Energy / India 28 December 2012

# Petronet LNG

Flat earnings profile but strong long-term fundamentals

- Slow processing volume ramp-up at the Kochi terminal, but capacity utilisation likely to remain high at the Dahej terminal
- We project a flat earnings profile for FY13-15, due mainly to the capitalisation of the new Kochi terminal
- Raising target price to INR175 but downgrading to Outperform post good share-price run since May 2012

Target (INR): **170.00** → **175.00** Upside: **9.4%** 26 Dec price (INR): **160.00** 

- 1 Buy
- **2** Outperform (from Buy)
- **3** Hold
- **Underperform**
- **5** Sell

How do we justify our view?



Nirmal Raghavan (91) 22 6622 1018 nirmal.raghavan@in.daiwacm.com

### What's new

Petronet's new liquefied natural gas (LNG) regasification terminal at Kochi is likely to be commissioned by March 2013, but we expect a slow ramp-up of LNG-processing volumes at this terminal.

### What's the impact

Given that a new LNG market such as that near Kochi is likely to take time to develop to its full potential, we expect modest LNG-processing volumes for the Kochi terminal in its initial operating years. As such, we are reducing our LNG-processing volume forecasts for the terminal by 70%, 55% and 50% for FY13, FY14 and FY15, respectively.

We expect the company's Dahej terminal to continue to operate at high capacity utilisation levels over FY13-15, buoyed by demand for imported gas. Petronet should be able to renew LNG contracts due to expire in 2013 and maintain sound processing volumes at the Dahej terminal. Thus, we forecast LNG-processing volume for the terminal of 547tbtus for FY13, 559tbtus for FY14, and 567tbtus for FY15, slightly below our previous forecasts.

We are raising our FY13E EPS by 8.8% to reflect increases in our forecasts for its marketing margin to USD0.8/mmbtu (from USD0.5/mmbtu) and other income. While strong marketing margins should support FY13-15 earnings, we expect its earnings to plateau over the period due to the capitalisation costs for the new Kochi terminal.

### What we recommend

We are raising our DCF-based sixmonth target price to INR175 (from INR170). The long-term fundamentals of rising gas demand and a declining gas supply domestically should continue to favour Petronet's business, in our view. A domestic gas price rise would also be favourable for Petronet as it would probably increase the acceptability of, and thus the demand for, imported LNG in India. Still, its share price is up by 29% since 18 May 2012, and its FY14E PBR and PER do not look cheap to us. Thus, we downgrade our rating to Outperform (2) from Buy (1).

### How we differ

Our FY13-15E EPS are 4-23% below the Bloomberg-consensus forecasts,

which could be due to our lower LNG-processing volume and marketing margin forecasts.

#### Forecast revisions (%)

	( ) • • /		
Year to 31 Mar	13E	14E	15E
Revenue change	0.9	(4.9)	(4.4)
Net profit change	8.8	1.8	(1.8)
Core EPS (FD) change	8.8	1.8	(1.8)

Source: Daiwa forecasts

#### Share price performance



12-month range	124.60-174.60
Market cap (USDbn)	2.19
3m avg daily turnover (USDm)	3.66
Shares outstanding (m)	750
Major shareholder	GAIL India (12.5%)

#### Financial summary (INR)

Year to 31 Mar	13E	14E	15E
Revenue (m)	273,845	297,205	332,597
Operating profit (m)	15,910	16,454	15,935
Net profit (m)	10,572	10,120	10,145
Core EPS (fully-diluted)	14.096	13.493	13.527
EPS change (%)	(0.0)	(4.3)	0.2
Daiwa vs Cons. EPS (%)	(4.0)	(9.1)	(22.7)
PER (x)	11.4	11.9	11.8
Dividend yield (%)	2.6	2.5	2.5
DPS	4.229	4.048	4.058
PBR (x)	2.9	2.5	2.2
EV/EBITDA (x)	7.7	6.6	6.1
ROE (%)	27.4	22.3	19.5

Source: FactSet, Daiwa forecasts



## 1 Buy

- 2 Outperform (from Buy)
- **3** Hold
- **Underperform**
- **5** Sell

## *How do we justify our view?*

- Growth outlook 🛛 🗸 🗸
- Valuation ✓ ✓ ✓ ✓

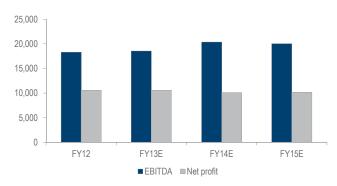
VV

Earnings revisions

#### Growth outlook

We forecast an EBITDA CAGR of 3.8% but a net-profit CAGR of -2% for Petronet for FY13-15. This reflects higher depreciation and higher interest expenses due to the capitalisation of the company's new Kochi terminal. We forecast LNG-processing volumes at the company's Dahej terminal to rise from 547tbtus for FY13 to 559tbtus for FY14 and 567tbtus for FY15. We project a slow ramp-up of LNG-processing volumes at the Kochi terminal from 3tbtus for FY13 to 52tbtus for FY15.





Source: Company, Daiwa forecasts

#### Valuation

We value Petronet on a DCF basis, using a WACC of 10.1% and a terminal growth rate of 1%. We think the DCF methodology is appropriate to capture the cash flows from the company's regasification and marketing businesses. In the long term, we assume annual LNGprocessing volumes of 16.5m tonnes (855tbtus) and zero marketing margins. We are raising our six-month target price slightly to INR175 (from INR170), with our valuation base rolled forward from FY13E to FY14E.

#### Petronet: DCF valuation summary

Component	Unit	Output
WACC	%	10.1
Terminal growth rate	%	1
EV	INRm	146,362
Net debt	INRm	14,961
Equity value	INRm	131,401
No. of outstanding shares	m	750
Equity value per share	INR/share	175

Source: Daiwa estimates

#### Earnings revisions

~ ~ ~ ~ ~

< < < < <</p>

The Bloomberg consensus has revised up its FY13 EPS forecast for Petronet since November 2012, due mainly to the company's continued strong earnings for 1Q FY13 and 2Q FY13. We are raising our FY13 EPS forecast by 8.8%, as we explain in this report. The consensus FY14 EPS forecast has remained broadly stable since August 2012. The key downside risk to our FY13 and FY14 EPS forecasts would come from lower-than-expected LNG-processing volumes.

Petronet: consensus FY13 and FY14 EPS forecasts



Source: Bloomberg forecasts



# Financial summary

Year to 31 Mar	2008	2009	2010	2011	2012	2013E	2014E	2015
Total LNG Processed Volumes	327	326	389	440	535	550	585	61
Regassification margin (INR/mmbtu)	27.78	29.17	30.63	32.16	33.77	35.46	37.20	38.6
Profit and loss (INRm)								
Year to 31 Mar	2008	2009	2010	2011	2012	2013E	2014E	2015
LNG Sales	65,553	84,287	106,029	131,057	224,507	271,457	293,888	329,15
Regas Services	0	0	462	915	2,452	2,388	3,317	3,44
Other Revenue	0	0	0	0	0	0	(0)	0,11
Total Revenue	65,553	84,287	106,491	131,973	226,959	273,845	297,205	332,59
Other income	00,000	0	0	0	0	0	0	002/07
COGS	(55,664)	(73,756)	(96,648)	(118,012)	(205,867)	(252,524)	(273,793)	(309,238
SG&A	(00,004)	0	0	0	(200,007)	(202,024)	0	(000,200
Other op.expenses	(2,249)	(2,543)	(2,987)	(3,645)	(4,641)	(5,412)	(6,958)	(7,424
Operating profit	7,640	7,988	6,856	10,316	16,451	15,910	16,454	15,93
Net-interest inc./(exp.)	(488)	(247)	(861)	(1,252)	(925)	(362)	(1,572)	(1,01
Assoc/forex/extraord./others	(400)	0	0	(1,202)	(323)	(002)	(1,072)	(1,01
Pre-tax profit	7,152	7,740	5,995	9,064	15,525	15,547	14,882	14,91
Тах	(2,405)	(2,556)	(1,950)	(2,868)	(4,950)	(4,975)	(4,762)	(4,77
Min. int./pref. div./others	(2,403)	(2,330)	(1,950)	(2,000)	(4,950)	(4,373)	(4,702)	(4,77
Net profit (reported)	4,747	5,184	4,045	6,196	10,575	10,572	10,120	10,14
Net profit (adjusted)	4,747	5,184	4,045	6,196	10,575	10,572	10,120	10,14
EPS (reported)(INR)	6.329	6.913	5.393	8.262	10,575	10,572	13,493	13.52
EPS (adjusted)(INR)	6.329	6.913	5.393	8.202	14.101	14.090	13.493	13.52
EPS (adjusted fully-diluted)(INR)	6.329	6.913	5.393	8.262	14.101	14.096	13.493	13.52
DPS (INR)	1.500	1.750	1.750	2.478	2.500	4.229	4.048	4.05
EBIT	7,640	7,988	6,856	10,316	16,451	4.229	16,454	4.03
EBITDA	8,661	9,013	6,856 8,465		16,451	18,554		
EBITDA	0,001	9,013	0,400	12,163	10,292	10,004	20,368	20,01
Cash flow (INRm)								
	0000	0000	0010	0011	0010	00405	004.45	0045
Year to 31 Mar	2008	2009	2010	2011	2012	2013E	2014E	2015
Profit before tax	7,152	7,740	5,995	9,064	15,525	15,547	14,882	14,9
Depreciation and amortisation	1,022	1,025	1,609	1,847	1,842	2,644	3,915	4,0
Tax paid	(1,693)	(2,656)	(1,640)	(2,179)	(4,800)	(4,664)	(4,465)	(4,47
Change in working capital	492	(3,384)	3,026	(1,079)	(2,536)	2,089	2,922	3,1
Other operational CF items	1,444	119	1,289	1,422	925	362	1,572	1,0
Cash flow from operations	8,416	2,844	10,279	9,075	10,956	15,979	18,826	18,7
Capex	(6,043)	(7,883)	(10,470)	(8,750)	(10,902)	(13,009)	(6,009)	(2,00
Net (acquisitions)/disposals	(2,780)	2,473	(1,886)	(56)	0	0	0	
Other investing CF items	(414)	713	(2)	(5,960)	849	1,014	1,132	1,3
Cash flow from investing	(9,237)	(4,697)	(12,358)	(14,766)	(10,053)	(11,995)	(4,877)	(62
Change in debt	1,944	7,039	2,181	7,163	601	(1,420)	(5,000)	(5,00
Net share issues/(repurchases)	0	0	0	(1,806)	0	0	0	
	0	(1,316)	(1,536)	(1,531)	(1,743)	(2,179)	(3,711)	(3,55
Dividends paid		(070)	(1,739)	0	(1,774)	(1,376)	(2,704)	(2,39
	(942)	(878)	(1,100)					
Dividends paid	(942) 1,002	(878) 4,845	(1,094)	3,826	(2,917)	(4,976)	(11,415)	(10,95
Dividends paid Other financing CF items	( )	. ,	(, ,	3,826 0	<b>(2,917)</b> 0	(4,976) 0	(11,415) 0	(10,95
Dividends paid Other financing CF items Cash flow from financing	1,002	4,845	(1,094)		,			(10,95

Source: FactSet, Daiwa forecasts



# Financial summary continued ...

#### Balance sheet (INRm)

As at 31 Mar	2008	2009	2010	2011	2012	2013E	2014E	2015E
Cash & short-term investment	3,586	6,578	3,405	1,540	9,839	8,847	11,381	18,517
Inventory	909	3,856	2,223	2,480	7,124	7,708	6,050	6,526
Accounts receivable	3,330	6,712	5,035	8,472	12,859	17,664	18,587	17,070
Other current assets	3,651	952	1,554	1,383	2,775	2,775	2,775	2,775
Total current assets	11,476	18,097	12,216	13,875	32,597	36,995	38,793	44,887
Fixed assets	26,293	33,156	42,012	49,053	58,115	68,479	70,574	68,507
Goodwill & intangibles	0	0	0	0	0	0	0	0
Other non-current assets	5,473	3,043	5,386	11,649	1,399	1,399	1,399	1,399
Total assets	43,242	54,295	59,614	74,576	92,110	106,873	110,765	114,793
Short-term debt	0	0	0	0	0	0	0	0
Accounts payable	3,388	5,715	6,043	8,317	12,686	17,742	19,928	22,064
Other current liabilities	900	1,650	1,406	2,031	5,550	7,972	7,972	7,972
Total current liabilities	4,287	7,365	7,449	10,348	18,235	25,714	27,900	30,036
Long-term debt	15,776	22,817	24,998	32,161	32,762	31,342	26,342	21,342
Other non-current liabilities	6,993	4,279	4,819	5,266	5,915	7,758	7,897	8,204
Total liabilities	27,057	34,461	37,266	47,775	56,913	64,814	62,139	59,582
Share capital	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500
Reserves/R.E./others	8,685	12,334	14,849	19,302	27,698	34,559	41,127	47,711
Shareholders' equity	16,185	19,834	22,349	26,802	35,198	42,059	48,627	55,211
Minority interests	0	0	0	0	0	0	0	0
Total equity & liabilities	43,242	54,295	59,614	74,577	92,110	106,873	110,765	114,793
EV	132,191	136,239	141,593	150,621	142,923	142,495	134,961	122,825
Net debt/(cash)	12,191	16,239	21,593	30,621	22,923	22,495	14,961	2,825
BVPS (INR)	21.581	26.446	29.798	35.735	46.930	56.079	64.836	73.614
Key ratios (%)								
Year to 31 Mar	2008	2009	2010	2011	2012	2013E	2014E	2015E
Sales (YoY)	19.0	28.6	26.3	23.9	72.0	20.7	8.5	11.9
EBITDA (YoY)	33.7	4.1	(6.1)	43.7	50.4	1.4	9.8	(1.8)
Operating profit (YoY)	39.9	4.6	(14.2)	50.5	59.5	(3.3)	3.4	(3.2)
Net profit (YoY)	51.5	9.2	(22.0)	53.2	70.7	(0.0)	(4.3)	0.2

Net profit (YoY)	51.5	9.2	(22.0)	53.2	70.7	(0.0)	(4.3)	0.2
Core EPS (fully-diluted) (YoY)	51.5	9.2	(22.0)	53.2	70.7	(0.0)	(4.3)	0.2
Gross-profit margin	15.1	12.5	9.2	10.6	9.3	7.8	7.9	7.0
EBITDA margin	13.2	10.7	7.9	9.2	8.1	6.8	6.9	6.0
Operating-profit margin	11.7	9.5	6.4	7.8	7.2	5.8	5.5	4.8
ROAE	32.8	28.8	19.2	25.2	34.1	27.4	22.3	19.5
ROAA	12.1	10.6	7.1	9.2	12.7	10.6	9.3	9.0
ROCE	26.1	21.4	15.2	19.4	25.9	22.5	22.2	21.0
ROIC	19.7	16.6	11.6	13.9	19.4	17.6	17.5	17.8
Net debt to equity	75.3	81.9	96.6	114.3	65.1	53.5	30.8	5.1
Effective tax rate	33.6	33.0	32.5	31.6	31.9	32.0	32.0	32.0
Accounts receivable (days)	18.5	21.7	20.1	18.7	17.2	20.3	22.3	19.6
Current ratio (x)	2.7	2.5	1.6	1.3	1.8	1.4	1.4	1.5
Net interest cover (x)	15.7	32.3	8.0	8.2	17.8	43.9	10.5	15.7
Net dividend payout	23.7	25.3	32.4	30.0	17.7	30.0	30.0	30.0

Source: FactSet, Daiwa forecasts

### Company profile

Petronet LNG is a LNG import and regasification company. It has 10 mtpa regasification terminal at Dahej, Gujarat on the west coast of India and a terminal at Kochi. The company imports LNG from suppliers on long term, short term and spot contracts and regasifies the LNG which it sells to its offtakers - GAIL India, Indian Oil and Bharat petroleum



# Flat earnings profile but strong long-term fundamentals

# **Downgrading to Outperform**

### **Good share-price performance**

Petronet's share price was weak post the release of its 4Q FY12 results in April 2012, as investors became sceptical about the company's capacity utilisation levels. Since 18 May 2012, however, its share price has risen by 29% as the company's quarterly utilisation levels and consequently its quarterly results have improved. Thus, we believe its share price could be range-bound in the short term, but we remain positive about the company's fundamentals on a long-term horizon.

In 2012 (to 27 December 2012), Petronet's share price has risen by 2.1%, against a 24.5% rise for the SENSEX over the same period. However, we believe this relative underperformance can be attributed mainly to the resurgence in the SENSEX, rather than to companyspecific factors aside from lacklustre 4Q FY12 results.

Petronet: share-price performance – absolute and relative to



Source: Bloomberg

### Valuation: raising target price to INR175

We value Petronet using a DCF methodology. The company derives its value from regasifying LNG at its terminals and also from its marketing margins earned on spot and short-term LNG. We believe the company's regasification business model, based on back-to-back (ie, similar contracts on both supply and offtake sides) supply and offtake contracts, provides stable and predictable cash flows (with incremental value from marketing margins). Thus, we believe DCF is the appropriate methodology to value Petronet.

In our DCF model, we assume an average cost of debt of 9%. Applying an effective tax rate of 34%, we obtain an after-tax cost of debt of 5.9%. We assume a cost of equity of 12.9% and derive a WACC of 10.1%. We assume a 1% terminal growth rate.

#### Petronet: WACC calculation

	•	
Pre-tax cost of debt	%	9.0
After-tax cost of debt	%	5.9
Risk-free rate	%	8.0
Risk premium	%	5.0
Beta	х	1.0
Cost of equity	%	12.9
Net debt to capital	%	40.0
WACC	%	10.1

Source: Daiwa estimates

Projecting the free cash flows and using a WACC of 10.1%, we derive an enterprise value of INR146.4bn, which leads to an equity value of INR131.4bn (now using FY14E as our valuation basis, rolled over from FY13E before), or INR175/share. With share-price upside potential of 9% now, we are downgrading our rating for Petronet to Outperform (2), from Buy (1).

### PER and PBR valuations do not look cheap

#### Petronet: 1-year forward PER



Source: Bloomberg, Company, Daiwa estimates

Petronet's forward PERs and PBRs have risen since mid-May 2012, as investors have regained confidence in: 1) capacity utilisation levels at the company's Dahej terminal, and, 2) the company's ability to maintain strong marketing margins. The stock is trading currently at a PER of 11.9x and a PBR of 2.5x, based on our forecasts for FY14. Its valuations are not cheap, in our view, in the context of the static earnings outlook we see for the company for FY13-15. As we envisage a slow ramp-up of LNG-processing volumes at the new



# Kochi terminal, we forecast the company's ROE to decline from 34.1% for FY12 to 27.4% for FY13.

Petronet: 1-year forward PBR (x) and ROE (%)



## Valuation comparison with peers

At current share prices and based on our FY13 and FY14 forecasts, Petronet trades at a par with the other India gas stocks on a PER basis, and at a premium on a PBR basis. However, we would note that Petronet's business model also earns a higher ROE compared with the other domestic gas companies. Among the gas stocks in our coverage, we continue to prefer Gujarat State Petronet (GSPL), followed by Petronet.

Source: Bloomberg, Company, Daiwa estimates

#### India gas stocks in Daiwa's universe: valuation summary

			Price	Mkt cap		EPS (INF	R)		PER (x)			PBR (x)		E١	//EBITD/	A (X)		ROAE (%	6)
Company	Ticker	Rating	(INR)	(USD m)	FY12	FY13E	FY14E	FY12	FY13E	FY14E	FY12	FY13E	FY14E	FY12	FY13E	FY14E	FY12	FY13E	FY14E
GAIL India	GAIL IN	Hold	351	8,280	28.8	27.7	28.0	12.2	12.7	12.5	2.1	1.9	1.7	8.4	9.5	9.9	17.9	15.4	14.2
Petronet LNG	PLNG IN	Outperform	160	2,190	14.1	14.1	13.5	11.3	11.3	11.8	3.5	2.9	2.5	7.8	7.7	6.6	34.1	27.4	22.3
Gujarat State Petronet	GUJS IN	Buy	76	770	9.4	7.0	7.1	8.0	10.7	10.6	1.7	1.5	1.4	4.9	5.6	5.6	23.7	15.1	13.5
Indraprastha Gas	IGL IN	Hold	252	680	22.5	23.7	26.1	11.2	10.7	9.7	3.0	2.5	2.1	6.2	5.6	5.0	28.1	24.4	22.7
Average								10.7	11.3	11.2	2.6	2.2	1.9	6.8	7.1	6.8	25.9	20.6	18.2

Source: Bloomberg (share prices), Daiwa forecasts

Note: based on closing share prices of 26 December 2012

# We project moderate LNGprocessing volume growth

We expect moderate growth in LNG-processing volumes for Petronet over FY13-15, due to capacity constraints at the company's Dahej terminal (currently operating at a high utilisation level) and a slow rampup that we envisage of volumes at its Kochi terminal. We forecast Petronet to process LNG volumes of around 550tbtus (10.61m tonnes) for FY13, 585tbtus (11.29m tonnes) for FY14, and 618tbtus (11.94m tonnes) for FY15.

# Kochi terminal: we expect a slow ramp-up of LNG-processing volumes

The company's Kochi terminal is likely to be commissioned in March 2013, according to Petronet. For FY13, we expect a single LNG cargo of 0.06m tonnes (3tbtus) to be brought to the Kochi terminal for regasification and then sold on to customers. Based on our discussions with management, we forecast LNGprocessing volumes for the terminal of 26tbtus (0.6m tonnes) for FY14, comprising mainly demand from a fertiliser plant owned by Fertiliser and Chemicals Travancore and Kochin Refineries Limited. Developing the LNG market in and around the company's new terminal at Kochi is likely to take time, as the LNG market is new to this area. As such, we now forecast LNG-processing volumes for the terminal of 3tbtus for FY13, 26tbtus for FY14 and 52tbtus for FY15, reduced from our previous respective forecasts of 10tbtus, 57tbtus and 104tbtus.

## Dahej terminal: limited capacity but utilisation should stay high

The company's Dahej terminal has a capacity of 10mtpa. This terminal is already operating at a capacity utilisation rate of around 100% (1Q FY13: 98%, 2Q FY13: 104%). We expect the terminal to operate at 110% capacity utilisation levels in both 3Q FY13 and 4Q FY13. We also expect Petronet LNG to have a capacity utilisation rate of 108% in FY14.

We forecast LNG-processing volumes for the Dahej terminal of 547tbtus for FY13, 559tbtus for FY14 and 567tbtus for FY15. These forecasts represent only marginal reductions versus our previous forecasts of 552tbtus, 559tbtus and 563tbtus for the respective years.



#### Petronet: breakdown of LNG-processing volumes

Туре	Unit	FY13E	FY14E	FY15E
Long-term	tbtus	387	389	389
Short-term	tbtus	75	70	78
PLNG spot	tbtus	17	11	11
Kochi	tbtus	3	26	52
GAIL India regasification	tbtus	13	52	52
GSPC regasification	tbtus	54	37	37
Total	tbtus	550	585	618

Source: Daiwa forecasts

Note: GSPC = Gujarat State Petroleum Corporation

The new jetty at Dahej is likely to be commissioned by December 2013, according to the company, which should help to expand the Dahej terminal's capacity from 10mtpa to 12.5mtpa, though we expect the full impact of this capacity expansion in terms of higher processing volumes to materialise only in FY15 and onwards. Our FY15 LNG-processing volume forecast may have some upside potential, but we would like to see more visibility on Petronet's LNG-sourcing contracts.

### A few contracts will need renewing

Although capacity at the Dahej terminal looks set to increase beyond FY14, in the meantime we believe Petronet will have to sign new LNG contracts with suppliers to utilise the capacity.

Petronet LNG has a short-term LNG contract for the supply of 1.1m tonnes which runs until the end of March 2013. It has another contract for the supply of 0.6m tonnes with GDF Suez, which runs until the end of December 2013. Petronet will have to renew these contracts with the same suppliers or sign new contracts with other suppliers in order to at least maintain its LNG-processing volumes. There is no visibility on new contracts at present, but given its proven skills in sourcing gas, we believe Petronet should be able to arrange new contracts.

#### Petronet: contracts with LNG suppliers

Contract type	Supplier Volume	s (m tonnes)	End of contract
Long-term	Ras Gas	7.5	December 2023
Short-term	Various suppliers	1.1	March 2013
Short-term	GDF Suez	0.6	December 2012
Short-term	GAIL-Marubeni	0.25	December 2013

Source: Company, Daiwa

# **Revisions to forecasts**

#### Petronet: revisions to forecasts for processing volumes, marketing margins and earnings

Forecast	Unit	FY13E	FY14E	FY15E
EBITDA – previous	INR m	17911	20415	20547
EBITDA – new	INR m	18554	20368	20011
Change (%)		3.6%	-0.2%	-2.6%
EPS – previous	INR/share	13.0	13.3	13.8
EPS – new	INR/share	14.1	13.5	13.5
Change (%)		8.8%	1.8%	-1.8%
LNG volumes – previous	tbtus	561	616	667
LNG volumes - new	tbtus	550	585	618
Marketing margin – previous	USD/mmbtu	0.5	0.5	0.5
Marketing margin – new	USD/mmbtu	0.8	0.8	0.8

Source: Daiwa forecasts

We are raising our FY13 EPS forecast by 8.8%, mainly to reflect increases in our forecasts for the marketing margin and other income. The company's marketing margin was USD 1.11/mmbtu for 1Q FY13 and USD1.10/mmbtu for 2Q FY13, higher than our prior full-year FY13-14 forecasts of USD0.5/mmbtu. Thus, we are raising our forecasts for both FY13 and FY14 from USD0.5/mmbtu to USD0.8/mmbtu.

The minor revisions to our EPS forecasts for FY14 and FY15 are due to revisions to our forecasts for LNG-processing volumes, the marketing margin and other income.

Our FY15 EPS forecast is 23% below that of the Bloomberg consensus, which we believe is due to our lower forecasts for LNG processing volumes and the marketing margin. We believe the consensus may be expecting high YoY LNG-processing volume for FY15 due to the planned commissioning of the new jetty at the Dahej terminal by December 2013.

However, we would like to see more visibility on Petronet's LNG-sourcing contracts before raising our LNG-processing volume forecast for FY15.

## **Further earnings growth unlikely**

On our estimates, Petronet's EPS is peaking and is unlikely to rise substantially over FY13-15.

First, as explained earlier, we expect only moderate growth in LNG processing volumes over the same period. Second, the commissioning of the Kochi terminal would lead to the terminal being capitalised on the balance sheet, and hence its entire fixed asset base starting to incur depreciation costs. As a result, we forecast the company's depreciation expenses to rise from INR1.84bn in FY12 to INR2.64bn in FY13 and INR3.91bn in FY14.



Similarly capitalisation of the Kochi terminal would also lead to an increase in interest expenses, which we forecast to rise from INR1.77bn in FY12 to INR2.7bn in FY14.

Therefore, despite the company's EBITDA rising by 9.8% from FY13E to FY14E (driven by volume expansion), we forecast the PBT to decline by 4.3% from FY13 to FY14, as depreciation and interest expenses moderate the growth.

#### Petronet: contribution from Kochi terminal at 1m tonnes

Sales volume	m tonnes	1
Regas charge	INR/mmbtu	50
Revenue	INR m	28,075
Raw-material costs	INR m	24,272
Custom duty	INR m	1,214
Gross margin	INR m	2,590
Operating expenses	INR m	562
EBITDA	INR m	2,028
Depreciation	INR m	2,062
EBIT	INR m	(33)
Interest	INR m	1,890
Profit before tax	INR m	(1,923)

Source: Daiwa estimates

Even if we assume a marketing margin of USD1.1/ mmbtu for FY13-FY15, then we estimate EPS/share would decline from INR15.3 in FY13 to INR13.7 in FY15.

# Long-term fundamentals remain supportive for Petronet

# Limited domestic gas supply additions ahead

We forecast domestic gas supplies to rise by a mere 22mmscmd over FY12-16. We forecast a dip from 130mmscmd in FY11 to 120mmscmd in FY13, and then a slight rise to 127mmscmd in FY14. Our forecasts imply that the Indian gas market is likely to be severely constrained in terms of the supply of domestic gas.

#### India: domestic gas supply (mmscmd)

Production - mmscmd	FY11	FY12E	FY13E	FY14E	FY15E	FY16E
Total	141	130	120	127	136	152
ONGC	63	64	68	71	75	75
Oil India	6	7	8	10	12	12
Pvt/JV	72	59	44	46	49	65
Ravva	2	1	1	1	1	1
KG-DWN-98/3	56	43	27	24	22	32
CB-OS/2/Laxmi Gauri	1	1	0	0	0	0
Tapti	7	8	8	7	7	7
Panna Mukta	4	6	5	5	5	5
Raniganj- South	0	1	2	3	4	4
GSPC-Deen Dayal	-	-	-	3	4	5
NEC 25	-	-	-	-	1	3
MN-OSN-2000/2	-	-	-	-	-	1
KG-DWN-98/2	-	-	-	-	-	2
Sohagpur-RIL	-	-	-	2	4	4

Source: Petroleum Statistics, Daiwa forecasts

## Good demand opportunity on the gas side

Based on our estimates, India is sitting on substantial latent demand for gas derived from various sectors, such as power, fertilizer, industrial, LPG production and city gas distribution. On our forecasts, gas demand will increase from 168mmscmd in FY11 to 372mmscmd in FY15. Government projections are even higher, with gas demand set to increase from 293mmscmd to 473mmscmd over the period of the 12<sup>th</sup> Five-Year Plan (FY12-17).

#### India: gas demand by segment

Consumption - mmscmd	FY11	FY12E	FY13E	FY14E	FY15E
Total	168	179	251	347	372
Energy purposes					
Power generation	59	58	86	110	110
Industrial fuel	20.2	30.0	50.0	70.0	90.0
Tea plantation	0.4	0.4	0.4	0.4	0.4
Domestic fuel	0.3	0.3	0.3	0.3	0.3
Captive use/LPG shrinkage	18.2	18.2	18.2	18.2	18.2
Others	4.2	4.2	4.2	4.2	4.2
Non-energy purposes					
Fertiliser industry	40.1	40.9	62.3	111	114
Petrochemicals	5.2	5.9	7.7	9.5	12.0
CNG	0.0	0.0	0.0	0.0	0.0
Others	19.7	21.1	22.1	22.8	22.8

Source: Petroleum Statistics, Daiwa forecasts

# Petronet positioning itself for the opportunity

With demand for gas in the long term likely to increase and domestic gas production unlikely to fill the gap, imported gas could be an important filler. While the high price of imported LNG is a deterrent, we believe domestic gas prices in India are likely to move up over the next two years. This would make LNG more acceptable in India, and lead to a rise in demand and supply.

Under such a scenario, Petronet, as an importer of gas, should find itself in a sweet spot. The company is building up its LNG regas capacity to take advantage of

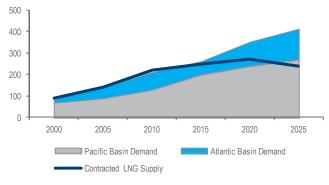


this situation. It is adding 5m tonnes of capacity at the Dahej terminal, part of which would be available after the addition of the jetty in December 2013. Petronet has already entered into an agreement with GAIL India for leasing out 2.5m tonnes of this expansion. The company is likely to sign a similar agreement with GSPC as well. Thus, not only is capacity being added, capacity utilisation is also being taken care of already.

Petronet is also planning to add a further 5mt of regasification capacity at Gangavaram on the east coast of India. The terminal is likely to be ready by FY17 and would be built at a projected cost of USD800m.

# LNG supply: some tightness in the medium term

#### Global LNG demand and supply (mtpa)



Source: Industry

Industry participants expect a tight LNG market between 2013 and 2015 due to very few LNG capacity additions globally. Post the huge LNG capacity additions from Qatar during 2009-10, we expect additions of only 50.2mt between 2013 and 2015. According to energy agency Facts Global Energy, demand from the Asia Pacific Basin for the period 2013-15 will be 180-195mtpa, whereas the supply of LNG capacity is estimated to be nearly 170mtpa.

Similarly other industry participants expect LNG capacity to be in the range of 140-160mtpa, considerably short of demand, which is expected to be in a range of 170-210mtpa. Post 2015 though, due to new capacities from Australia coming online, we believe new LNG supplies should materially ease.

#### LNG capacities: upcoming projects

Project	Country	Capacity (bcm)	Status	Year
Angola LNG	Angola	7.1	Construction	2012
Sengkang	Indonesia	2.7	Proposed	2012
Gassi Touil	Algeria	6.4	Construction	2013
Skikda	Algeria	6.1	Construction	2013
Gorgon	Australia	20.4	Construction	2015
Gladstone LNG	Australia	4.8	Proposed	2014
Donggi Senoro	Indonesia	2.7	Proposed	2015+
Total		50.2		

Source: Daiwa estimates

Petronet should be able to source spot and short-term LNG from the new and upcoming liquefaction capacity over FY13-15. Beyond FY15, we believe it will be even easier for Petronet to source LNG, as a host of Australian liquefaction capacities come online.

# **Key risks**

### **Regulatory risks**

The Ministry of Petroleum and Natural Gas has recently announced new eligibility conditions for the registration of new LNG terminals.

Under the new conditions, any entity planning to establish or operate an LNG terminal must provide, after registration, 20% of its short-term uncommitted regas capacity or 0.5mt, whichever is higher, as common carrier capacity (ie, it must give any customer looking to transport LNG for less than one year access to 20% of its short-term uncommitted regas capacity).

Mandatory reservation of a portion of an LNG terminal's capacity exclusively for third parties on a common carrier basis, could result in a risk of lower capacity utilisation. However, even now Petronet regasifies LNG for third parties on a short-term and spot basis, thus we believe the eligibility conditions will not bring about a big change for Petronet.

Second, if market margins are regulated, then that could also result in a capping of marketing margins mainly on spot and short-term LNG cargoes.

## **Other key risk factors**

- 1. Lower-than-expected LNG regasification volumes could result in lower-than-expected earnings, and is a key risk to the stock.
- 2. High prices of LNG could result in low procurement of spot LNG, which could once again result in lowerthan-expected earnings.



HONG KONG		
Nagahisa MIYABE	(852) 2848 4971	nagahisa.miyabe@hk.daiwacm.com
Regional Research Head		
Hiroaki KATO	(852) 2532 4121	hiroaki.kato@hk.daiwacm.com
Regional Research Co-hea	ad	
John HETHERINGTON	(852) 2773 8787	john.hetherington@hk.daiwacm.com
Regional Deputy Head of	Asia Pacific Researc	ch; Regional Head of Product Management
Pranab Kumar SARMAH	(852) 2848 4441	pranab.sarmah@hk.daiwacm.com
Regional Head of Researc	h Promotion	
Mingchun SUN	(852) 2773 8751	mingchun.sun@hk.daiwacm.com
Head of China Research;	Chief Economist (Re	gional)
Dave DAI	(852) 2848 4068	dave.dai@hk.daiwacm.com
		rch; Pan-Asia/Regional Head of Clean eent; Renewables (Hong Kong, China)
Kevin LAI	(852) 2848 4926	kevin.lai@hk.daiwacm.com
Deputy Head of Regional	Economics; Macro	Economics (Regional)
Chi SUN	(852) 2848 4427	chi.sun@hk.daiwacm.com
Macro Economics (China)	)	
Jonas KAN	(852) 2848 4439	jonas.kan@hk.daiwacm.com
		Kong and China Property; Regional
Property Coordinator; Pr		
Jeff CHUNG	(852) 2773 8783	jeff.chung@hk.daiwacm.com
Automobiles and Compon	ents (China)	
Grace WU	(852) 2532 4383	grace.wu@hk.daiwacm.com
Head of Greater China FI	G; Banking (Hong k	Kong, China)
Jerry YANG	(852) 2773 8842	jerry.yang@hk.daiwacm.com
Banking/Diversified Fina	ncials (Taiwan)	
Leon QI	(852) 2532 4381	leon.qi@hk.daiwacm.com
Banking (Hong Kong, Chi	ina)	
Joseph HO	(852) 2848 4443	joseph.ho@hk.daiwacm.com
Head of Industrials and N Equipments and Machine		Cong, China); Capital Goods –Electronics na)
Bing ZHOU	(852) 2773 8782	bing.zhou@hk.daiwacm.com
Consumer/Retail (Hong F Gaming (Hong Kong, Ma		s, Restaurants and Leisure - Casinos and
Eric CHEN	(852) 2773 8702	eric.chen@hk.daiwacm.com
Pan-Asia/Regional Head	of IT/Electronics; S	emiconductor/IC Design (Regional)
Felix LAM	(852) 2532 4341	felix.lam@hk.daiwacm.com
		nt and Building Materials (China,
Taiwan); Property (China		
John CHOI	(852) 2773 8730	john.choi@hk.daiwacm.com
Internet (China)		; Small/Mid Cap (Regional);
Kelvin LAU	(852) 2848 4467	kelvin.lau@hk.daiwacm.com
Coordinator; Transportat	ion (Regional)	Hong Kong and China Research
Jibo MA	(852) 2848 4489	jibo.ma@hk.daiwacm.com
Head of Custom Products		
Thomas HO	(852) 2773 8716	thomas.ho@hk.daiwacm.com
Custom Products Group		

PHILIPPINES		
Rommel RODRIGO	(63) 2 813 7344 ext 302	rommel.rodrigo@dbpdaiwacm.com.ph
Head of Philippines Res	earch; Strategy; Cap	ital Goods; Materials
Danielo PICACHE	(63) 2 813 7344 ext 293	danielo.picache@dbpdaiwacm.com.ph
<b>D D U M</b>		

Property; Banking; Transportation – Port

Chang H LEE	(82) 2 787 9177	chlee@kr.daiwacm.com
Head of Korea Resear	ch; Strategy; Banking	Finance
Sung Yop CHUNG	(82) 2 787 9157	sychung@kr.daiwacm.com
Pan-Asia Co-head/Re Shipbuilding; Steel	gional Head of Automo	obiles and Components; Automobiles;
Anderson CHA	(82) 2 787 9185	anderson.cha@kr.daiwacm.com
Banking/Finance		
Mike OH	(82) 2 787 9179	mike.oh@kr.daiwacm.com
Capital Goods (Consti	ruction and Machinery	)
Sang Hee PARK	(82) 2 787 9165	sanghee.park@kr.daiwacm.com
Consumer/Retail		
Jae H LEE	(82) 2 787 9173	jhlee@kr.daiwacm.com
IT/Electronics (Tech I	Hardware and Memory	y Chips)
Thomas Y KWON	(82) 2 787 9181	yskwon@kr.daiwacm.com
Pan-Asia Head of Inter	net & Telecommunicatio	ns; Software (Korea) – Internet/On-line Game

#### TAIWAN

Mark CHANG	(886) 2 8758 6245	mark.chang@daiwacm-cathay.com.tw
Head of Research; Reg	tional Head of Small/Me	edium Cap; Small/Medium Cap (Regional)
Birdy LU	(886) 2 8758 6248	birdy.lu@daiwacm-cathay.com.tw
IT/Technology Hardw	are (Handsets and Com	ponents)
Christine WANG	(886) 2 8758 6249	christine.wang@daiwacm-cathay.com.tw
IT/Technology Hardw	are (PC Hardware)	
Chris LIN	(886) 2 8758 6251	chris.lin@daiwacm-cathay.com.tw
IT/Technology Hardw	vare (Panels)	

#### INDIA

Punit SRIVASTAVA	(91) 22 6622 1013	punit.srivastava@in.daiwacm.com
Head of Research; Strate	egy; Banking/Finance	9
Navin MATTA	(91) 22 6622 8411	navin.matta@in.daiwacm.com
Automobiles and Compo	nents	
Saurabh MEHTA	(91) 22 6622 1009	saurabh.mehta@in.daiwacm.com
Capital Goods; Utilities		
Mihir SHAH	(91) 22 6622 1020	mihir.shah@in.daiwacm.com
FMCG/Consumer		
Deepak PODDAR	(91) 22 6622 1016	deepak.poddar@in.daiwacm.com
Materials		
Nirmal RAGHAVAN	(91) 22 6622 1018	nirmal.raghavan@in.daiwacm.com
Oil and Gas; Utilities		
SINGAPORE		
Adrian LOH	(65) 6499 6548	adrian.loh@sg.daiwacm.com

Aurian LOH	(05) 0499 0548	aurian.ion@sg.uaiwacin.com
Head of Singapore Reseau China); Capital Goods (Si		of Oil and Gas; Oil and Gas (ASEAN and
Srikanth VADLAMANI	(65) 6499 6570	srikanth.vadlamani@sg.daiwacm.com
Banking (ASEAN)		
David LUM	(65) 6329 2102	david.lum@sg.daiwacm.com
Property and REITs		
Ramakrishna MARUVADA	(65) 6499 6543	ramakrishna.maruvada@sg.daiwacm.com
Head of ASEAN & India T	elecommunications;	Telecommunications (ASEAN & India)



#### Daiwa's Offices

Dalwa 5 Offices			
Office / Branch / Affiliate	Address	Tel	Fax
DAIWA SECURITIES GROUP INC			
HEAD OFFICE	Gran Tokyo North Tower, 1-9-1, Marunouchi, Chiyoda-ku, Tokyo, 100-6753	(81) 3 5555 3111	(81) 3 5555 0661
Daiwa Securities Trust Company	One Evertrust Plaza, Jersey City, NJ 07302, U.S.A.	(1) 201 333 7300	(1) 201 333 7726
Daiwa Securities Trust and Banking (Europe) PLC (Head Office)	5 King William Street, London EC4N 7JB, United Kingdom	(44) 207 320 8000	(44) 207 410 0129
Daiwa Europe Trustees (Ireland) Ltd	Level 3, Block 5, Harcourt Centre, Harcourt Road, Dublin 2, Ireland	(353) 1 603 9900	(353) 1 478 3469
Daiwa Capital Markets America Inc	Financial Square, 32 Old Slip, New York, NY10005, U.S.A.	(1) 212 612 7000	(1) 212 612 7100
Daiwa Capital Markets America Inc. San Francisco Branch	555 California Street, Suite 3360, San Francisco, CA 94104, U.S.A.	(1) 415 955 8100	(1) 415 956 1935
Daiwa Capital Markets Europe Limited	5 King William Street, London EC4N 7AX, United Kingdom	(44) 20 7597 8000	(44) 20 7597 8600
Daiwa Capital Markets Europe Limited, Frankfurt Branch	Trianon Building, Mainzer Landstrasse 16, 60325 Frankfurt am Main, Federal Republic of Germany	(49) 69 717 080	(49) 69 723 340
Daiwa Capital Markets Europe Limited, Paris Representative Office	36, rue de Naples, 75008 Paris, France	(33) 1 56 262 200	(33) 1 47 550 808
Daiwa Capital Markets Europe Limited, London, Geneva Branch	50 rue du Rhône, P.O.Box 3198, 1211 Geneva 3, Switzerland	(41) 22 818 7400	(41) 22 818 7441
Daiwa Capital Markets Europe Limited, Moscow Representative Office	Midland Plaza 7th Floor, 10 Arbat Street, Moscow 119002, Russian Federation	(7) 495 641 3416	(7) 495 775 6238
Daiwa Capital Markets Europe Limited, Bahrain Branch	7th Floor, The Tower, Bahrain Commercial Complex, P.O. Box 30069, Manama, Bahrain	(973) 17 534 452	(973) 17 535 113
Daiwa Capital Markets Hong Kong Limited	Level 28, One Pacific Place, 88 Queensway, Hong Kong	(852) 2525 0121	(852) 2845 1621
Daiwa Capital Markets Singapore Limited	6 Shenton Way #26-08, DBS Building Tower Two, Singapore 068809, Republic of Singapore	(65) 6220 3666	(65) 6223 6198
Daiwa Capital Markets Australia Limited	Level 34, Rialto North Tower, 525 Collins Street, Melbourne, Victoria 3000, Australia	(61) 3 9916 1300	(61) 3 9916 1330
DBP-Daiwa Capital Markets Philippines, Inc	18th Floor, Citibank Tower, 8741 Paseo de Roxas, Salcedo Village, Makati City, Republic of the Philippines	(632) 813 7344	(632) 848 0105
Daiwa-Cathay Capital Markets Co Ltd	14/F, 200, Keelung Road, Sec 1, Taipei, Taiwan, R.O.C.	(886) 2 2723 9698	(886) 2 2345 3638
Daiwa Securities Capital Markets Korea Co., Ltd.	One IFC, 10 Gukjegeumyung-Ro, Yeouido-dong, Yeongdeungpo-gu, Seoul, 150-876, Korea	(82) 2 787 9100	(82) 2 787 9191
Daiwa Securities Capital Markets Co Ltd, Beijing Representative Office	Room 3503/3504, SK Tower, No.6 Jia Jianguomen Wai Avenue, Chaoyang District, Beijing 100022, People's Republic of China	(86) 10 6500 6688	(86) 10 6500 3594
Daiwa SSC Securities Co Ltd	45/F, Hang Seng Tower, 1000 Lujiazui Ring Road, Pudong, Shanghai 200120, People's Republic of China	(86) 21 3858 2000	(86) 21 3858 2111
Daiwa Securities Capital Markets Co. Ltd, Bangkok Representative Office	18th Floor, M Thai Tower, All Seasons Place, 87 Wireless Road, Lumpini, Pathumwan, Bangkok 10330, Thailand	(66) 2 252 5650	(66) 2 252 5665
Daiwa Capital Markets India Private Ltd	10th Floor, 3 North Avenue, Maker Maxity, Bandra Kurla Complex, Bandra East, Mumbai – 400051, India	(91) 22 6622 1000	(91) 22 6622 1019
Daiwa Securities Capital Markets Co. Ltd, Hanoi Representative Office	Suite 405, Pacific Palace Building, 83B, Ly Thuong Kiet Street, Hoan Kiem Dist. Hanoi, Vietnam	(84) 4 3946 0460	(84) 4 3946 0461
DAIWA INSTITUTE OF RESEARCH LTD			
HEAD OFFICE	15-6, Fuyuki, Koto-ku, Tokyo, 135-8460, Japan	(81) 3 5620 5100	(81) 3 5620 5603
MARUNOUCHI OFFICE	Gran Tokyo North Tower, 1-9-1, Marunouchi, Chiyoda-ku, Tokyo, 100-6756	(81) 3 5555 7011	(81) 3 5202 2021
New York Research Center	11th Floor, Financial Square, 32 Old Slip, NY, NY 10005-3504, U.S.A.	(1) 212 612 6100	(1) 212 612 8417
London Research Centre	3/F, 5 King William Street, London, EC4N 7AX, United Kingdom	(44) 207 597 8000	(44) 207 597 8550



#### Disclaimer

This publication is produced by Daiwa Securities Group Inc. and/or its non-U.S. affiliates, and distributed by Daiwa Securities Group Inc. and/or its non-U.S. affiliates, except to the extent expressly provided herein. This publication and the contents hereof are intended for information purposes only, and may be subject to change without further notice. Any use, disclosure, distribution, dissemination, copying, printing or reliance on this publication for any other purpose without our prior consent or approval is strictly prohibited. Neither Daiwa Securities Group Inc. nor any of its respective parent, holding, subsidiaries or affiliates, nor any of its respective directors, officers, servants and employees, represent nor warrant the accuracy or completeness of the information contained herein or as to the existence of other facts which might be significant, and will not accept any responsibility or liability whatsoever for any use of or reliance upon this publication or any of the contents hereof. Neither this publication nor any content hereof, constitute, or are to be construed as, an offer or solicitation of an offer to buy or sell any of the securities mentioned herein in any country or iurisdiction nor supresserves expressly provided any recommendation or investment onion or advice. Any view, recommendation securities or investments mentioned herein in any country or jurisdiction nor, unless expressly provided, any recommendation or investment opinion or advice. Any view, recommendation, opinion or advice expressed in this publication may not necessarily reflect those of Daiwa Securities Capital Markets Co. Ltd., and/or its affiliates nor any of its respective directors, officers, servants and employees except where the publication states otherwise. This research report is not to be relied upon by any person in making any investment decision or otherwise advising with respect to, or dealing in, the securities mentioned, as it does not take into account the specific investment objectives, financial situation and particular needs of any person.

Daiwa Securities Group Inc., its subsidiaries or affiliates, or its or their respective directors, officers and employees from time to time have trades as principals, or have positions in, or have other interests in the securities of the company under research including derivatives in respect of such securities or may have also performed investment banking and other services for the issuer of such securities. The following are additional disclosures.

#### Japan

Daiwa Securities Co. Ltd. and Daiwa Securities Group Inc. Daiwa Securities Co. Ltd. is a subsidiary of Daiwa Securities Group Inc. Investment Banking Relationship

Within the preceding 12 months, The subsidiaries and/or affiliates of Daiwa Securities Group Inc. \* has lead-managed public offerings and/or secondary offerings (excluding straight bonds) of the securities of the following companies: Rexlot Holdings Limited (555 HK); China Outfitters Holdings Limited (1146 HK); Beijing Jingneng Clean Energy Co. Limited (579 HK); Infraware Inc. (041020 KS); Jiangnan Group Limited (1366 HK); Huadian Fuxin Energy Corporation Limited (816 HK).

\*Subsidiaries of Daiwa Securities Group Inc. for the purposes of this section shall mean any one or more of: Daiwa Capital Markets Hong Kong Limited, Daiwa Capital Markets Australia Limited, Daiwa Capital Markets India Private Limited, Daiwa-Cathay Capital Markets Co., Ltd., Daiwa Securities Capital Markets Korea Co., Ltd.

Hong Kong This research is distributed in Hong Kong by Daiwa Capital Markets Hong Kong Limited ("DHK") which is regulated by the Hong Kong Securities and Futures Commission. Recipients of this research in Hong Kong may contact DHK in respect of any matter arising from or in connection with this research.

For "Ownership of Securities" information, please visit BlueMatrix disclosure Link at https://daiwa3.bluematrix.com/sellside/Disclosures.action.

Investment Banking Relationship For "Investment Banking Relationship", please visit BlueMatrix disclosure Link at <u>https://daiwa3.bluematrix.com/sellside/Disclosures.action</u>.

Relevant Relationship (DHK)

DHK may from time to time have an individual employed by or associated with it serves as an officer of any of the companies under its research coverage. DHK market making

DHK may from time to time make a market in securities covered by this research.

#### Singapore

This research is distributed in Singapore by Daiwa Capital Markets Singapore Limited and it may only be distributed in Singapore to accredited investors, expert investors and institutional investors as defined in the Financial Advisers Regulations and the Securities and Futures Act (Chapter 289), as amended from time to time. By virtue of distribution to these category of investors, Daiwa Capital Markets Singapore Limited and is representatives are not required to comply with Section 36 of the Financial Advisers Act (Chapter 110) (Section 36 relates to disclosure of Daiwa Capital Markets Singapore Limited's interest and/or its representative's interest in securities). Recipients of this research in Singapore may contact Daiwa Capital Markets Singapore Limited's interest and/or its representative.

#### Australia

Australia
This research is distributed in Australia by Daiwa Capital Markets Stockbroking Limited and it may only be distributed in Australia to wholesale investors within the meaning of the
Corporations Act. Recipients of this research in Australia may contact Daiwa Capital Markets Stockbroking Limited in respect of any matter arising from or in connection with the research.
<u>Ownership of Securities</u>
For "Ownership of Securities" information, please visit BlueMatrix disclosure Link at <u>https://daiwa3.bluematrix.com/sellside/Disclosures.action</u>.

#### India

This research is distributed by Daiwa Capital Markets India Private Limited (DAIWA) which is an intermediary registered with Securities & Exchange Board of India. This report is not to be considered as an offer or solicitation for any dealings in securities. While the information in this report has been compiled by DAIWA in good faith from sources believed to be reliable, no representation or warranty, express of implied, is made or given as to its accuracy, completeness or correctness. DAIWA its officers, employees, representatives and agents accept no liability representation or warranty, express of implied, is made or given as to its accuracy, completeness or correctness. DAIWA its officers, employees, representatives and agents accept no liability whatsoever for any loss or damage whether direct, indirect, consequential or otherwise howsoever arising (whether in negligence or otherwise) out of or in connection with or from any use of or reliance on the contents of and/or omissions from this document. Consequently DAIWA expressly disclaims any and all liability for, or based on or relating to any such information contained in or errors in or omissions in this report. Accordingly, you are recommended to seek your own legal, tax or other advice and should rely solely on your own judgment, review and analysis, in evaluating the information in this document. The data contained in this document is subject to change without any prior notice DAIWA reserves its right to modify this report as maybe required from time to time. DAIWA is committed to providing independent recommendations to its Clients and would be happy to provide any information in response to any query from its (Clients. This report is strictly confidential and is being furnished to you solely for your information. The information or time to time, have long or short positions, in and buy sell the securities thereof, of company(ies) mentioned herein or be engaged in any other transactions involving such securities and earn brokerage or other compensation or act as advisor or have the potential conflict of interest with respect to any recommendation, distribution or use would be contrary to any state or country or jurisdiction where such publication, distribution or use would be contrary to any statutory legislation, or regulation which would require bAIWA and its are subject of the Report, and that no part of the analyst's compensation was, is or will be directly or indirectly, related to the recommendations or views expressed in the Report. This report is not indirectly indirectly related to the recommendatio

#### Taiwan

This research is distributed in Taiwan by Daiwa-Cathay Capital Markets Co., Ltd and it may only be distributed in Taiwan to institutional investors or specific investors who have signed recommendation contracts with Daiwa-Cathay Capital Markets Co., Ltd in accordance with the Operational Regulations Governing Securities Firms Recommending Trades in Securities to Customers. Recipients of this research in Taiwan may contact Daiwa-Cathay Capital Markets Co., Ltd in respect of any matter arising from or in connection with the research.

#### Philippine

Philippines Philippines This research is distributed in the Philippines by DBP-Daiwa Capital Markets Philippines, Inc. which is regulated by the Philippines Securities and Exchange Commission and the Philippines Stock Exchange, Inc. Recipients of this research in the Philippines may contact DBP-Daiwa Capital Markets Philippines, Inc. in respect of any matter arising from or in connection with the research. DBP-Daiwa Capital Markets Philippines, Inc. recommends that investors independently assess, with a professional advisor, the specific financial risks as well as the legal, regulatory, tax, accounting, and other consequences of a proposed transaction. DBP-Daiwa Capital Markets Philippines, Inc. may have positions or may be materially interested in the securities in any of the markets mentioned in the publication or may have performed other services for the issuers of such securities. For relevant securities and trading rules please visit SEC and PSE Link at <u>http://www.sec.gov.ph/irr/AmendedIRRfinalversion.pdf</u> and <u>http://www.sec.com.ph/</u> respectively.

#### United Kingdom

United Kingdom This research report is produced by Daiwa Securities Capital Markets Co., Ltd and/or its affiliates and is distributed by Daiwa Capital Markets Europe Limited in the European Union, Iceland, Liechtenstein, Norway and Switzerland. Daiwa Capital Markets Europe Limited is authorised and regulated by The Financial Services Authority ("FSA") and is a member of the London Stock Exchange, Chi-X, Eurex and NYSE Liffe. Daiwa Capital Markets Europe Limited and its affiliates may, from time to time, to the extent permitted by law, participate or invest in other financing transactions with the issuers of the securities referred to herein (the "Securities"), perform services for or solicit business from such issuers, and/or have a position or effect transactions in the Securities or options thereof and/or may have acted as an underwriter during the past twelve months for the issuer of such securities. In addition, employees of Daiwa Capital Markets Europe Limited and its affiliates may have positions and effect transactions in such securities or options and may serve as Directors of such secures. Daiwa Capital Markets Europe Limited may, to the extent permitted by applicable UK law and other applicable law or regulation, effect transactions in the Securities before this material is published to recipients.



This publication is intended for investors who are not Retail Clients in the United Kingdom within the meaning of the Rules of the FSA and should not therefore be distributed to such Retail Clients in the United Kingdom. Should you enter into investment business with Daiwa Capital Markets Europe's affiliates outside the United Kingdom, we are obliged to advise that the protection afforded by the United Kingdom regulatory system may not apply; in particular, the benefits of the Financial Services Compensation Scheme may not be available.

Daiwa Capital Markets Europe Limited has in place organisational arrangements for the prevention and avoidance of conflicts of interest. Our conflict management policy is available at <a href="http://www.uk.daiwacm.com/about-us/corporate-governance-and-regulatory">http://www.uk.daiwacm.com/about-us/corporate-governance-and-regulatory</a>. Regulatory disclosures of investment banking relationships are available at <a href="https://daiwa3.bluematrix.com/sellside/Disclosures.action">https://daiwa3.bluematrix.com/sellside/Disclosures.action</a>.

#### Germany

This document has been approved by Daiwa Capital Markets Europe Limited and is distributed in Germany by Daiwa Capital Markets Europe Limited, Niederlassung Frankfurt which is regulated by BaFin (Bundesanstalt fuer Finanzdienstleistungsaufsicht) for the conduct of business in Germany.

#### Bahrain

This research material is issued/compiled by Daiwa Capital Markets Europe Limited, Bahrain Branch, regulated by The Central Bank of Bahrain and holds Investment Business Firm – Category 2 license and having its official place of business at the Bahrain World Trade Centre, South Tower, 7th floor, P.O. Box 30069, Manama, Kingdom of Bahrain. Tel No. +973 17534452 Fax No. +973 535113

This material is provided as a reference for making investment decisions and is not intended to be a solicitation for investment. Investment decisions should be made at your own discretion and risk. Accordingly, no representation or warranty, express or implied, is made as to and no reliance should be placed on the fairness, accuracy, completeness or correctness of the information and opinions contained in this document, Content herein is based on information available at the time the research material was prepared and may be amended or otherwise the state of the time the research material was prepared and may be amended or otherwise the state of the time the research material was prepared and may be amended or otherwise the state of the time the research material was prepared and may be amended or otherwise the state of the time the research material was prepared and may be amended or otherwise the state of the time the research material was prepared and may be amended or otherwise the state of the time the research material was prepared and may be amended or otherwise the state of the time the research material was prepared and may be amended or otherwise the state of the time the research material was prepared and may be amended or otherwise the state of the time the research material was prepared and may be amended or otherwise the state of the time the research material was prepared and may be amended or otherwise the state of the time the research material was prepared and may be amended or otherwise the state of the time the research material was prepared and may be amended or otherwise the state of the changed in the future without notice. All information is intended for the private use of the person to whom it is provided without any liability whatsoever on the part of Daiwa Capital Markets Europe Limited, Bahrain Branch, any associated company or the employees thereof. If you are in doubt about the suitability of the product or the research material itself, please consult your own financial adviser. Daiwa Capital Markets Europe Limited, Bahrain Branch retains all rights related to the content of this material, which may not be redistributed or otherwise transmitted without prior consent.

#### **United States**

United States This report is distributed in the U.S. by Daiwa Capital Markets America Inc. (DCMA). It may not be accurate or complete and should not be relied upon as such. It reflects the preparer's views at the time of its preparation, but may not reflect events occurring after its preparation; nor does it reflect DCMA's views at any time. Neither DCMA nor the preparer has any obligation to update this report or to continue to prepare research on this subject. This report is not an offer to sell or the solicitation of any offer to buy securities. Unless this report says otherwise, any recommendation it makes is risky and appropriate only for sophisticated speculative investors able to incur significant losses. Readers should consult their financial advisors to determine whether any such recommendation is consistent with their own investment objectives, financial situation and needs. This report does not recommend to U.S. recipients the use of any of DCMA is the other and such as the relative of the other is the busice of the other other other other of the other othe Whether any such recommendation is consistent with their own investment objectives, innancial situation and needs. This report does not recommend to U.S. recipients to use of our of any of DCMA's non-U.S. affiliates to effect trades in any security and is not supplied with any understanding that U.S. recipients of this report will direct commission business to such non-U.S. entities. Unless applicable law permits otherwise, non-U.S. customers wishing to effect a transaction in any securities referenced in this material should contact a Daiwa entity in their local jurisdiction. Most countries throughout the world have their own laws regulating the types of securities and other investment products which may be offered to their residents, as well as a process for doing so. As a result, the securities discussed in this report may not be eligible for sales in some jurisdictions. Customers wishing to obtain further information about this report should contact DCMA: Daiwa Capital Markets America Inc., Financial Square, 32 Old Slip, New York, New York 10005 (telephone 212-612-7000).

Ownership of Securities For "Ownership of Securities" information please visit BlueMatrix disclosure Link at https://daiwa3.bluematrix.com/sellside/Disclosures.action.

Investment Banking Relationships For "Investment Banking Relationships" please visit BlueMatrix disclosure link at https://daiwa3.bluematrix.com/sellside/Disclosures.action.

DCMA Market Making For "DCMA Market Making" please visit BlueMatrix disclosure link at https://daiwa3.bluematrix.com/sellside/Disclosures.action.

Research Analyst Conflicts For updates on "Research Analyst Conflicts" please visit BlueMatrix disclosure link at https://daiwa3.bluematrix.com/sellside/Disclosures.action. The principal research analysts who prepared this report have no financial interest in securities of the issuers covered in the report, are not (nor are any members of their household) an officer, director or advisory board member of the issuer(s) covered in the report, and are not aware of any material relevant conflict of interest involving the analyst or DCMA, and did not receive any compensation from the issuer during the past 12 months except as noted: no exceptions.

#### Research Analyst Certification

For updates on "Research Analyst Certification" and "Rating System" please visit BlueMatrix disclosure link at <u>https://daiwa3.bluematrix.com/sellside/Disclosures.action</u>. The views about any and all of the subject securities and issuers expressed in this Research Report accurately reflect the personal views of the research analyst(s) primarily responsible for this report (or the views of the firm producing the report if no individual analyst[s] is named on the report); and no part of the compensation of such analyst(s) (or no part of the compensation of the firm if no individual analyst[s]] is named on the report) was, is, or will be directly or indirectly related to the specific recommendations or views contained in this Research Report.

The following explains the rating system in the report as compared to relevant local indices, based on the beliefs of the author of the report.

- "I": the security could outperform the local index by more than 15% over the next six months. "2": the security is expected to outperform the local index by 5-15% over the next six months. "3": the security is expected to perform within 5% of the local index (better or worse) over the next six months. "4": the security is expected to perform the local index by 5-15% over the next six months. "5": the security could underperform the local index by 5-15% over the next six months.

#### Additional information may be available upon request.

Japan - additional notification items pursuant to Article 37 of the Financial Instruments and Exchange Law is Notification is only applicable where report is distributed by Daiwa Securities Co. Ltd.)

- If you decide to enter into a business arrangement with us based on the information described in materials presented along with this document, we ask you to pay close attention to the following items
- In addition to the purchase price of a financial instrument, we will collect a trading commission\* for each transaction as agreed beforehand with you. Since commissions may be included in the purchase price or may not be charged for certain transactions, we recommend that you confirm the commission for each transaction.
- In some cases, we may also charge a maximum of ¥ 2 million (including tax) per year as a standing proxy fee for our deposit of your securities, if you are a non-resident of Japan.
  For derivative and margin transactions etc., we may require collateral or margin requirements in accordance with an agreement made beforehand with you. Ordinarily in such cases, the
- There is a risk that you will incur losses on your transactions due to changes in the market price of financial instruments based on fluctuations in interest rates, exchange rates, stock prices, real estate prices, commodity prices, and others. In addition, depending on the content of the transaction, the loss could exceed the amount of the collateral or margin requirements. There may be a difference between bid price etc. and ask price etc. of OTC derivatives handled by us. Before engaging in any trading, please thoroughly confirm accounting and tax treatments regarding your trading in financial instruments with such experts as certified public accountants. "The amount of the trading commission cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of the content of the trading commission cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of the content of the trading commission cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of the content of the trading commission cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of the content of the trading commission cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of a content of the trading commission cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of a content of the trading commission cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of the trading commission cannot be stated here in advance because it will be determined between our comp
- each transaction etc.

When making an actual transaction, please be sure to carefully read the materials presented to you prior to the execution of agreement, and to take responsibility for your own decisions regarding the signing of the agreement with us.

#### Corporate Name: Daiwa Securities Co. Ltd.

Financial instruments firm: chief of Kanto Local Finance Bureau (Kin-sho) No.108 Japan Securities Dealers Association, Financial Futures Association of Japan Japan Securities Investment Advisers Association Memberships: Type II Financial Instruments Firms Association