

Petronas Chemicals (PCHEM MK)

All is well at Labuan Methanol

Labuan Methanol is a world class facility

We visited PCHEM's Labuan Methanol plant. The visit affirmed our view that the operation is very profitable due to its efficient and low cost structure. The plant is a consistent profit contributor to the Group, but the quantum varies, depending on the realised Methanol prices. There are no growth plans as there is no available land to expand and the Group has set its sights to develop its speciality chemicals portfolio. No change to our earnings forecasts for PCHEM, HOLD call and TP of MYR9.70 based on 9.2x EV/EBITDA, 10% premium to peers (unchanged).

World scale operations

Labuan Methanol consists of two plants with a combined capacity of 2.33m tonnes per year, thus making it the third largest single-site Methanol plant in the world. It is ranked 10th globally in terms of production volumes, commanding a market share of ±2.7%. Its products have a high quality rating of AA (as certified by IMPCA) and also have a 'halal' certification by JAKIM, which enables it to be used in perfume products. Majority of its products are exported namely to Japan, South Korea and China. Domestic consumption is small at only <10% of volume.

Positive outlook for Methanol

The global consumption of Methanol is 78m tonnes in 2017 and will grow by 5% p.a. up till 2021 based on IHS forecast. Methanol is used in a wide range list of products. Recently, it has increasingly been used as fuel and blended to gasoline due to its superior environment footprint. China also is increasingly using Methanol as a petrochemical feedstock.

Labuan Methanol firing all its cylinders

Labuan Methanol is operating at capacity and we believe that the operation is close to optimum. There are multiple back-ups to ensure uninterrupted operations and all key raw materials (natural gas, oxygen, process water, power) are managed by Labuan Methanol themselves.

FYE Dec (MYR m)	FY16A	FY17A	FY18E	FY19E	FY20E
Revenue	13,860	17,407	17,955	17,879	20,216
EBITDA	5,291	6,618	6,866	7,200	7,667
Core net profit	3,183	4,192	4,397	4,709	5,140
Core EPS (sen)	39.8	52.4	55.0	58.9	64.3
Core EPS growth (%)	14.5	31.7	4.9	7.1	9.2
Net DPS (sen)	19.0	19.0	28.0	30.0	33.0
Core P/E (x)	17.5	14.7	17.1	15.9	14.6
P/BV (x)	2.1	2.2	2.5	2.3	2.1
Net dividend yield (%)	2.7	2.5	3.0	3.2	3.5
ROAE (%)	11.3	15.3	15.2	15.0	15.0
ROAA (%)	10.1	12.9	13.0	13.2	13.4
EV/EBITDA (x)	9.4	8.5	9.6	8.9	7.9
Net gearing (%) (incl perps)	net cash				
Consensus net profit	-	-	4,450	4,555	5,041
MKE vs. Consensus (%)	-	-	(1.2)	3.4	2.0

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HOLD

Share Price	MYR 9.38
12m Price Target	MYR 9.70 (+3%)
Previous Price Target	MYR 9.70

Company Description

Petronas Chemicals Group Bhd manufactures, markets, and sells petrochemicals.

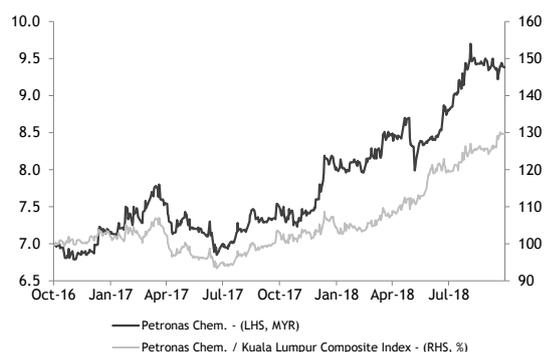
Statistics

52w high/low (MYR)	9.70/7.23
3m avg turnover (USDm)	19.6
Free float (%)	35.5
Issued shares (m)	8,000
Market capitalisation	MYR75.0B USD18.0B

Major shareholders:

Government of Malaysia	64.4%
Employees Provident Fund	10.1%
Permodalan Nasional Bhd.	7.0%

Price Performance



	-1M	-3M	-12M
Absolute (%)	(1)	7	24
Relative to index (%)	3	9	25

Source: FactSet

Labuan Methanol Plant

History

The operations started in 1984 by Sabah Energy (not listed) with an initial capacity of 0.67m tonnes p.a.. The facility is built on reclaimed land on the southern tip of Labuan Island as the sea is relatively sheltered from currents and has a decent draft of 10-11m. The complex size is 93 acres.

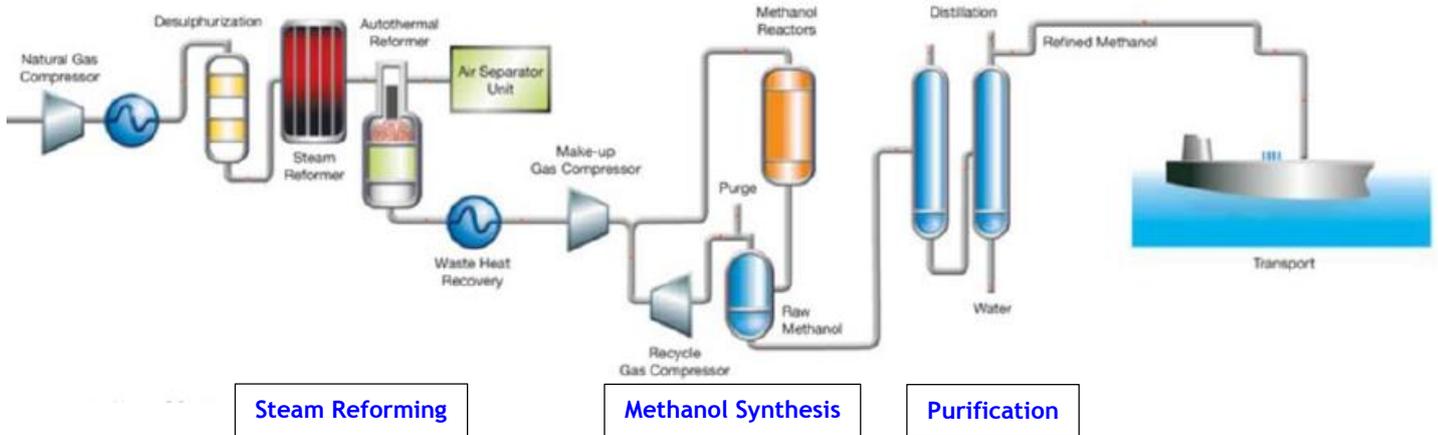
PETRONAS bought over a 100% interest of the plant in 1992 and renamed it as Petronas Chemicals Methanol (Labuan) Sdn. Bhd (“Labuan Methanol”). In 2009, Plant 2 was commissioned next to Plant 1 and adding a further capacity of 1.67m tonnes p.a.. The combined capacity is 2.33m tonnes, which makes this the third largest single-site Methanol plant in the world. Labuan Methanol is the tenth largest producer in the world with a market share of approximately 2.7%.

Labuan Island is the main collection point of all PETRONAS’ offshore gas fields off the coast of Sabah. The collected natural gas is redistributed via the Sabah-Sarawak natural gas piped distribution network. Labuan was chosen as the site for PETRONAS’ Methanol plant due to ample natural gas supply, efficient port facility, and strategic geographical proximity to key North Asian customers.

The total number of staff working for both the plants in Labuan Methanol is 474. This consists of operational and non-operational staff. Whenever there is maintenance shutdown or turnaround activity, there will be significantly more people working on the premise consisting of third-party contractors and PCHEM’s own maintenance team from the Group level.

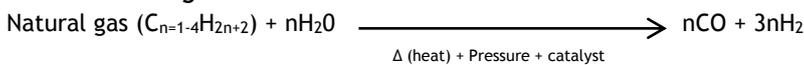


Process chemistry

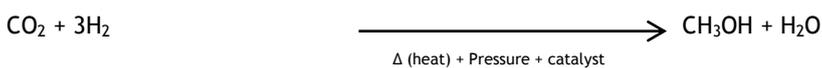
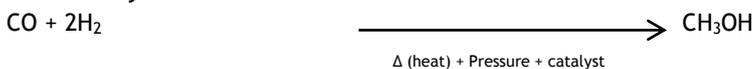


There is a three step process to produce Methanol. First, natural gas is cracked via steam reforming to form carbon monoxide (CO), carbon dioxide (CO₂) and hydrogen gas (H₂). The second process is the cracked natural gas undergoing synthesis whereby CO and CO₂ combines with H₂ to form Methanol.

Steam reforming:



Methanol synthesis:



The raw Methanol is purified via distillation and oxygen gas purging to remove water and other contaminants. The final product quality is of AA grade as certified by International Methanol Producers and Consumers Association (IMPCA). This is considered very high quality whereby the amount of Acetone, Ethanol and Aldehyds contaminants are at miniscule levels. Customers pay a premium for this; the premium quantum amount is kept confidential by the management.

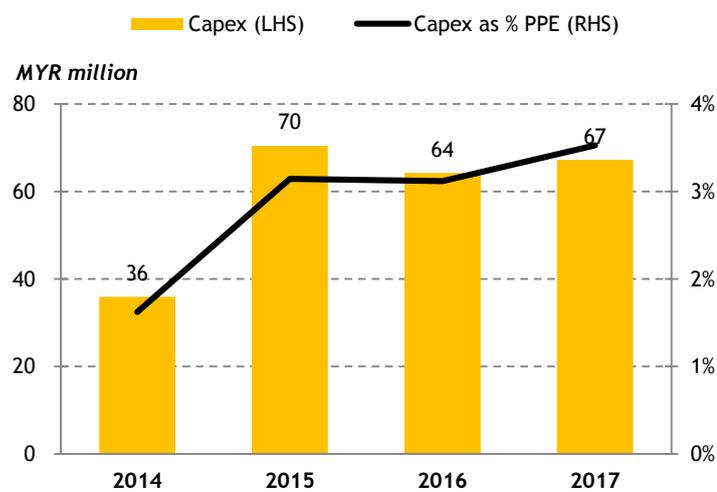
Production cycle

The management has formulated the maintenance schedule as follows: minor turnaround every 1.5 year, catalyst change every three years and the statutory heavy turnaround every six years. Management states that this is the ideal maintenance schedule they adhere to. Thus far, this formulae schedule has proven successful as Labuan Methanol Plant enjoys high dispatch reliability and faced very little negative surprises.

The graph below shows the amount of Capex spent for maintenance since 2014 and the Capex amount spent as a percentage of Labuan Methanol’s Property, Plant and Equipment (PPE). Labuan Methanol spends around MYR60-70m p.a. which represents 3.1-3.5% of Labuan Methanol’s PPE.

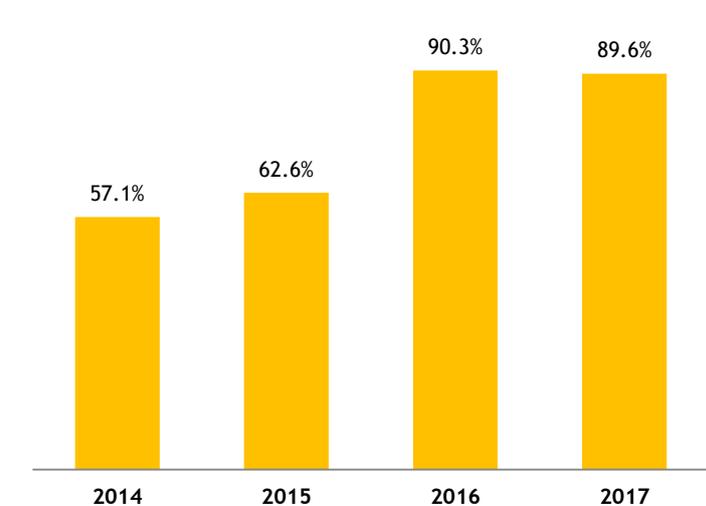
Labuan Methanol’s utilisation rate has also improved as seen below. In 2018 YTD, the utilisation rate has risen even higher as the management team has successfully enhanced the operations and eradicated all previous weak points.

Labuan Methanol Capex and Capex as % of PPE



Source: Company

Labuan Methanol Utilisation rate



Source: Company

Competitive cost structure

Labuan Methanol consumes 340mscf/day of natural gas assuming it is running at full capacity. The natural gas is supplied by PETRONAS. The process water is sourced from southern Sabah region and is connected to Labuan Island via undersea pipelines; it is then processed to be suitable for production use. Labuan Methanol produces its own power and steam, and it only taps onto the grid for electricity occasionally. The Oxygen is produced on-site via an air separation unit.

The price of the natural gas is formularised relative to the actual global market price of Methanol. This is a dynamic hedging between PETRONAS and PCHEM – the actual formula is confidential. Therefore, natural gas is a variable cost for Labuan Methanol. All the other utilities (water, electricity, power) are relatively fixed in terms of unit price.

Methanol Outlook

Methanol is the third highest produced petrochemical after ethylene and propylene. It has wide ranging uses as shown in the graph below.

Methanol end uses

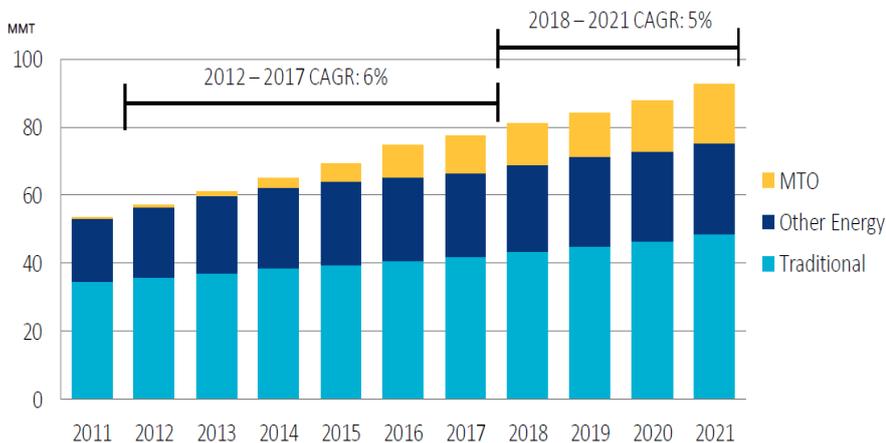


Source: Methanex

Demand growth of 5% CAGR over next four years

IHS Markit forecasts that 78m ton of Methanol was consumed in 2017 (excludes demand from integrated coal-to-Olefin (CTO) facilities) and it is projected to grow by 5% p.a. from 2018-21. This is a higher rate of growth compared to other basic petrochemicals which is forecasted to grow at only 3-3.5% p.a..

Methanol global consumption and growth rates



Source: IHS Chemical supply and demand, Apr 2018 Update

Methanol consumption for traditional uses is growing at a modest pace of 1-2% p.a. globally. The key driver is population growth as Methanol application is fairly mature. There are two segments whereby Methanol consumption is growing rapidly and they are for feedstock in the petrochemical industry and as a fuel as shown in the table below.

Main uses of Methanol by industry segments

Traditional	Petrochemical	Fuel
Formaldehyde Acetic acid Methylamines	Methanol to Olefin	Marine fuel (650m tons globally) Fuel blend for gasoline (1.8m tons for Malaysia assuming 15% blend) Fuel blend for diesel (0.9m tons for Malaysia assuming 10% blend) Fuel blend for cooking gas

() indicates potential demand
Sources: Company, Maybank KE

Methanol-to-Olefin (MTO) process converts Methanol into high purity ethylene, propylene and butadiene (if desired). These products are further processed into a host of downstream products. China has been big proponents of the MTO process as a mean to wean off petrochemical import and promote self-sufficiency. China initially used its domestic coal as the feedstock to make Methanol via the CTO process, but it has reduced this practise due to CTO’s high environmental footprint. China now imports Methanol instead as the feedstock for its downstream petrochemical products.

Methanol as marine fuel: in order to comply with International Maritime Organisation (IMO) requirement of 0.5% sulphur limit by 2020. Traditional bunker of heavy fuel oil does not meet this requirement and it needs to be refined further to remove sulphur impurities. This adds cost and the price of low sulphur bunker is comparable to diesel. Thus, most new ships are designed to consume alternative fuels such as diesel and distillates.

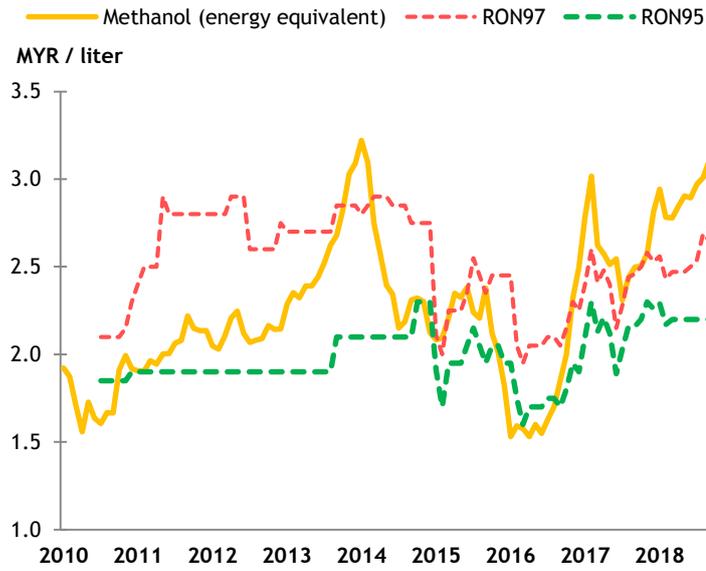
Methanol can also be used as a fuel for marine vessels as it free of sulphur and substantially reduces other contaminants such as Nitrogen Oxides (NO_x) and particulate matter (PM). Some marine operators in Europe and North America have started using vessels powered exclusively by Methanol. The environmental requirement is more stringent in these two regions with a 0.1% sulphur limit that took effect since 2015. It is proven in Europe that using Methanol is the most cost effective and easy way to comply with the environmental requirement.

The potential global marine fuel market is huge at 650m tons p.a. of Methanol equivalent. Despite the huge potential, it is uncertain how many global shippers will convert to using Methanol as a marine fuel. The outlook is more positive in Europe and North America due to the more stringent requirements, greater environmental awareness and existing availability of supply chain.

Methanol used as a fuel blend to reduce smog causing emissions (NO_x, Sulphur oxides) and lower PM. In addition, Methanol increases the octane rating of the fuel which improved vehicle power and efficiency. Thus far China, Australia, New Zealand, United Kingdom and Iceland have commercial operations of blending Methanol into gasoline. The composition varies between 3-15%. Blending with diesel fuel is also possible but up to a limit of 10%.

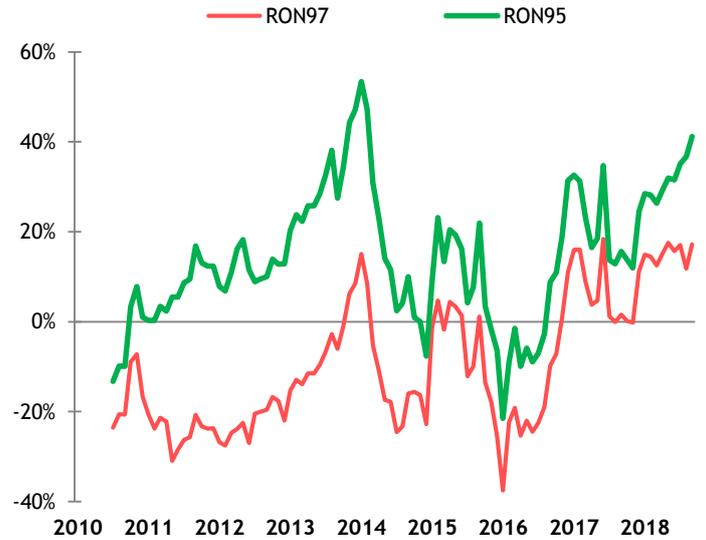
Many countries are currently studying and considering blending Methanol into gasoline such as: USA, Germany, Denmark, Netherlands, Switzerland, Russia, Azerbaijan, Uzbekistan, Turkmenistan, Egypt, Trinidad and Tobago. Malaysia has not expressed interest to participate. However, looking into the price comparison on an energy equivalent basis of Methanol and RON97 petrol as shown in the graph overleaf, it makes commercial sense to do so from 2010-17. But this discount has disappeared in 2018 and Methanol price is at a premium to RON97 petrol. The price of subsidised RN95 is almost always cheaper than Methanol.

Methanol price, Malaysia RON95 and RON97 petrol price



Sources: Bloomberg, Maybank KE

Malaysia RON95 and RON97 premium/(discount) relative to Methanol price



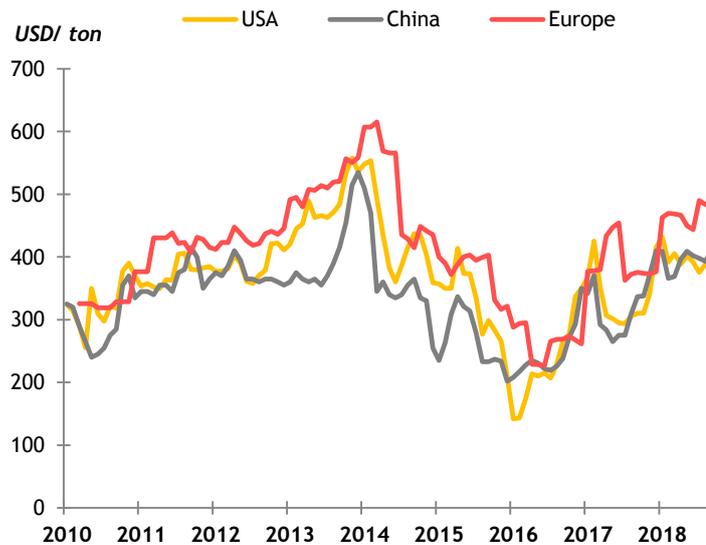
Sources: Bloomberg, Maybank KE

Methanol price trend

The graph on the bottom left shows the price of Methanol in the USA Gulf area, China and Europe. There is a slight variation due to local supply-demand scenarios, distribution cost and taxes/duties. The price has reached bottom in early 2016 and has since been on a recovering uptrend.

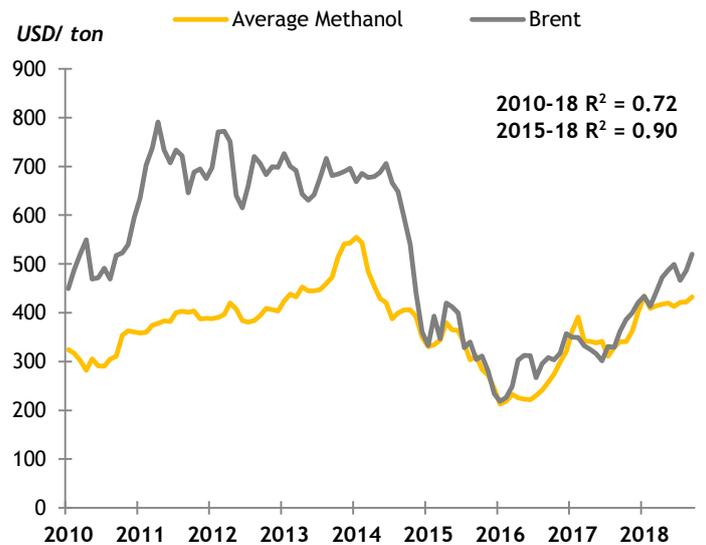
There is a strong correlation between the prices of Methanol and Brent crude oil as shown on the bottom right graph. The correlation between 2010 till 2018 year-to-date is at 0.72x. The correlation is even stronger at 0.90x from 2015 up till recent. Therefore, the current crude price uptrend is a positive indicator for Methanol prices going forward.

Global Methanol price



Source: Bloomberg

Methanol and Crude oil (Brent) price

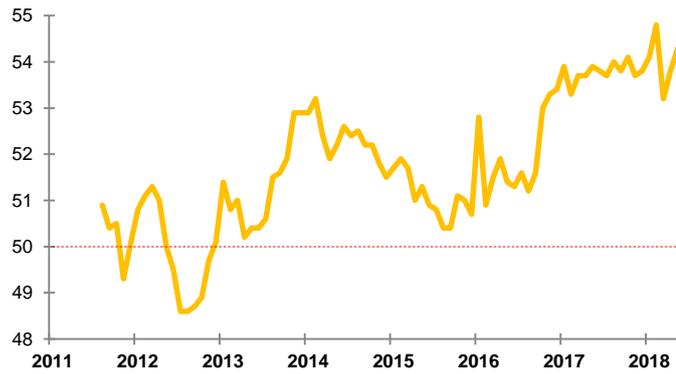


Source: Bloomberg

Value Proposition

- Southeast Asia's largest integrated gas-based chemicals producer with a nameplate capacity of 12.7 million tpa.
- Strong growth pipeline with three expansion projects that will expand nameplate capacity by ~30% scheduled for completion in 2018-19.
- The lowest cost petrochemical producer in Asia Pacific, ensuring sustainable profits, by our estimate.
- Global PMI firmly in expansion territory and tight supply-demand dynamics suggest product spreads should continue to be resilient in the short term.

Global Producer Manufacturer Index (PMI)

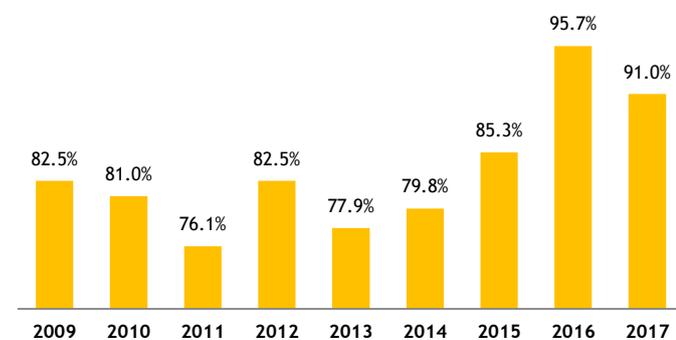


Source: Bloomberg

Financial Metrics

- Consistent improvement in utilisation rates, management has enhanced maintenance practices and procedures.
- Higher utilisation will propel economies of scale as the fixed cost components are amortised over greater unit volume.
- Assumed utilisation rate of 90%, flat ASP, 7% higher raw material cost and 16% tax rate for 2018.
- Sensitive to naphtha price movement, a 1% change in naphtha will move earnings by MYR50m ($\pm 1.2\%$)

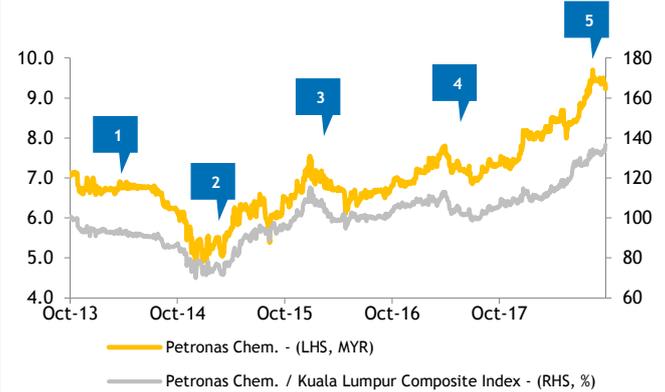
PCHEM utilisation rate



Source: Company

Price Drivers

Historical share price trend



Source: Company, Maybank Kim Eng

1. Share price tracked the KLCI market.
2. The collapse of crude oil prices caused a de-rating of petrochemical sector
3. Reported strong profit on better utilisation rate and good cost control
4. Share price continued to trend in-line with the general market
5. Share price on an uptrend as rising fuel price pushes up petrochemical prices as well.

Swing Factors

Upside

- Petrochemical spread continues to be firm.
- Unscheduled closure of major competitors' production plants.
- Customers draw in and exhaust their inventories and look for replenishment of supply.

Downside

- Sudden collapse in petrochemical spreads or extreme volatility may have an adverse impact on earnings.
- Unscheduled factory shutdowns that could materially reduce utilisation rates and product volumes.
- Wait-and-see purchase behaviour by customers will exhibit extreme volatility in the ASP, which may have an adverse impact on earnings.

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FYE 31 Dec	FY16A	FY17A	FY18E	FY19E	FY20E
Key Metrics					
P/E (reported) (x)	18.4	14.0	17.1	15.9	14.6
Core P/E (x)	17.5	14.7	17.1	15.9	14.6
P/BV (x)	2.1	2.2	2.5	2.3	2.1
P/NTA (x)	2.1	2.2	2.5	2.3	2.1
Net dividend yield (%)	2.7	2.5	3.0	3.2	3.5
FCF yield (%)	0.9	3.0	4.5	6.4	9.8
EV/EBITDA (x)	9.4	8.5	9.6	8.9	7.9
EV/EBIT (x)	12.3	10.7	12.0	10.9	9.3

INCOME STATEMENT (MYR m)

Revenue	13,860.0	17,407.0	17,954.6	17,879.1	20,216.0
Gross profit	5,324.0	6,386.0	6,611.4	7,044.4	7,805.3
EBITDA	5,291.0	6,618.0	6,866.1	7,200.1	7,666.6
Depreciation	(1,337.0)	(1,589.0)	(1,646.8)	(1,722.4)	(2,005.4)
Amortisation	0.0	0.0	0.0	0.0	0.0
EBIT	4,046.0	5,240.0	5,461.9	5,899.7	6,505.2
Net interest income / (exp)	47.0	(20.0)	(24.0)	(28.8)	(34.6)
Associates & JV	17.0	16.0	96.0	126.0	156.0
Exceptionals	0.0	0.0	0.0	0.0	0.0
Other pretax income	0.0	0.0	0.0	0.0	0.0
Pretax profit	4,110.0	5,236.0	5,533.9	5,996.9	6,626.7
Income tax	(888.0)	(822.0)	(885.4)	(1,019.5)	(1,192.8)
Minorities	(290.0)	(237.0)	(251.0)	(268.8)	(293.4)
Discontinued operations	0.0	0.0	0.0	0.0	0.0
Reported net profit	2,932.0	4,177.0	4,397.5	4,708.6	5,140.5
Core net profit	3,183.0	4,192.0	4,397.5	4,708.6	5,140.5

BALANCE SHEET (MYR m)

Cash & Short Term Investments	7,403.0	6,674.0	10,204.3	11,734.4	15,470.4
Accounts receivable	2,639.0	2,370.0	1,701.5	1,625.2	1,861.6
Inventory	1,383.0	1,723.0	1,588.1	1,516.9	1,737.5
Reinsurance assets	0.0	0.0	0.0	0.0	0.0
Property, Plant & Equip (net)	18,543.0	20,792.0	19,242.1	20,269.7	19,064.3
Intangible assets	3.0	1.0	0.0	0.0	0.0
Investment in Associates & JVs	1,363.0	1,234.0	1,172.0	1,172.0	1,172.0
Other assets	614.0	468.0	435.0	435.0	435.0
Total assets	31,948.0	33,262.0	34,342.9	36,753.1	39,740.8
ST interest bearing debt	23.0	0.0	0.0	0.0	0.0
Accounts payable	2,208.0	3,217.0	2,394.0	2,383.9	2,695.5
Insurance contract liabilities	0.0	0.0	0.0	0.0	0.0
LT interest bearing debt	0.0	0.0	0.0	0.0	0.0
Other liabilities	1,404.0	1,177.0	1,017.0	859.0	742.0
Total Liabilities	3,635.0	4,394.0	3,410.5	3,243.3	3,437.0
Shareholders Equity	26,960.2	27,783.2	30,191.7	32,769.1	35,563.0
Minority Interest	1,352.8	1,084.8	740.8	740.8	740.8
Total shareholder equity	28,313.0	28,868.0	30,932.5	33,509.9	36,303.8
Total liabilities and equity	31,948.0	33,262.0	34,342.9	36,753.2	39,740.8

CASH FLOW (MYR m)

Pretax profit	4,110.0	5,236.0	5,533.9	5,996.9	6,626.7
Depreciation & amortisation	1,337.0	1,589.0	1,646.8	1,722.4	2,005.4
Adj net interest (income)/exp	0.0	(191.0)	(234.1)	(246.8)	(260.1)
Change in working capital	0.0	(907.0)	(19.6)	137.4	(145.5)
Cash taxes paid	(799.0)	(617.0)	(885.4)	(1,019.5)	(1,192.8)
Other operating cash flow	0.0	623.0	789.4	893.5	1,036.8
Cash flow from operations	3,958.0	5,311.0	7,309.6	7,553.4	8,116.6
Capex	(3,428.0)	(3,446.0)	(3,962.9)	(2,750.0)	(800.0)
Free cash flow	530.0	1,865.0	3,346.7	4,803.4	7,316.6
Dividends paid	(2,133.0)	(2,474.0)	(2,849.4)	(3,070.3)	(3,377.4)
Equity raised / (purchased)	0.0	0.0	0.0	0.0	0.0
Change in Debt	(629.0)	(78.0)	(708.0)	(78.0)	(78.0)
Other invest/financing cash flow	604.0	83.0	3,866.0	0.0	0.0
Effect of exch rate changes	324.0	(125.0)	(125.0)	(125.0)	(125.0)
Net cash flow	(1,304.0)	(729.0)	3,530.3	1,530.1	3,736.3

FYE 31 Dec	FY16A	FY17A	FY18E	FY19E	FY20E
Key Ratios					
Growth ratios (%)					
Revenue growth	2.4	25.6	3.1	(0.4)	13.1
EBITDA growth	13.5	25.1	3.7	4.9	6.5
EBIT growth	7.7	29.5	4.2	8.0	10.3
Pretax growth	7.2	27.4	5.7	8.4	10.5
Reported net profit growth	5.4	42.5	5.3	7.1	9.2
Core net profit growth	14.5	31.7	4.9	7.1	9.2
Profitability ratios (%)					
EBITDA margin	38.2	38.0	38.2	40.3	37.9
EBIT margin	29.2	30.1	30.4	33.0	32.2
Pretax profit margin	29.7	30.1	30.8	33.5	32.8
Payout ratio	51.8	36.4	50.9	51.0	51.4
DuPont analysis					
Net profit margin (%)	21.2	24.0	24.5	26.3	25.4
Revenue/Assets (x)	0.4	0.5	0.5	0.5	0.5
Assets/Equity (x)	1.2	1.2	1.1	1.1	1.1
ROAE (%)	11.3	15.3	15.2	15.0	15.0
ROAA (%)	10.1	12.9	13.0	13.2	13.4
Liquidity & Efficiency					
Cash conversion cycle	9.6	13.9	4.3	5.7	4.6
Days receivable outstanding	52.5	51.8	40.8	33.5	31.0
Days inventory outstanding	64.8	50.7	52.5	51.6	47.2
Days payables outstanding	107.8	88.6	89.0	79.4	73.7
Dividend cover (x)	1.9	2.7	2.0	2.0	1.9
Current ratio (x)	4.7	3.2	5.2	5.8	6.6
Leverage & Expense Analysis					
Asset/Liability (x)	8.8	7.6	nm	nm	nm
Net gearing (%) (incl perps)	net cash	net cash	net cash	net cash	net cash
Net gearing (%) (excl. perps)	net cash	net cash	net cash	net cash	net cash
Net interest cover (x)	na	nm	nm	nm	nm
Debt/EBITDA (x)	0.0	0.0	0.0	0.0	0.0
Capex/revenue (%)	24.7	19.8	22.1	15.4	4.0
Net debt/ (net cash)	(7,380.0)	(6,674.0)	(10,204.3)	(11,734.4)	(15,470.4)

Source: Company; Maybank

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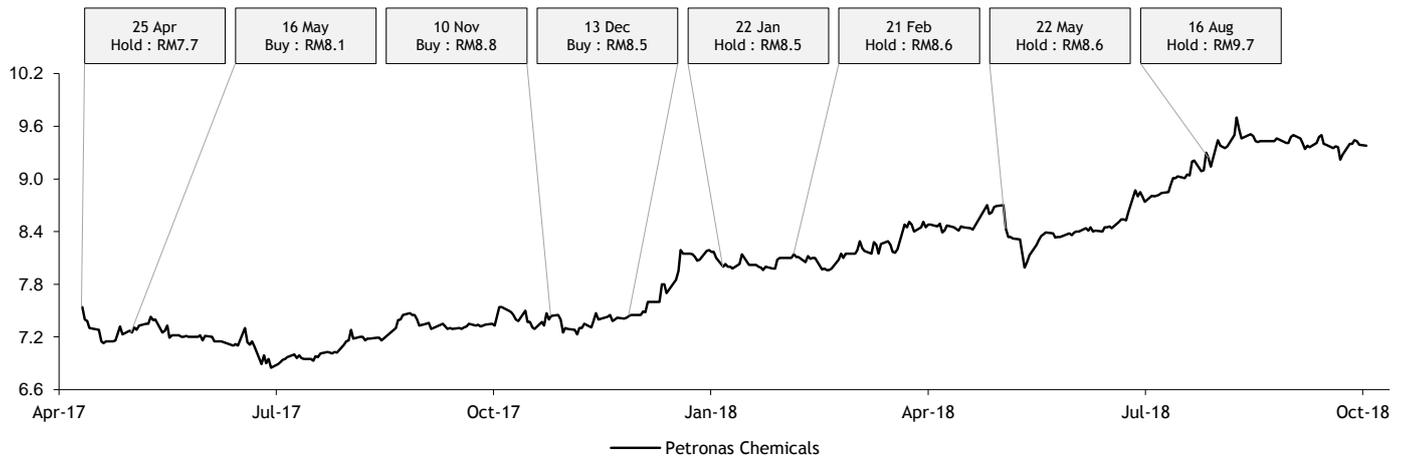
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