asia has historically priced, will be much narrower in 2015 than in recent years," BG said.

Global LNG deliveries were about 243mn t in 2014, up by 3.5mn t from 2013. Asian imports increased to a record 182mn t last year, with Japan's 89mn t/yr and southeast Asian demand hitting record highs. But growth in China was weaker than expected and South Korean imports fell. Asian imports were hit by seasonal and structural factors, with milder winter weather and slower economic growth.

Four new trains with total capacity of 16mn t/yr came on line by the end of 2014. The increase in supply was balanced by a fall in exports from several suppliers, in particular Egypt because of growing domestic demand.

"We estimate that industry production – on a delivered basis – represented 85pc of industry nameplate capacity, broadly in line with 2013 levels," BG said. Three projects with 25mn t/yr of capacity reached FID in 2014 and are expected to come on line by 2020.

The fall in oil prices in the second half of last year may have more of an impact on Asia-Pacific spot LNG prices in 2015 because LNG contracts in the region are indexed to oil with a time lag.

The ANEA price, the *Argus* assessment for northeast Asia des, was at \$8.28/mn Btu yesterday, down from \$17.08/mn Btu a year earlier and \$10.20/mn Btu at the end of 2014.

Australian upstream exploration spending falls

Petroleum exploration spending in Australia fell by 3.2pc to A\$1bn (\$777mn) in October-December from the previous quarter, as higher onshore exploration spending in Queensland partially offset a continued decline offshore Western Australia.

But spending in US dollar terms fell by more than 7pc over the period because of the depreciation of the Australian dollar. The figures are unlikely to reflect the decline in oil prices, with much exploration activity determined months in advance.

Offshore spending continued to fall, dropping by 6.8pc from the previous quarter to A\$680mn in October-December following a 34.5pc decline on this basis in July-September, the Australian Bureau of Statistics said.

Onshore spending rose by 6.7pc in October-December to A\$330mn, partly recovering from a 33pc decline in the previous quarter.

The rise in onshore exploration reflects spending on coal-bed methane (CBM) fields to supply three LNG projects at Gladstone in Queensland. A lack of extreme weather in the October-December period allowed onshore CBM exploration to continue, with this reflected in a 55.1pc increase in exploration spending in Queensland on a seasonally-adjusted basis.

Exploration spending in Western Australia, which hosts mostly offshore gas and oil projects, fell by 8.1pc in October-December.

Spending on production leases fell by 6.9pc to A\$226mn in the latest quarter. Spending in all other areas rose by 7.7pc to A\$808mn, after falling by 40.2pc in July-September.

Australia approves exploration incentive funding

Australia's upper house of parliament, the Senate, has passed exploration development incentive legislation providing funding of A\$100mn (A\$77.8mn) over three years effective from 1 July 2014 to Australian upstream firms. The bill has already passed the lower house of parliament and will now become law.

The bill was an election promise of the conservative Liberal-National coalition government, while the opposition Labor party raised the idea of a similar scheme when it became the government at the 2007 election but did not implement it. This was partly because Australia was then entering a resource investment boom.

Such taxpayer exploration schemes has produced debate about their merits, as exploration is largely driven by the commodity price cycle with high prices stimulating exploration activity. This is borne out by national data with Australia's mineral exploration spending during July-September last year fell by 7.8pc from a year earlier to A\$439mn on a seasonally adjusted basis, according to the Australian Bureau of Statistics. More than 70pc of this exploration spending is on existing deposits and the rest for new areas.

The country's exploration spending has been falling during the past three years, dropping to A\$2.07bn in 2013-14 from A\$3.95bn in 2011-12. Petroleum expenditure fell by 34.1pc to A\$1bn during July-September. Most of the fall was associated with a decline in offshore spending.

Past Australian governments have introduced similar schemes to stimulate exploration activity, such as flow-through share schemes where exploration companies were able to allow their shareholders to offset their tax liabilities from the losses incurred by exploration companies.

"Those schemes over that period were based on providing tax deduction on funds invested in resources companies for the purpose of exploration," Labor senator Penny Wong said this week. "The scheme was abolished because it was used for tax avoidance and inquiries found that it contributed little towards mineral exploration."

Resource sector impact on Australian growth falls

The resources sector was one of the key drivers behind Australia's 2014 economic growth of 2.5pc against a year earlier, although it started showing signs of a weakening contribution.

Australian Bureau of Statistics data showed that mining contributed 8.9 percentage points to Australia's economic growth in 2014, the second-largest contribution from a sector behind telecommunications, media and information with 9 percentage points. Accommodation and food services was third with 8 percentage points.

The contribution of the resources sector to economic growth was only 0.1 of a percentage point in the October-December quarter, which rose by 0.5pc on a seasonally adjusted basis. The mining sector was the 14th largest contributor to economic growth in the final quarter of 2014.

Economic activity in the resources sector during the October-December quarter reflected a 1.1pc rise in economic growth of the iron ore sector and a 0.5pc rise in the oil and gas industry. This was partially offset by a 3.8pc fall in economic activity in the coal mining sector.

But coal mining economic growth in 2014 rose by 6.7pc compared with the previous year, iron ore rose by 16.3pc and oil and gas increased by 10.5pc.

The resources sector accounts for about 8pc of the Australian economy but more than half of its merchandise trade.

Australia records second-hottest February

February was the second warmest on record in Australia with the mean average temperature last month 1.67°C above its long-term average, while the maximum average temperature was 2.35°C above the long-term average.

Minimum temperatures were the fifth warmest on record for February with temperatures 1.0°C above the average, according to the Australia Bureau of Meteorology (BoM). Maximum temperatures were above average everywhere except along parts of the east coast, the far northern tip of Queensland and an area around the central Northern Territory.

The hottest February was recorded in 1983. Western Australia (WA) was the only state that also recorded the second hottest February on record on a mean temperature basis.

Minimum temperatures were above average for most of the country, especially so in large parts of WA, BoM said.

February rainfall was 51pc below average nationally, although some areas of coastal southeast Queensland and northeast New South Wales and parts of WA on the central west coast and southeast coast recorded above-average rainfall for the month.

Last year was the third warmest in Australia since observations began in 1910, the BoM said. Last year followed the warmest year on record in 2013. Seven of Australia's 10 warmest years on record have been in the 13 years from 2002, with only 2011 recording the one cooler than average year in the past decade. The 10-year mean temperature for 2005-14 was 0.55°C above average, the highest on record.

But rainfall was near average last year, BoM said.

Higher temperatures are normally associated with increased electricity consumption as demand increases for air-conditioning, in turn boosting potential demand for power generation fuels such as coal and natural gas.

The BoM also raised its estimate for a possible El Nino weather event this year to about a 50pc change of it forming in 2015 because of central and western regions of the tropical area of the Pacific Ocean warming in the past two weeks. BoM warned last year that an El Nino event would occur but it never did.

El Nino is a phenomenon associated with warmer tropical Pacific Ocean weather and tends to lead to drier conditions on the east coast of Australia, reducing the chances of rain and flooding that would slow mining, rail and port operations.

AUSTRALIA DATA

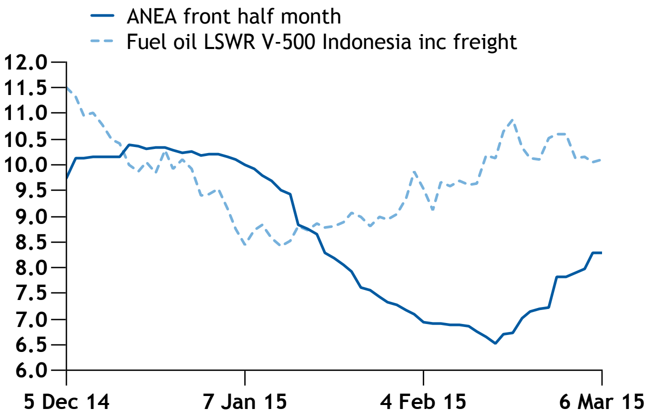
Daily eastern Australian pipeline flow rates *TJ*

Pipelines/injection points	Capacity TJ/d	27 Feb	28 Feb	1 Mar	2 Mar	3 Mar	4 Mar	5 Mar
Victoria								
Lang Lang (BassGas) Gas Plant	70.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Longford Gas Plant	1145.0	438.0	378.0	408.0	453.0	456.0	na	505.0
Orbost Gas Plant	100.0	18.5	18.5	18.5	18.5	18.5	13.7	0.0
Iona Underground Gas Storage (Port Campbell)	570.0	92.5	73.0	67.2	na	na	na	na
Minerva Gas Plant (Port Campbell)	81.0	70.8	62.8	70.8	70.8	70.8	62.8	57.8
Otway Gas Plant (Port Campbell)	203.0	126.0	132.0	36.0	50.0	37.0	77.0	37.0
Dandenong LNG Storage	158.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NSW-Victoria Interconnect (Culcairn)	120.0	0.2	0.0	-16.9	-0.9	0.0	0.0	0.0
Longford to Melbourne Pipeline (LMP)	1030.0	218.7	157.3	201.6	245.0	249.3	262.8	265.3
South West Pipeline (SWP)	353.0	89.9	114.2	93.4	106.3	91.4	102.7	130.1
SEA Gas Pipeline	310.0	146.7	105.0	100.9	131.6	140.1	136.6	119.5
SEA Gas Pipeline (Adelaide zone)	310.0	133.4	97.2	93.6	119.2	127.0	126.3	111.0
Tasmania Gas Pipeline (TGP)	129.0	16.0	17.4	16.9	18.9	19.0	18.3	19.1
Eastern Gas Pipeline (EGP) (Canberra zone)	289.0	0.6	0.5	0.5	0.6	0.7	0.6	0.6
Eastern Gas Pipeline (EGP) (Sydney zone)	289.0	107.0	122.9	120.7	98.7	105.2	117.7	110.9
Eastern Gas Pipeline (EGP)	289.0	206.9	207.8	204.8	199.0	206.8	216.6	208.7
Queensland								
Roma to Brisbane Pipeline (RBP)	233.0	126.5	101.2	113.5	161.4	163.5	163.8	187.9
Queensland Gas Pipeline (QGP) (Roma to Gladstone)	145.0	132.1	130.3	135.0	133.5	126.1	133.7	138.9
Carpentaria Pipeline (CGP) (Ballera to Mt Isa)	119.0	87.3	95.6	90.2	90.8	91.8	92.4	91.6
South West Queensland Pipeline (SWQP)	384.0	278.9	156.0	144.0	152.9	347.6	325.3	322.3
South West Queensland Pipeline (SWQP) (Moomba zone)	384.0	5.1	-43.6	-8.8	85.4	-6.6	-76.5	-36.2
Kenya Gas Plant (Roma)	168.0	142.8	141.2	115.7	110.1	137.4	141.0	141.7
Talinga Gas Plant (Roma)	140.0	55.0	54.0	53.8	54.1	53.8	62.1	60.0
Ballera Gas Plant	150.0	12.4	0.0	8.7	2.8	5.4	0.4	5.6
South Australia								
Moomba Gas Plant	430.0	198.8	182.7	154.5	168.6	196.0	238.6	198.0
Moomba to Sydney Pipeline System (MSP)	289.0	111.0	60.5	62.0	138.3	95.7	89.4	116.8
Moomba to Adelaide Pipeline System (MAP)	241.0	107.2	71.9	78.4	99.7	85.2	69.5	76.3
Moomba to Sydney Pipeline System (Canberra)	289.0	6.5	5.8	6.1	7.2	7.2	6.9	7.3

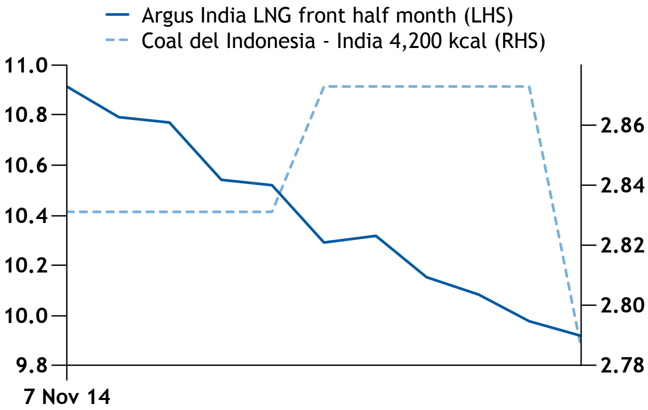
- Australian National Gas Market Bulletin Board

COMPETING FUELS IN ASIA AND POWER MARKET INDICATORS

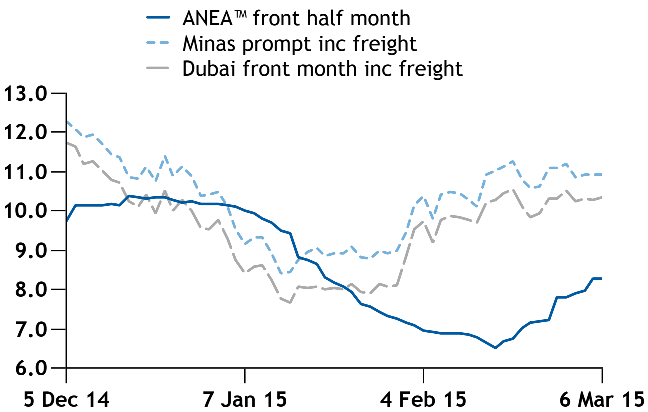
Japan: Fuel oil vs LNG *$/mn Btu*



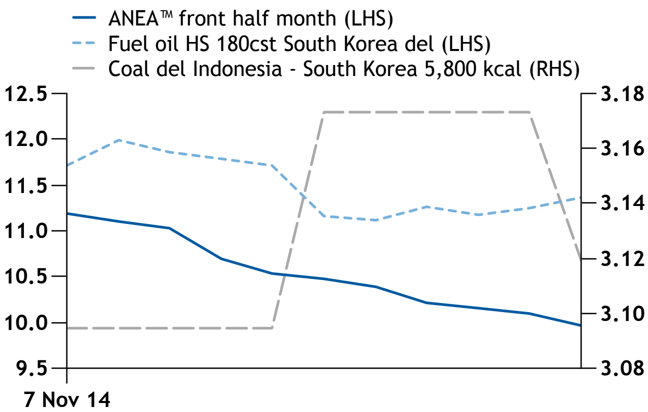
India: Coal vs LNG *$/mn Btu*



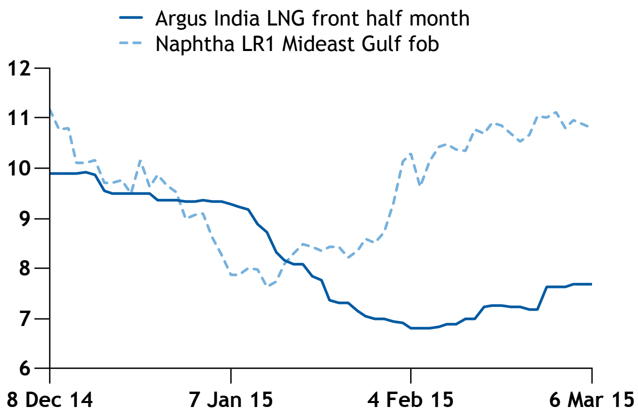
Japan:Crude vs LNG *$/mn Btu*



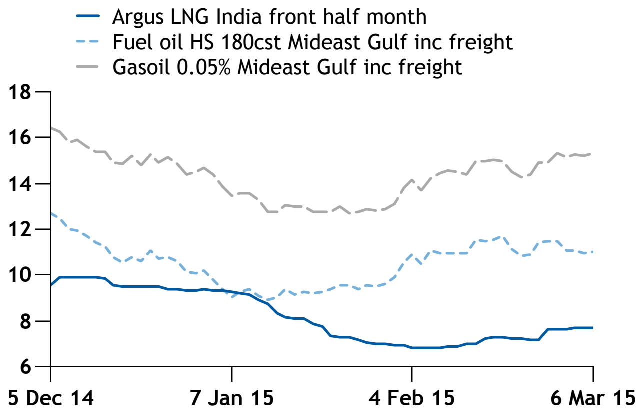
South Korea: Fuel oil, coal vs LNG *$/mn Btu*



India: Naptha vs LNG *$/mn Btu*

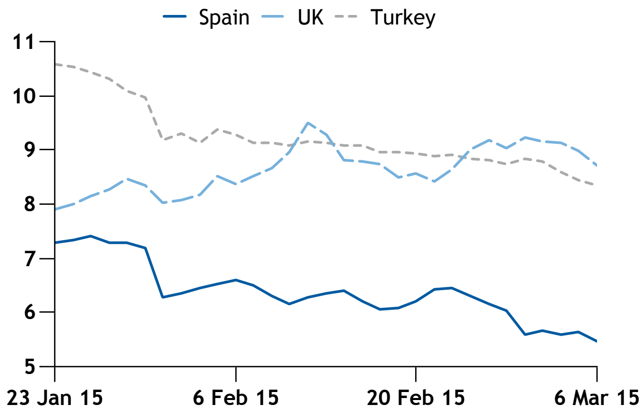


India: Fuel oil, gasoil vs LNG *$/mn Btu*

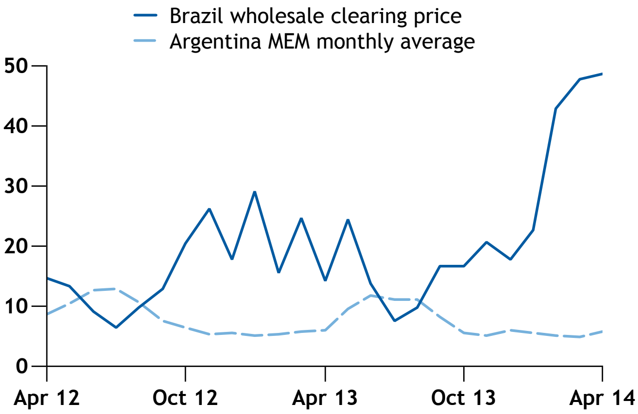


POWER MARKET INDICATORS: BREAKEVEN GAS PRICES FOR GENERATION

Europe: Front month base load *$/mn Btu*

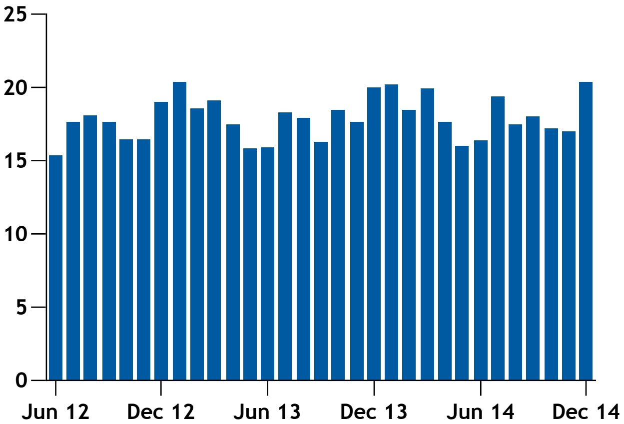


Latin America *$/mn Btu*

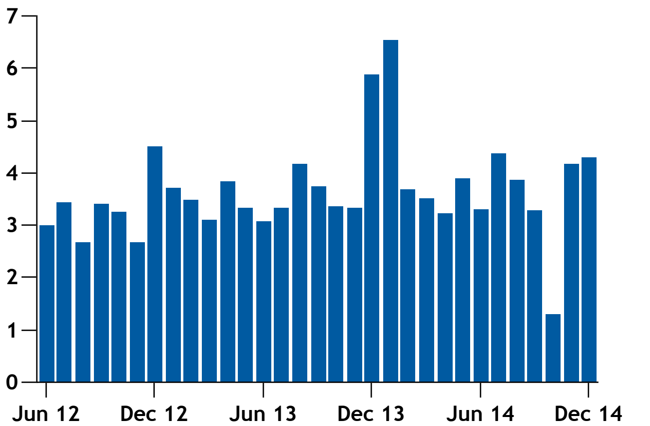


MONTHLY LNG IMPORT VOLUMES

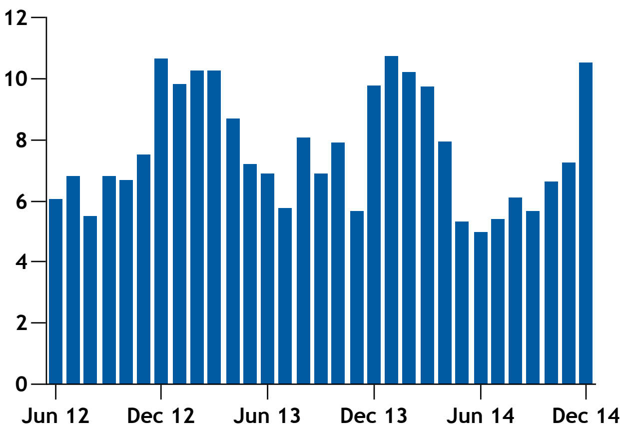
Japan historic receipts *mn m³ LNG*



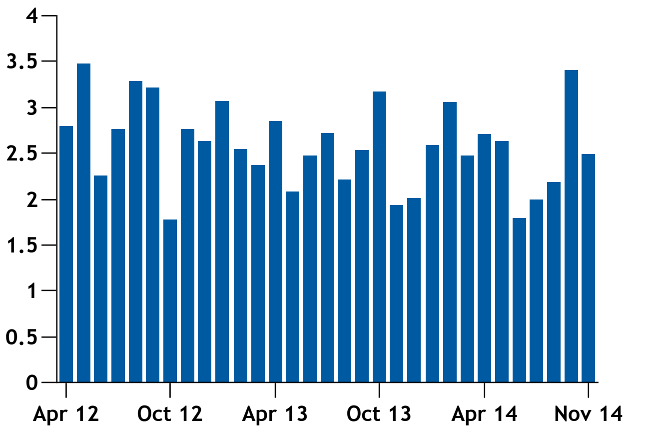
China historic receipts *mn m³ LNG*



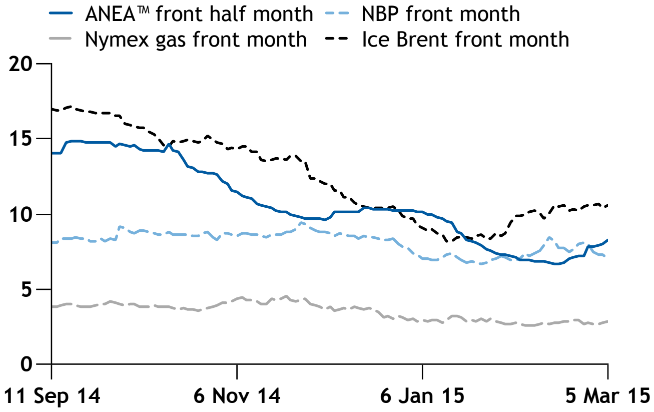
South Korea historic receipts *mn m³ LNG*



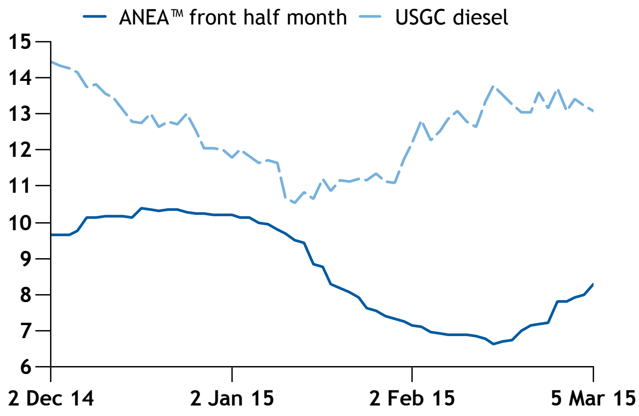
Spain historic receipts *mn m³ LNG*



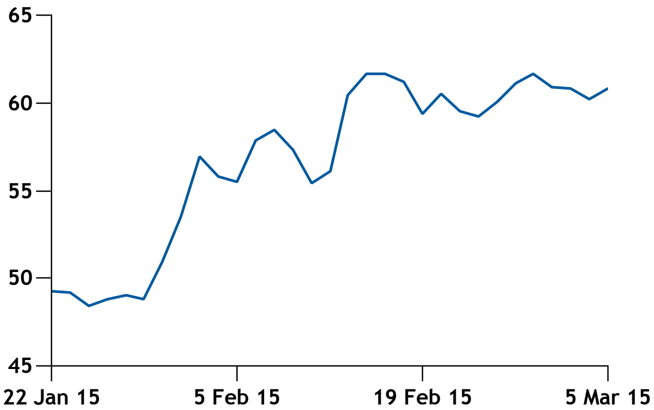
Atlantic benchmarks vs LNG *$/mn Btu*



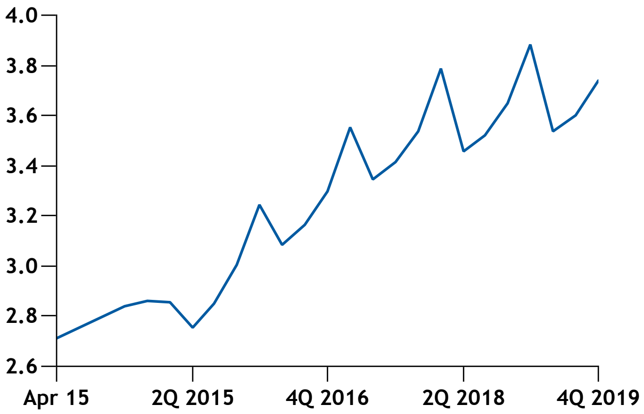
USGC diesel vs LNG *$/mn Btu*



Ice brent front month *$/bl*



US Nymex *$/mn Btu*



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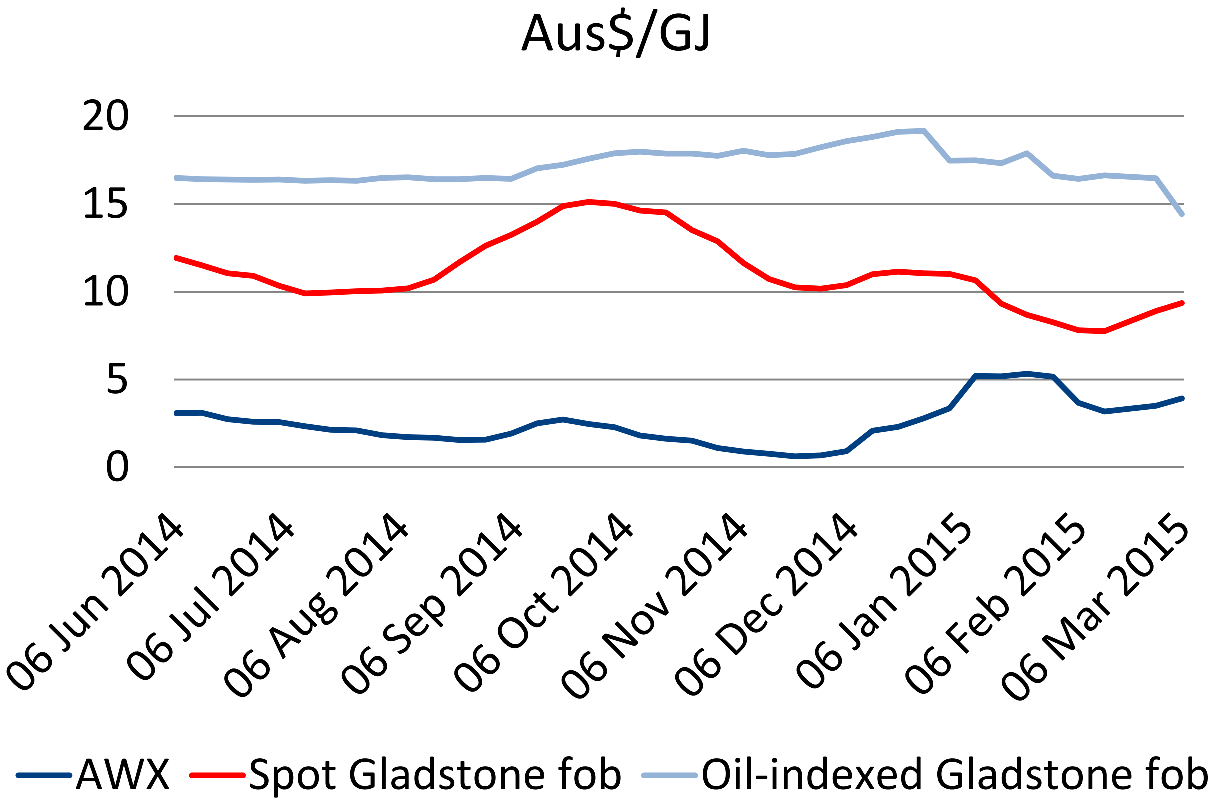
Argus Wallumbilla/spot Gladstone fob spread tightens



*** Gladstone fob prices include liquefaction costs**