Deutsche Bank
Markets Research

Rating
Hold

Asia
Indonesia

Energy
Chemicals

Company
Chandra Asri

Reuters	Bloomberg	Exchange	Ticker
TPIA.JK	TPIA IJ	JKT	TPIA

Date
18 October 2017

Initiation of Coverage

Price at 17 Oct 2017 (IDR)	24,250
Price target - 12mth (IDR)	25,620
52-week range (IDR)	27,535.11 - 15,917.81
Jakarta Comp. Index	5,947

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Home court advantage but premium valuation; initiating with Hold

Leader in structurally short market; Hold with TP of IDR25,620

PT Chandra Asri Petrochemical Tbk (CAP) is the largest petrochemical company in Indonesia, and operates the only naphtha cracker (NCC) there. Indonesia's market is in structural shortage, with c.50% of polyolefins relying on net imports. With strong consumption growth ahead, domestic capacity additions will barely keep up with demand growth, supporting a price premium in Indonesia. CAP will continue to grow by adding downstream capacity, while planning to build a second NCC in Indonesia. However, CAP's rich valuation prices in most positives; thus, we initiate coverage with Hold.

Robust domestic demand + reliance on import growth = price premium

Indonesia's polyolefin consumption seems set to outgrow South East Asian (SEA) and global consumption in 2017-20E, with a 5.5% CAGR, while domestic capacity lags. Indonesia has significant potential, with a large population, while polyolefin consumption per capita, at only 11KG in 2016, is 35%/67% lower than the SEA/China average. We believe robust demand growth and net import growth will enable domestic prices to achieve a premium to the region.

Two growth drivers: downstream integration & a second naphtha cracker

CAP has two growth drivers ahead; it has five projects commencing between 2018 and 2020, to enhance further downstream integration and capture downstream value-added margin in the product chain growth driver. The company will spend US$1.2bn on these projects (including c.US$450m preliminary capex for a second NCC). These developments would bring CAP's nameplate capacity to 4.2mntpa by 2020 (+27% vs. 2016 capacity). We believe it could achieve better margins following a higher degree of integration.

Fairly valued at premium valuation; risks

The current share price trades at 9.3x 18E EV/EBITDA and 3.4x 18E P/B; it is on a par with regional peers but a 91% premium on an asset multiple. Our TP of IDR25,620 is based on 10x EV/EBITDA using a Gordon Growth Model, and is at a 64% premium to its historical average. With heavy capex ahead, the FCF/EBITDA ratio will come off and hit negative FCF in 19E; we believe a premium to historical average on EV/EBITDA is generous. Upside risks: better product spreads and utilization rate; downside risks: lower product spreads, potential increase competition, operational risks and changes in regulations.

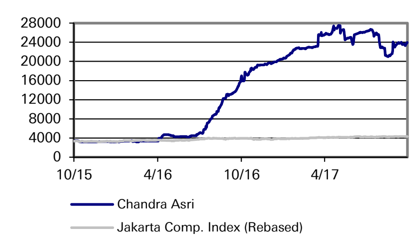
Forecasts And Ratios

Year End Dec 31	2015A	2016A	2017E	2018E	2019E
EBITDA (USDm)	143.0	498.7	607.8	634.3	584.2
DB EPS FD(USD)	0.01	0.09	0.11	0.12	0.11
DB EPS growth (%)	–	1,039.1	25.4	3.2	-9.5
Price/Book (x)	0.9	4.3	3.9	3.4	3.1
PER (x)	28.9	7.1	15.7	15.2	16.8
EV/EBITDA (x)	8.0	4.4	9.7	9.4	10.6

Source: Deutsche Bank estimates, company data

[1] DB EPS is fully diluted and excludes non-recurring items
[2] Multiples and yields calculations use average historical prices for past years and spot prices for current and future years, except P/B which uses

Price/price relative



Performance (%)	1m	3m	12m
Absolute	0.7	-7.5	53.3
Jakarta Comp. Index	1.3	1.8	9.9

Source: Deutsche Bank

Stock data

Market cap (IDRm)	84,152,655
Market cap (USDm)	6,231
Shares outstanding (m)	3,470.2
Major shareholders	–
Free float (%)	8
Avg daily value traded (USDm)	0.0

Source: Deutsche Bank

Model updated:17 October 2017

Running the numbers

Asia

Indonesia

Chemicals

Chandra Asri

Reuters: TPIA.JK Bloomberg: TPIA IJ

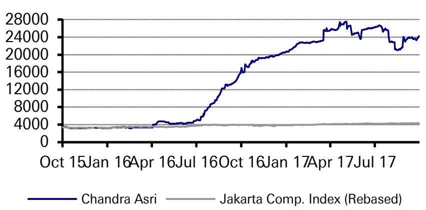
Hold

Price (17 Oct 17)	IDR 24,250
Target Price	IDR 25,620
52 Week range	IDR 15,918 - 27,535
Market Cap (m)	IDRm 84,152,655
	USDm 6,231

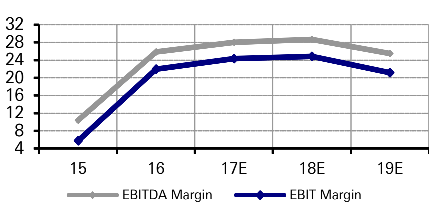
Company Profile

Chandra Asri is Indonesia's largest integrated petrochemical company. It produces various products including ethylene, propylene, polyethylene, polypropylene, styrene monomer and butadiene from plants located in Cilegon area of West Java

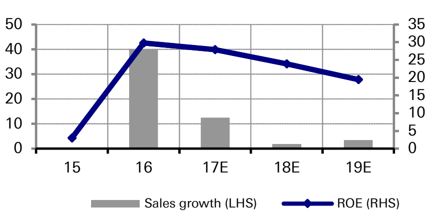
Price Performance



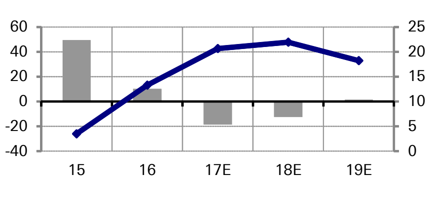
Margin Trends



Growth & Profitability



Solvency



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Fiscal year end 31-Dec	2015	2016	2017E	2018E	2019E
Financial Summary					
DB EPS (USD)	0.01	0.09	0.11	0.12	0.11
Reported EPS (USD)	0.01	0.09	0.11	0.12	0.11
DPS (USD)	0.00	0.05	0.06	0.06	0.05
BVPS (USD)	0.3	0.3	0.5	0.5	0.6
Weighted average shares (m)	3,287	3,287	3,349	3,470	3,470
Average market cap (USDm)	762	2,117	6,231	6,231	6,231
Enterprise value (USDm)	1,145	2,175	5,885	5,943	6,180
Valuation Metrics					
P/E (DB) (x)	28.9	7.1	15.7	15.2	16.8
P/E (Reported) (x)	28.9	7.1	15.7	15.2	16.8
P/BV (x)	0.91	4.34	3.87	3.41	3.12
FCF Yield (%)	nm	19.4	5.8	2.4	nm
Dividend Yield (%)	1.4	7.1	3.2	3.3	3.0
EV/Sales (x)	0.8	1.1	2.7	2.7	2.7
EV/EBITDA (x)	8.0	4.4	9.7	9.4	10.6
EV/EBIT (x)	14.4	5.1	11.1	10.8	12.8
Income Statement (USDm)					
Sales revenue	1,378	1,930	2,171	2,211	2,289
Gross profit	210	569	677	705	658
EBITDA	143	499	608	634	584
Depreciation	64	75	79	84	100
Amortisation	0	0	0	0	0
EBIT	79	424	529	550	484
Net interest income(expense)	-23	-32	-26	-25	-27
Associates/affiliates	-4	-6	-6	7	23
Exceptionals/extraordinaries	0	0	0	0	0
Other pre-tax income/(expense)	3	15	15	15	15
Profit before tax	56	401	512	548	496
Income tax expense	30	100	128	137	124
Minorities	0	0	0	0	0
Other post-tax income/(expense)	0	0	0	0	0
Net profit	26	300	383	410	371
DB adjustments (including dilution)	0	0	0	0	0
DB Net profit	26	300	383	410	371
Cash Flow (USDm)					
Cash flow from operations	105	476	512	503	464
Net Capex	-179	-65	-165	-353	-493
Free cash flow	-75	411	347	150	-29
Equity raised/(bought back)	0	0	247	0	0
Dividends paid	-5	-44	-155	-194	-201
Net inc/(dec) in borrowings	34	-151	2	-28	-34
Other investing/financing cash flows	-66	-14	5	7	5
Net cash flow	-111	202	446	-65	-259
Change in working capital	*0*	*0*	*0*	*0*	*0*
Balance Sheet (USDm)					
Cash and other liquid assets	110	309	755	689	431
Tangible fixed assets	1,308	1,317	1,403	1,672	2,064
Goodwill/intangible assets	0	0	0	0	0
Associates/investments	63	65	55	67	87
Other assets	382	439	386	447	430
Total assets	1,862	2,129	2,598	2,875	3,012
Interest bearing debt	548	425	458	462	459
Other liabilities	427	563	523	580	549
Total liabilities	976	988	981	1,042	1,009
Shareholders' equity	880	1,135	1,610	1,826	1,996
Minorities	7	7	7	7	8
Total shareholders' equity	887	1,142	1,617	1,833	2,004
Net debt	*439*	*116*	*-297*	*-228*	*29*
Key Company Metrics					
Sales growth (%)	nm	40.1	12.5	1.8	3.5
DB EPS growth (%)	na	1,039.1	25.4	3.2	-9.5
EBITDA Margin (%)	10.4	25.8	28.0	28.7	25.5
EBIT Margin (%)	5.8	22.0	24.4	24.9	21.1
Payout ratio (%)	39.9	50.0	50.0	50.0	50.0
ROE (%)	3.0	29.8	27.9	23.9	19.4
Capex/sales (%)	14.9	3.4	7.6	16.0	21.5
Capex/depreciation (x)	3.2	0.9	2.1	4.2	4.9
Net debt/equity (%)	49.5	10.1	-18.4	-12.4	1.4
Net interest cover (x)	3.5	13.3	20.6	21.9	18.2

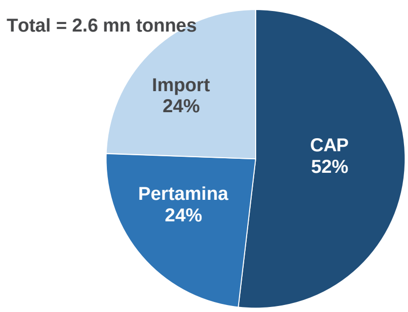
Source: Company data, Deutsche Bank estimates

Investment thesis

Outlook

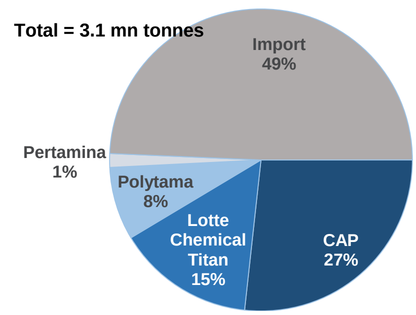
CAP is the largest petrochemical company in Indonesia, with 35% of the country's petrochemical capacity, and it operates the only naphtha cracker (NCC) there. Indonesia's market is in a structural shortage, relying on imports for c.50% of polyolefin consumption.

Figure 1: Indonesia olefins market supply in 2016



Source: Company data, Nexant, Deutsche Bank

Figure 2: Indonesia polyolefins market supply in 2016



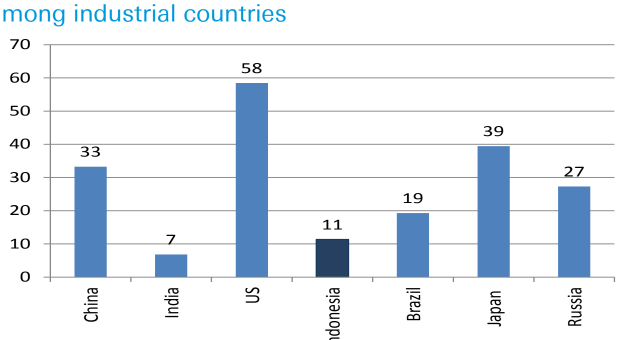
Source: Company data, Nexant, Deutsche Bank

With Indonesia the 14th largest country in terms of industrial output and the 4th most populous, we believe strong petrochemical demand growth will continue, with robust GDP growth and the government shifting policy towards infrastructure and direct investment. However, we see a demanding valuation on the current CAP share price as overshadowing the positives; thus, we rate the shares as Hold.

Strong demand growth in a premium market

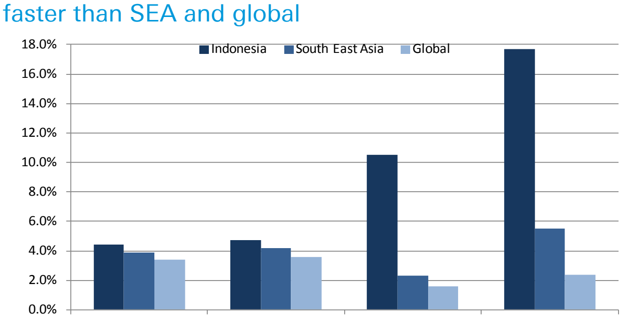
Indonesia's polyolefin consumption is set to outgrow South East Asian (SEA) and global consumption in 2017-20E, with a 5.5% CAGR, while domestic capacity lags. Indonesia has significant potential, with a large population but polyolefin consumption per capita at only 11KG in 2016, 35%/67% lower than the SEA/China average. We believe robust demand growth and net import growth will enable domestic prices to achieve a premium to the region.

Figure 3: The lowest polyolefin consumption (kg/capita) among industrial countries



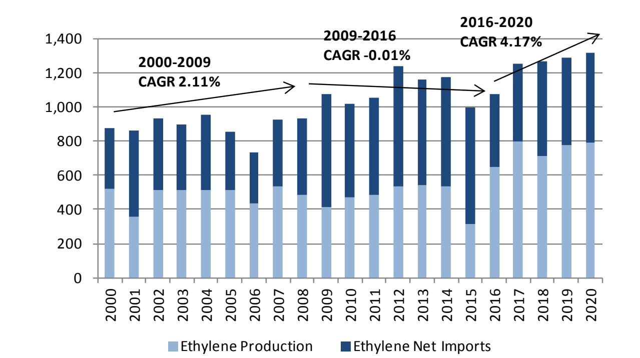
Source: Nexant, Deutsche Bank

Figure 4: Indonesian petrochemical demand growth is faster than SEA and global



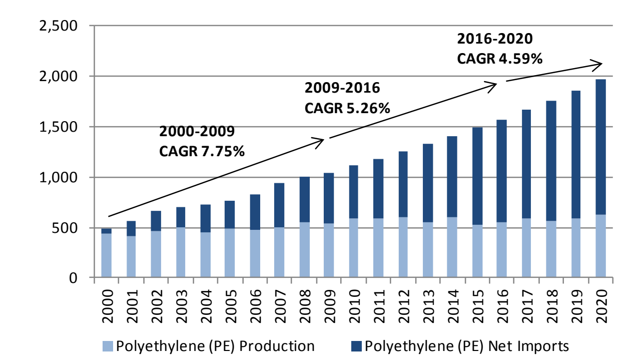
Source: Nexant, Deutsche Bank

Figure 5: Indonesia ethylene demand ('000 tonnes)



Source: IHS, Deutsche Bank estimates

Figure 6: Indonesia polyethylene demand ('000 tonnes)

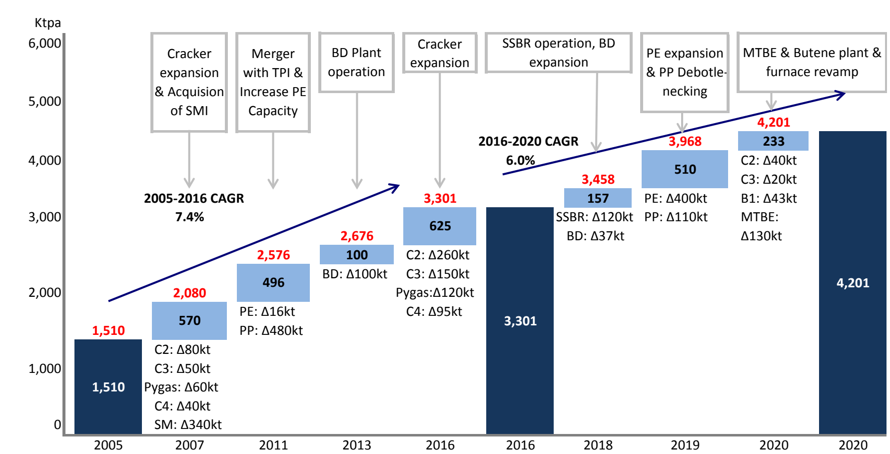


Source: IHS, Deutsche Bank estimates

Capacity and margin expansions

CAP has five projects commencing between 2018 and 2020, to enhance downstream integration and capture downstream value-added margin in the product chain growth driver. The company will spend US$1.2bn on these projects (including c.US$450m preliminary capex for a second NCC). These developments will bring CAP's nameplate capacity to 4.2mntpa by 2020E (+27% vs. 2016 capacity). We believe it could achieve better margins following a higher degree of integration.

Figure 7: Roadmap to success – Chandra Asri's capacity expansion in 2005-20E



Source: Company data, Deutsche Bank; Note: C2 – ethylene, C3 – propylene, C4 – mixed C4

Risks

Upside key risks include better than expected product prices & spreads, sooner-than-expected commissioning of expansion capacity, better-than-expected utilization rate, and higher-than-expected divide payout.

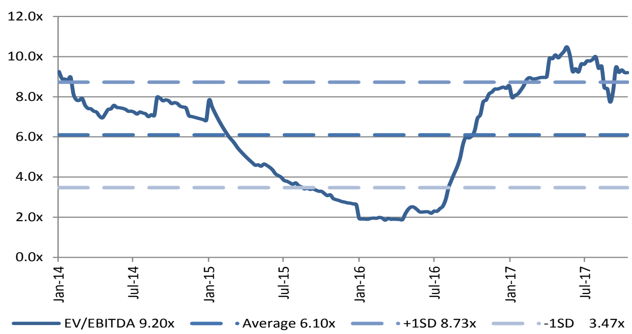
Downside key risks include volatility in product prices & spreads, expansion execution, operational risks, potential increase/decrease in competitions, economy risk, dividend payout, and changes in regulations.

Valuation

Rich valuation overshadowing positives

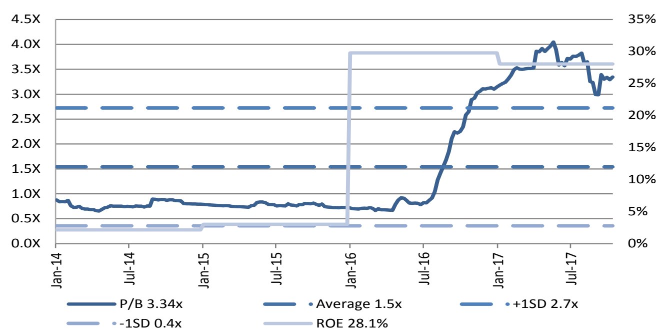
CAP's share price has surged c.50% in the past 12 months; the current share price implies a 9.2x forward EV/EBITDA and 3.3x forward P/B. The current valuation is trading at a c.50% and c.120% premium to historical average EV/EBITDA and P/B, respectively, and above +1 SD of historical average.

Figure 8: 12-month forward EV/EBITDA



Source: Company data, Bloomberg Finance L.P., Deutsche Bank estimates

Figure 9: 12-month forward P/B



Source: Company data, Bloomberg Finance L.P., Deutsche Bank estimates

Conversely, the company is trading at par/a 5% discount to South East Asian/North Asian peer averages in terms of 2018E EV/EBITDA, while it is 96%/ 85% higher in terms of 2018E P/B. In comparison with Indonesian stocks specifically, it is trading at a 41% discount to the average of stocks with a market cap of >US5bn, and this is justified because the FCF yield is at a 43% discount to peers' average.

We derive CAP's target price of IDR25,620 by applying 10x EV/EBITDA to our 2017-18E EBITDA based on a Gordon Growth Model. This is in line with the Asian petrochemical peer average of 10x EV/EBITDA. However, it is at a c.64% premium to its historical average of 6.1x. We believe our target EV/EBITDA valuation is generous, given the company's weakening FCF/EBITDA ratio due to heavier capex ahead which would turn CAP's FCF negative in 2019E. Our target price implies 3.5x 2018E P/B, representing a c.95% premium to peers with a higher ROE (c.70% higher than 2014-16 historical average of 12%).

Figure 10: EV/EBITDA assumption

EV/EBITDA: [(FCFF/EBITDA)*(1+g)]/ [WACC-g]	**2017E**
FCF (US$mn)	346.6
WACC	9.0%
Terminal growth (g)	3.0%
ROIC	30.5%
EBITDA (US$mn)	607.83
EV/EBITDA target (x)	**10x**

Source: Deutsche Bank estimates

Figure 11: Target price valuation

Price target valuation		2017E	2018E	**2017-18E**
EBITDA	US$mn	608	634	621
Target EV/EBITDA		10x	10x	10x
Enterprise value	**US$mn**	**5,984**	**6,244**	**6,114**
Net Debt/ (Cash)	US$mn	-286	-217	-252
MI	US$mn	7	7	7
Equity value	US$mn	6,263	6,454	6,358
No. of Existing Shares (mn)		3,470	3,470	3,470
Target Price	**US$**			**1.83**
	IDR			**25,620**

Source: Deutsche Bank estimates

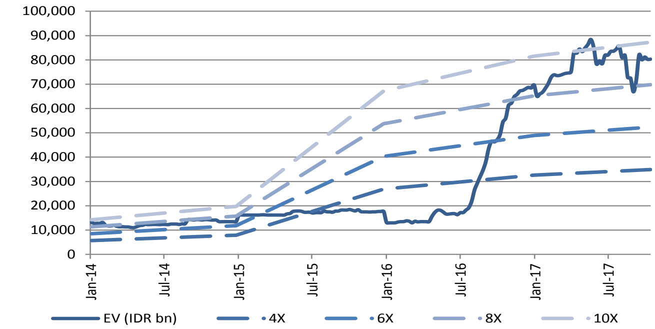
Figure 12: Target price implied valuation

TP Implied Valuation	**2017E**	**2018E**	2017-18E
P/E	16.7x	15.5x	16.1x
P/B	4.0x	3.5x	3.7x
EV/EBITDA	10.1x	9.6x	9.8x
EV/Sales	2.82x	2.76x	2.8x
ROIC	30.5%	28.0%	29%
ROE	27.9%	23.9%	26%
EPS (IDR/shr)	1,536	1,654	1,595
DPS (IDR/shr)	768	827	798

Source: Deutsche Bank estimates

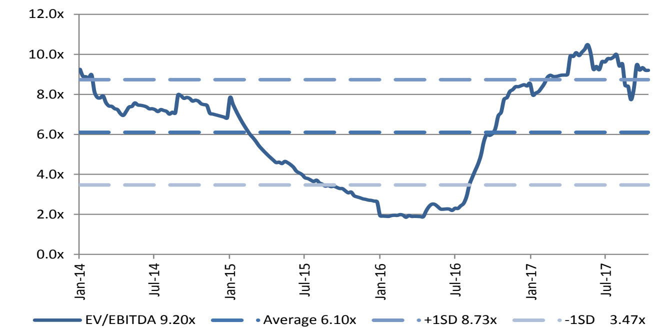
Valuation Charts

Figure 13: 12-month forward EV/EBITDA band



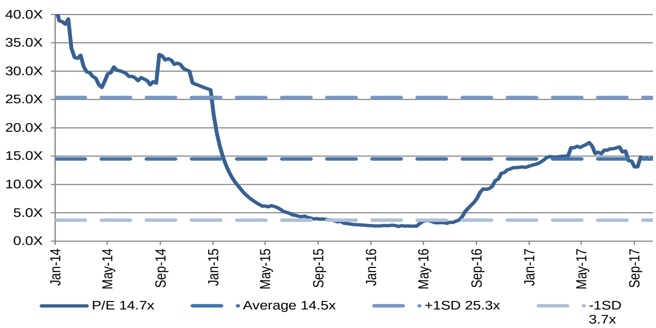
Source: Company data, Bloomberg Finance L.P., Deutsche Bank estimates

Figure 14: 12-month forward EV/EBITDA



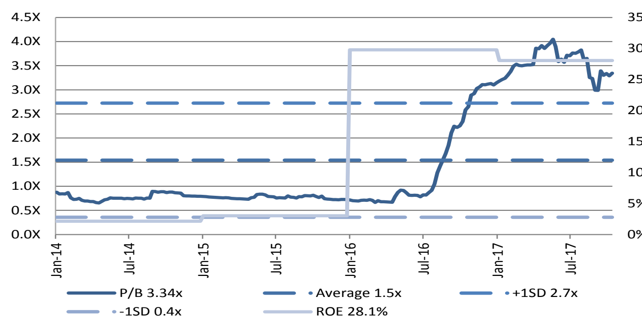
Source: Company data, Bloomberg Finance L.P., Deutsche Bank estimates

Figure 15: 12-month forward P/E



Source: Company data, Bloomberg Finance L.P., Deutsche Bank estimates

Figure 16: 12-month forward P/B



Source: Company data, Bloomberg Finance L.P., Deutsche Bank estimates

Consensus

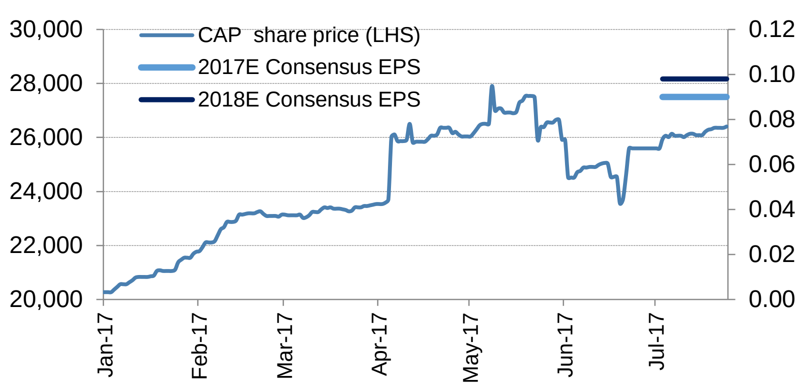
Our EPS estimates in 2017/18E are above consensus by 14%/19%, and we believe this is mainly due to our constructive view on the chemicals cycle particularly, with non-PE spreads continuing to do well within petrochemical. On the other hand, CAP is not well covered by the market, hence, the consensus estimates may not truly reflect the fundamentals of the company.

Figure 17: DB estimates vs consensus

	2017E	*2018E*
DB estimates	0.114	0.118
Consensus estimates	*0.100*	*0.099*
Variance (%)	14%	19%

Source: Bloomberg Finance LP, Deutsche Bank estimates

Figure 18: Share price vs. consensus EPS



Source: Bloomberg Finance LP, Deutsche Bank

Petrochemical & Indonesian comps

Figure 19: Global petrochemical and Indonesian comps

Name	Reuters Ticker	DB Rating	Trading Ccy	16-Oct Price	Mkt Cap (USD mn)	P/E (x)		P/B (x)		EV/EBITDA (x)		ROE (%)		Dvd yield (%)		FCF Yield (%)	
						FY17E	FY18E	FY17E	FY18E	FY17E	FY18E	FY17E	FY18E	FY17E	FY18E	FY17E	FY18E
Chandra Asri	TPIA.JK	Hold	IDR	23,975	6,171	15.5	15.0	3.7	3.4	9.6	9.3	27.9	23.9	3.2	3.3	5.8	2.4
SEA Chemical																	
Reliance Industries	RELI.BO	Buy	INR	874.60	87,545	16.8	14.0	1.9	1.7	12.3	9.9	12.2	13.0	0.7	0.8	NM	2.5
Siam Cement	SCC.BK	Buy	THB	498.00	18,049	11.1	10.7	2.2	2.0	8.2	8.2	21.1	19.6	4.1	4.2	2.4	NM
Petronas Chemicals	PCGB.KL	NR	MYR	7.33	13,885	15.9	15.9	2.0	1.9	8.7	8.6	12.9	12.5	3.1	3.1	9.1	NA
PTTGC	PTTGC.BK	Hold	THB	82.25	11,060	11.0	10.7	1.4	1.3	6.9	6.8	13.2	12.7	2.4	2.3	8.8	2.8
Indorama	IVL.BK	NR	THB	45.25	7,129	14.2	12.7	1.9	1.6	7.5	6.1	13.7	14.4	2.5	2.8	10.6	6.6
Lotte Chemical Titan	LOTT.KL	NR	MYR	5.35	2,879	11.2	9.3	0.9	0.9	6.3	4.9	9.8	10.2	3.0	4.1	NA	NA
Weighted average						**15.2**	**13.4**	**1.9**	**1.7**	**10.6**	**9.0**	**13.5**	**13.8**	**1.7**	**1.7**	**6.9**	**2.8**
North Asia Chemical																	
Formosa Petrochemical	6505.TW	NR	TWD	105.50	33,272	15.1	18.1	3.1	3.2	9.5	10.9	19.6	17.0	5.0	4.3	7.1	6.9
LG Chem	051910.KS	NR	KRW	373,000	23,278	13.3	13.0	1.8	1.6	6.4	6.2	13.8	12.6	1.4	1.5	3.3	2.0
Nan Ya Plastics	1303.TW	NR	TWD	75.40	19,798	14.6	15.1	1.7	1.7	15.5	15.2	11.0	10.8	5.1	4.8	7.3	1.5
Formosa Plastics	1301.TW	NR	TWD	93.50	19,705	13.7	14.3	1.8	1.8	19.7	19.5	12.9	12.1	5.3	5.2	6.1	6.0
Formosa C&F	1326.TW	NR	TWD	94.40	18,318	12.5	12.9	1.7	1.6	10.5	10.6	12.0	11.6	5.8	5.6	4.4	3.8
SK Innovation	096770.KS	NR	KRW	208,000	17,003	8.4	8.3	1.0	1.0	5.1	5.0	13.0	12.1	3.6	3.7	12.7	6.5
Lotte Chemical	011170.KS	NR	KRW	402,500	12,196	6.1	6.4	1.2	1.0	4.1	4.1	21.6	17.6	1.1	1.1	11.7	9.5
SPC - H	0338.HK	Buy	HKD	4.81	9,041	7.6	6.6	1.6	1.4	5.6	4.7	21.9	22.5	5.9	6.9	13.8	11.8
SPC - A	600688.SS	Sell	CNY	6.21	9,041	11.6	10.1	2.4	2.1	5.6	4.7	21.9	22.5	3.9	4.5	9.0	7.7
Hanwha Chemical	009830.KS	NR	KRW	34,050	4,961	5.6	6.3	0.9	0.8	7.0	7.0	17.3	13.6	1.1	1.1	2.8	3.2
Kumho Petrochemical	011780.KS	NR	KRW	67,900	1,829	11.9	10.8	1.2	1.1	8.6	7.8	10.7	10.6	1.4	1.5	7.8	12.7
TSRC	2103.TW	NR	TWD	33.70	921	27.0	15.0	1.8	1.7	13.6	10.3	5.7	9.4	3.5	5.4	NA	NA
OUCC	1710.TW	NR	TWD	25.25	740	16.9	16.4	1.5	1.4	10.1	8.1	8.6	11.8	2.9	2.6	NA	NA
Hansol Chemical	014680.KS	NR	KRW	71,200	711	13.3	10.8	2.4	2.1	8.7	7.7	19.8	20.9	1.5	1.7	NA	NA
Weighted average						**12.2**	**12.7**	**1.9**	**1.8**	**9.8**	**9.8**	**15.7**	**14.4**	**4.0**	**3.9**	**7.4**	**5.6**
Global Refining & Chemical																	
DowDuPont	DWDP.N	Buy	USD	70.93	165,696	21.3	17.7	4.0	4.4	10.1	8.9	20.2	23.4	2.1	2.5		
BASF	BASFn.DE	Buy	EUR	89.03	96,802	15.4	14.2	2.4	2.2	8.6	8.0	15.9	16.1	3.7	4.0	5.2	6.3
SABIC (SAR)	2010.SE	Hold	SAR	98.30	78,632	15.3	14.8	1.7	1.5	7.0	6.4	11.6	10.9	4.1	4.1	11.6	13.3
LyondellBasell	LYB.N	Hold	USD	97.70	41,034	10.1	11.3	5.6	4.4	6.8	7.5	60.7	42.8	3.5	3.9	6.8	6.3
PPG	PPG.N	Hold	USD	113.17	28,895	18.9	16.8	5.6	6.0	12.0	11.5	30.9	34.4	1.5	1.7	5.0	5.9
Covestro	1COV.DE	Buy	EUR	72.09	17,281	9.3	10.0	2.8	2.4	5.3	5.5	33.1	25.6	3.5	3.7	8.6	7.9
Industries Qatar (QAR)	IQCD.QA	Buy	QAR	95.50	15,480	14.9	13.5	1.5	1.4	29.8	23.5	10.9	10.8	4.2	4.2	2.4	1.8
Solvay	SOLB.BR	Sell	EUR	126.05	15,403	15.7	18.3	1.3	1.2	9.4	8.1	8.4	6.9	2.9	3.0	6.3	6.5
Celanese	CE.N	Buy	USD	107.10	14,667	14.6	13.0	5.1	5.4	10.3	9.1	37.0	39.2	1.7	2.0	6.3	7.2
Eastman	EMN.N	Buy	USD	87.87	12,836	12.4	10.8	2.6	2.4	8.9	8.2	21.6	23.0	2.3	2.4	7.4	9.1
Westlake Chemical	WLK.N	NR	USD	84.24	10,872	16.5	14.6	2.0	1.7	8.3	7.7	16.3	15.1	0.9	1.0	3.7	NA
Chemours	CC.N	NR	USD	57.01	10,536	16.0	11.8	12.0	6.2	9.3	7.6	141.4	68.7	0.2	0.2	NA	NA
Arkema	AKE.PA	Buy	EUR	103.35	9,264	15.8	13.5	1.7	1.6	7.4	6.6	11.3	12.4	2.4	2.7	4.7	5.3
Lanxess	LXSG.DE	Buy	EUR	66.57	7,213	38.4	15.4	2.3	2.1	9.1	8.5	6.1	14.2	1.2	1.7	1.5	9.2
Olin	OLN.N	NR	USD	35.46	5,896	31.6	15.4	2.2	2.1	9.6	7.6	7.6	7.9	2.3	2.3	NA	NA
Methanex	MEOH.N	NR	USD	50.00	4,284	12.6	16.4	2.7	2.5	7.3	8.8	0.2	11.2	2.4	2.5	NA	NA
Dialog	DLGS.DE	Hold	EUR	39.80	3,505	23.2	20.7	2.8	2.5	10.4	9.5	12.9	13.0	0.0	0.0	5.4	5.5
Tronox	TROX.N	NR	USD	26.83	3,213	NA	19.9	4.1	1.8	13.4	6.5	NA	NA	0.7	0.7	NA	NA
Kronos	KRO.N	Hold	USD	25.76	2,986	122.8	NA	8.6	NA	34.4	NA	6.6	NA	2.3	NA	1.0	
Synthomer	SYNTS.L	Buy	GBP	484.70	2,190	19.4	16.3	4.5	3.9	12.6	11.2	24.4	25.4	2.5	2.7	0.0	0.0
Kraton	KRA.N	NR	USD	41.96	1,310	18.8	12.3	2.2	1.7	8.5	7.7	12.2	12.8	NA	NA	NA	NA
Weighted average						**17.8**	**15.2**	**3.4**	**3.3**	**9.6**	**8.6**	**23.6**	**22.1**	**2.8**	**3.1**	**6.8**	**7.9**
Indonesian comps (Market cap >$5bn)																	
BCA	BBCA.JK	Buy	IDR	20,725	37,853	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	0.0
HM Sampoerna	HMSP.JK	Buy	IDR	3,850	33,175	34.1	30.2	12.5	11.5	26.2	23.0	37.5	39.7	2.6	2.6	2.8	2.6
Telkom	TLKM.JK	Buy	IDR	4,450	32,526	18.9	18.2	3.9	3.6	6.6	6.2	23.5	20.7	3.1	3.7	7.1	7.0
BRI	BBRI.JK	Buy	IDR	15,350	28,052	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	0.0
Unilever Indo	UNVR.JK	Hold	IDR	49,200	27,809	48.0	42.0	68.9	59.3	34.0	29.8	154.1	151.7	1.9	2.1	2.2	2.3
Astra Intl	ASII.JK	Buy	IDR	8,375	25,117	16.3	14.7	2.7	2.4	9.1	9.6	17.6	17.5	1.8	2.3	5.1	5.3
Bank Mandiri	BMRI.JK	Buy	IDR	6,925	23,940	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	0.0
BNI	BBNI.JK	Buy	IDR	7,525	10,396	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	0.0
United Tractors	UNTR.JK	Buy	IDR	34,450	9,519	18.9	14.1	2.8	2.5	8.3	6.6	15.8	18.8	2.1	2.8	2.9	7.1
Gudang Garam	GGRM.JK	Buy	IDR	64,475	9,190	16.9	15.3	3.0	2.6	13.1	12.0	18.1	18.3	4.0	2.4	-2.3	2.1
ICBP	ICBP.JK	Buy	IDR	8,700	7,516	25.8	23.0	5.2	4.6	16.1	14.3	21.1	21.1	1.8	1.9	2.5	3.1
Indofood	INDF.JK	Buy	IDR	8,325	5,415	15.8	14.7	2.3	2.1	6.9	6.3	15.3	15.0	2.3	2.5	3.8	3.5
Indocement	INTP.JK	Buy	IDR	19,475	5,311	25.6	24.6	2.8	2.6	15.6	14.6	10.8	11.0	3.8	1.1	4.3	4.2
Weighted average						**27.3**	**24.4**	**17.0**	**14.9**	**17.4**	**15.6**	**47.3**	**46.9**	**2.5**	**2.6**	**3.7**	**4.3**

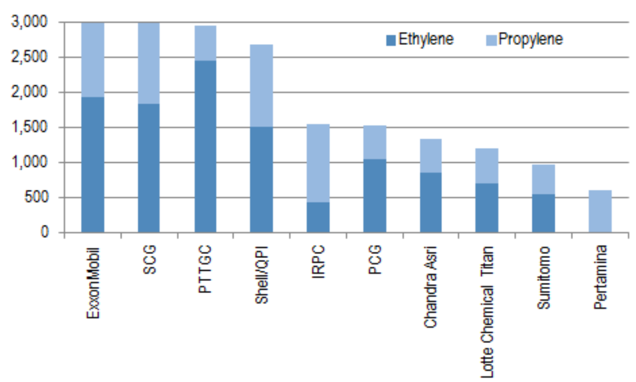
Source: Bloomberg Finance LP, Deutsche Bank estimates; Note: Bloomberg consensus estimates for NR (Non-rated) companies

Leveraging on a market in structural shortage

No.1 petrochemical company in Indonesia; No.7 in SEA

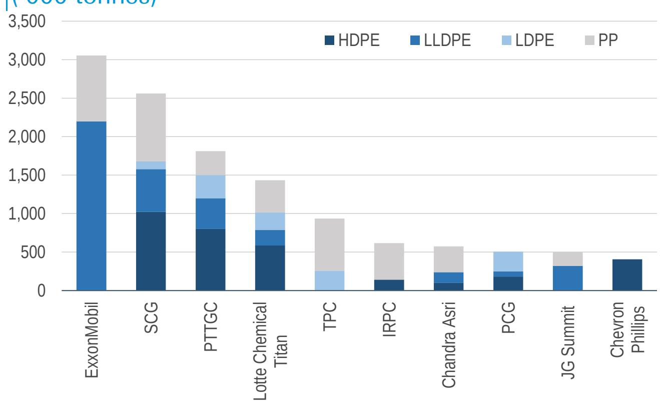
CAP is the largest and most diversified petrochemical company in Indonesia. Its petrochemical plants mainly operate naphtha crackers (NCCs) with an in-take capacity of 2,450ktpa, resulting in ethylene output of 860ktpa, propylene output of 470ktpa, Py-Gas output of 400ktpa, and Crude C4 output of 315ktpa (as of 2016). The company accounted for 35% of Indonesia's total petrochemical capacity as of 2016. Moreover, CAP ranked No.7 in terms of both olefin capacity (4.8% of SEA Total) and polyolefin capacity (4.2% of SEA Total) in South East Asia (SEA) in 2016.

Figure 20: South East Asia olefin capacity in 2016 ('000 tonnes)



Source: Company data, Nexant, Deutsche Bank

Figure 21: South East Asia polyolefin capacity in 2016 ('000 tonnes)



Source: Company data, Nexant, Deutsche Bank

Figure 22: Indonesia petrochemical industry landscape (2016)

Products (Ktpa)	Chandra Asri	Lotte Chemical Titan	Pertamina	Polytama	Asahimas Chemical	Sulfindo	TPPI	Others	Total
Ethylene	860								860
Propylene	470		608						1,078
LLDPE	200	200							400
HDPE	136	250							386
Polypropylene	480		45	240					765
Ethylene Dichloride (EDC)					644	370			1,014
Vinyl Chloride Monomer (VCM)					734	130			864
Polyvinyl Chloride (PVC)					507	95		202	804
Ethylene Oxide								240	240
Ethylene Glycol								220	220
Acrylic Acid								140	140
Butanol								20	20
Ethylhexanol								140	140
Py-gas	400								400
Crude C4	315								315
Butadiene	100								100
Benzene			125				400		525
ParaXylene			298				540		838
Styrene Monomer	340								340
Total Capacity of Producer	**3,301**	**450**	**1,076**	**240**	**1,885**	**595**	**940**	**962**	**9,449**

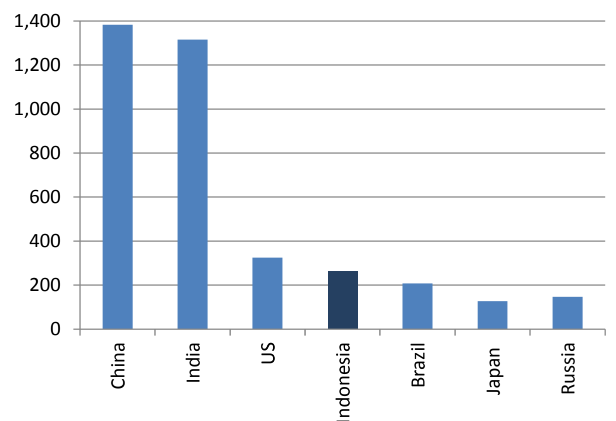
Source: Company data, Nexant, Deutsche Bank

Indonesia strong growth potential from low-base & heavy import reliance

Indonesia is the fourth most populous country in the world – with a young population. At the moment, it still has the lowest polyolefin consumption per capita among industrial countries.

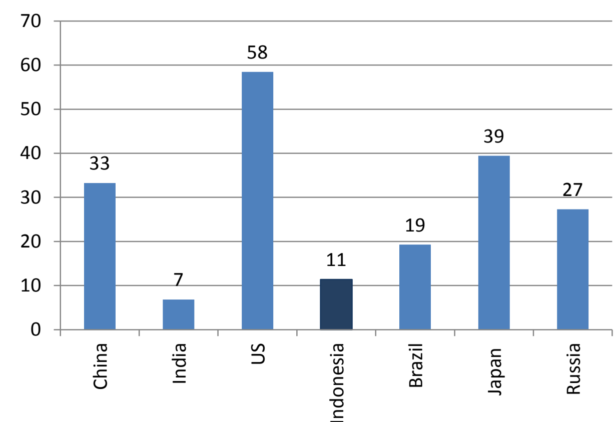
In fact, Indonesia's existing capacity has not been able to cope with rising demand, which leads to the importing of petrochemicals. Imports currently account for half of Indonesia's supply of both polyethylene and polypropylene, indicating that Indonesia is an underserved market that has space for petrochemical expansion in the near future to serve the rising demand. The same conditions are also observed in the ethylene segment, where Indonesian capacity in 2016 was among the lowest in the ASEAN region. CAP is currently the sole producer of ethylene in Indonesia.

Figure 23: Indonesia is the 4th most-populous country in the world at c.250m people…(mn of population)



Source: Nexant, Deutsche Bank

Figure 24: …yet still has among the lowest polyolefin consumption (kg/capita) of industrial countries

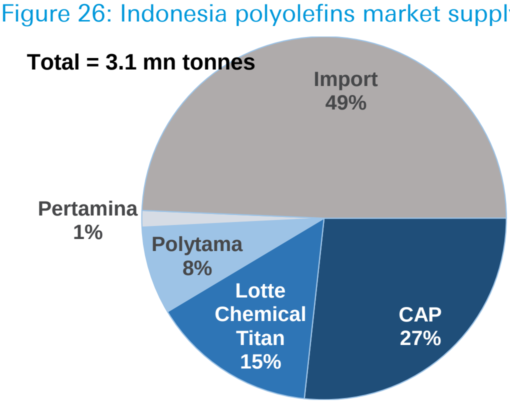


Source: Nexant, Deutsche Bank

Figure 25: Indonesia olefins market supply in 2016

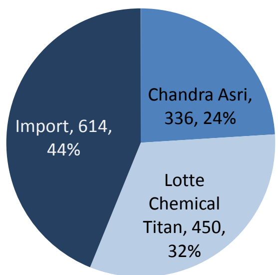
Source: Company data, Nexant, Deutsche Bank

Figure 26: Indonesia polyolefins market supply in 2016



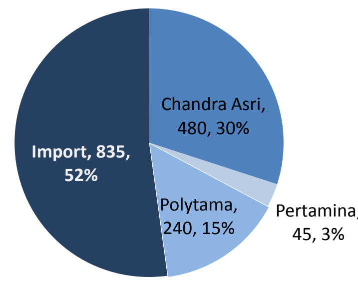
Source: Company data, Nexant, Deutsche Bank

Figure 27: Indonesia imported 44% of polyethylene supply in 2016



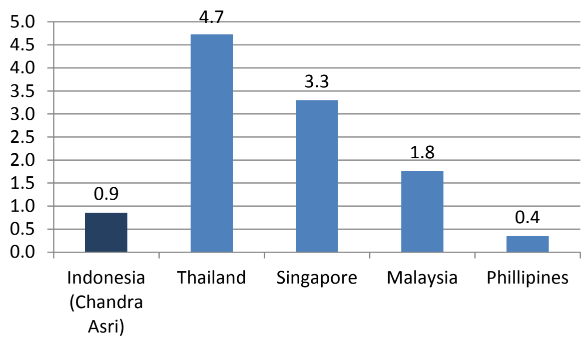
Source: Company data, Nexant, Deutsche Bank

Figure 28: Indonesia imported 52% of polypropylene supply in 2016



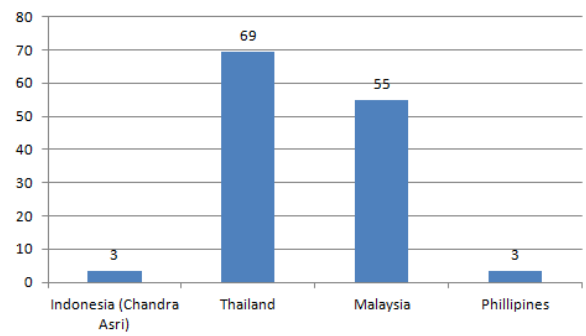
Source: Company data, Nexant, Deutsche Bank

Figure 29: Indonesian ethylene capacity is 1/3-1/5 that of major ASEAN peers (mntpa)…



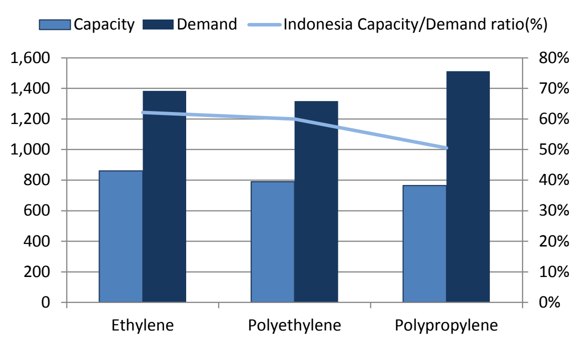
Source: Company data, Nexant, Deutsche Bank

Figure 30: …and is still the lowest in terms of ratio of ethylene capacity/capita at c.3kg/person p.a.



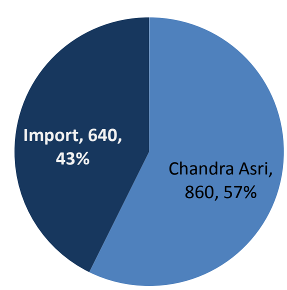
Source: Company data, Nexant, Deutsche Bank

Figure 31: Local output can only fulfil 50%-60% of annual demand ('000 tonnes)



Source: Nexant, Deutsche Bank

Figure 32: Indonesia imported 43% of ethylene consumption in 2016

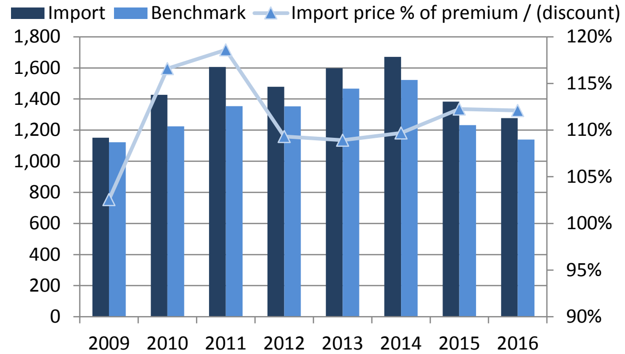


Source: Nexant, Deutsche Bank

End-product price premium in Indonesia

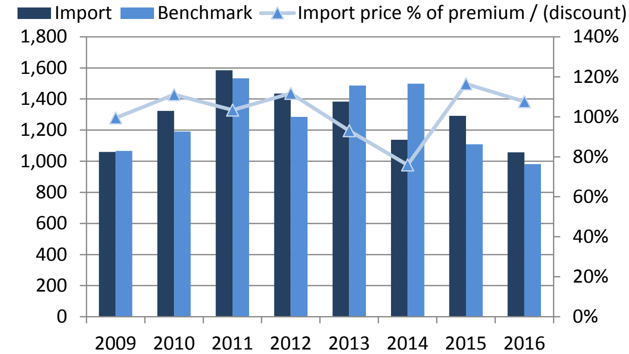
Given Indonesia relies heavily on imports to meet the demand for petrochemicals, it is no surprise that the imported price has enjoyed a premium versus the benchmark price, especially for certain products such as polyethylene. At the same time, the premium also appears to rise during the cycle when demand is rising, supply is tight and the sector is enjoying a good spread, as seen in the past few years. Also, CAP has achieved a higher premium than the country's average in the past.

Figure 33: In 2009-16, the polyethylene import price held an 11% premium over the benchmark price (US$/ton)



Source: Nexant, Deutsche Bank

Figure 34: In 2009-16, the polypropylene import price held a 2% premium over the benchmark price (US$/ton)



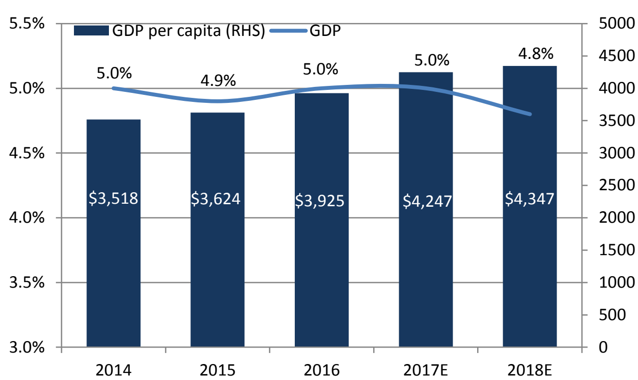
Source: Nexant, Deutsche Bank

Policy shift spurs petrochemicals consumptions growth

GDP growth driving strong petrochemical demand

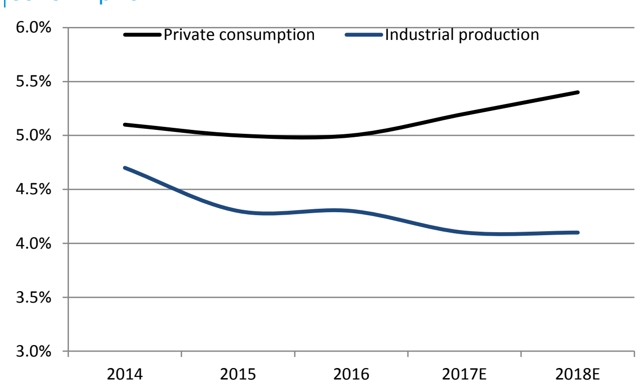
Indonesia's GDP growth of around 5% remains one of the highest among large population countries in the world, not far behind India's 7% and China's 6%. This translates into GDP per capita reaching US$4,300 in 2018E and is equal to a 5.4% CAGR in 2014-18E. Equally, private consumption also shows robust growth in the 5.0%-5.4% range, complemented by industrial production growth of 4.1%-4.7% in the same period.

Figure 35: Rising GDP per capita (US$) and 5% growth of real GDP



Source: Indonesia Central Bureau of Statistics, Deutsche Bank estimates

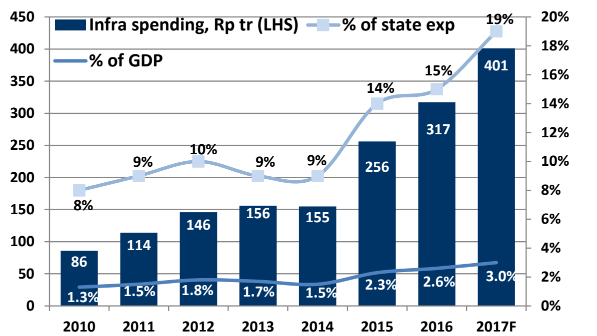
Figure 36: Stable growth for industrial production and consumption



Source: Indonesia Central Bureau of Statistics, Deutsche Bank estimates

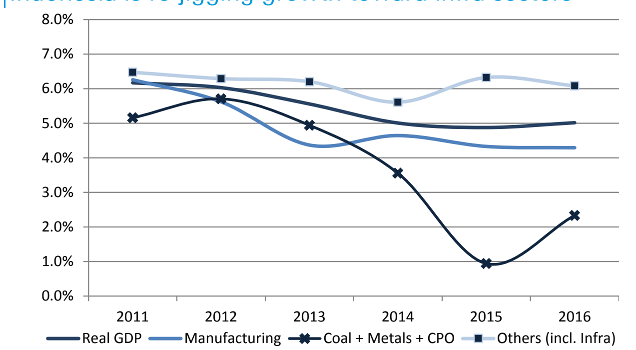
We believe that this growth profile will provide a stable base to drive robust petrochemical demand in Indonesia going forward. The GDP growth has also reflected the transition of Indonesia's economy from being commodity-dependent to being more diversified – which includes infrastructure and manufacturing – and this has gained a more intense pace over the past three years. The roadmap laid out by the government for spending heavily on infrastructure will eventually translate into better connectivity via road access as well as port development, which is a common prerequisite for any country planning to develop its manufacturing industry.

Figure 37: Infra spending (Rp tr) by government



Source: Ministry of Finance of the Republic of Indonesia, Deutsche Bank estimates

Figure 38: With commodities' growth slumping, Indonesia is re-jigging growth toward infra sectors

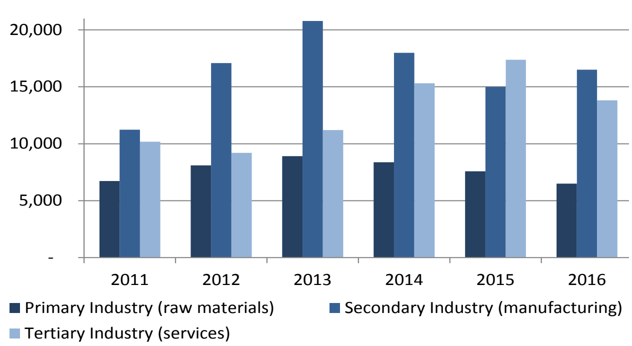


Source: Indonesia Central Bureau of Statistics, Deutsche Bank

We believe that the shift to manufacturing will benefit the petrochemical sector in Indonesia. The reemergence of secondary industry is not surprising given that the decline in commodities has made it necessary for Indonesia to rely on other industries to sustain its economic growth. On the other hand, Indonesia is re-jigging growth to the secondary and tertiary sectors, hence the need for the infrastructure and petrochemical sector expansion to support such a shift.

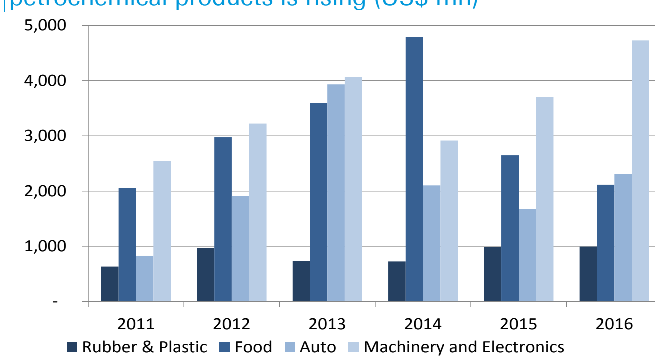
Encouragingly, this is manifest in the form of rising investment (both FDI and DDI) in the manufacturing sector, which outpaced the primary and tertiary sectors in 2016. Within secondary industry, sectors that are users of petrochemical products, i.e. materials used in packaging, tires and component processing, show a rising investment trend over the past six years.

Figure 39: Secondary industry investment (FDI+DDI) in 2016, outpacing primary and tertiary (US$ mn)



Source: Investment Coordinating Board of the Republic of Indonesia, Deutsche Bank

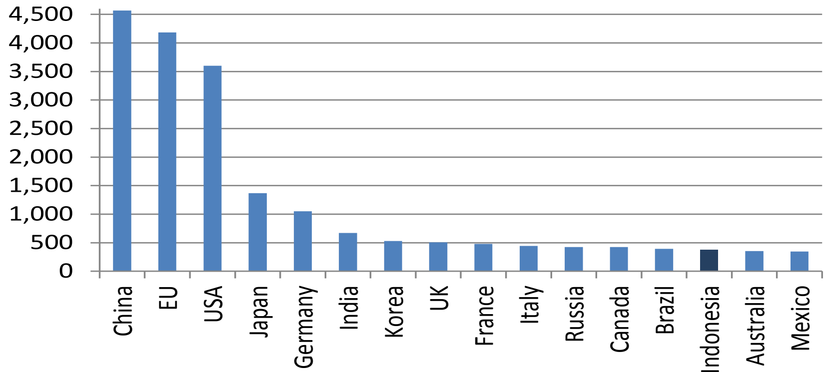
Figure 40: Investment in sectors related to proxies for petrochemical products is rising (US$ mn)



Source: Investment Coordinating Board of the Republic of Indonesia, Deutsche Bank

The investment is reflected in Indonesia's global standing within the top 15 countries in terms of industrial output in 2016. The ramp-up of infrastructure by the government and manufacturing investment by the private sector should bode well for demand for petrochemicals in Indonesia.

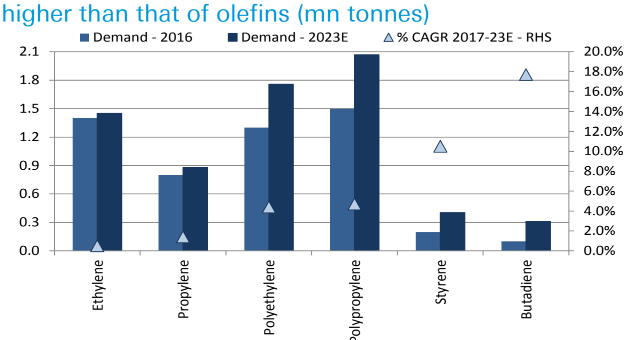
Figure 41: Indonesia ranked 14th for industrial output in 2016 (US$ bn)



Source: International Monetary Fund, CIA World Factbook, Deutsche Bank

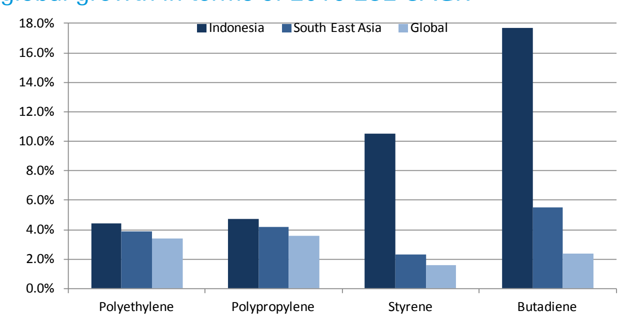
The translation of industrial output into petrochemical demand will be reflected in faster growth for polyethylene, polypropylene, styrene and butadiene demand in terms of the 2016-23E CAGR, which is faster than South East Asian and global growth, given that it starts from a lower base.

Figure 42: Polyolefin demand growth in Indonesia will be higher than that of olefins (mn tonnes)



Source: Nexant, Deutsche Bank

Figure 43: Indonesian demand is faster than SEA and global growth in terms of 2016-23E CAGR

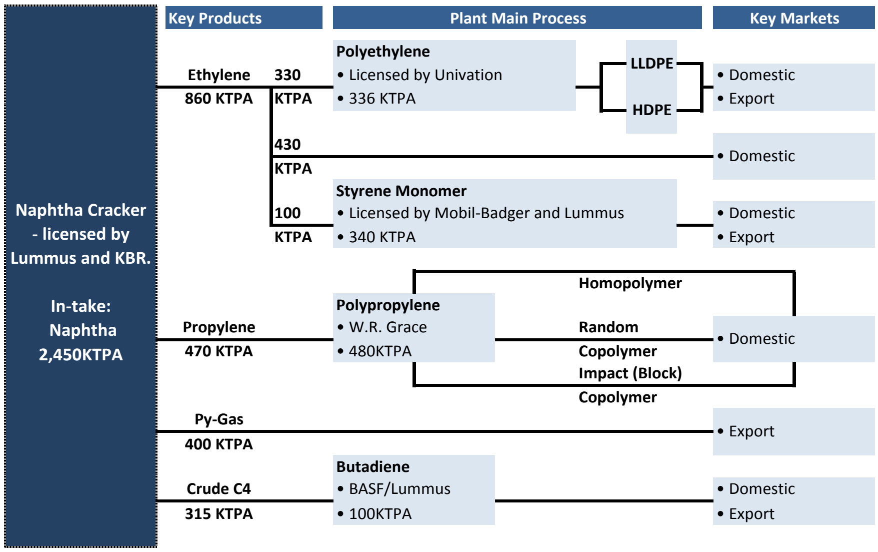


Source: Nexant, Deutsche Bank

CAP meeting domestic consumption growth

Indonesia remains CAP's key market, accounting for 75% of sales in 2016. Seven of its 10 top customers are based in the domestic market and they accounted for 30% of revenue last year. The other 25% of sales are to clients located overseas, with most based in Asia, including in Japan, Korea, Singapore, Thailand and Malaysia. CAP benefits from its proximity to domestic customers, connected by a pipeline infrastructure. Half of CAP's ethylene output is sold directly to local customers, while the other 330ktpa and 100ktpa are dedicated to polyethylene and styrene monomer production, respectively. Propylene output is entirely dedicated to polypropylene (480ktpa) production that is sold in the domestic market.

Figure 44: Chandra Asri product flow chart (2016)



Source: Company data, Deutsche Bank

PT Sarana Kimindo Intiplas (SKI) and PT Akino Wahanamulia (AW) serve as CAP's sales agents for products' distribution in Indonesia. Most of CAP's customers are from Indonesia. CAP's top 10 customers represented 43.5% of its total revenues in 2016.

Figure 45: Top 10 customers

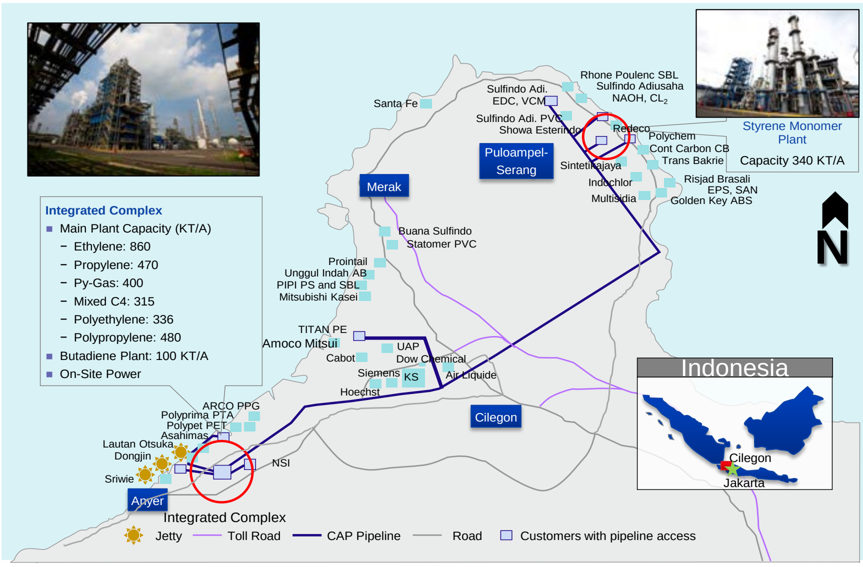
Customer	Products	Percentage of Net Revenue (%)	Customer Since	Location
Customer1	Polyethylene, polypropylene	7.4	1995	Indonesia
Customer2	Ethylene, propylene and styrene monomer	5.1	2002	Japan
Customer3	Styrene monomer and butadiene	5.1	2004	Indonesia
Customer4	Polyethylene, polypropylene	4.5	1995	Indonesia
Customer5	Ethylene	4.5	1995	Indonesia
Customer6	Ethylene	4.1	2007	Indonesia
Customer7	Butadiene, raffinate, styrene monomer, C4	3.9	2002	Singapore
Customer8	Pygas	3.7	2011	Thailand
Customer9	Propylene	2.8	2011	Indonesia
Customer10	Ethylene	2.5	2006	Indonesia
	Top 10 Customers % of Net Revenue	**43.5**		

Source: Company data , Deutsche Bank

Py-Gas (400ktpa) is sold entirely in the export market, primarily to SCG Chemicals Thailand. CAP has plans to build an aromatics plant to capture the value from downstream processing. This will happen upon the expansion of the second NCC and petrochemical complex, to be located next to the existing main petrochemical complex in Cilegon.

The plant is also equipped with three jetties located next to the open sea, which serve the export market as well as bringing in naphtha supply. Of these: Jetty A: 80,000 DWT (naphtha, LP propylene, Py-Gas); Jerry B: 6,000 DWT (HP propylene, LPG, naphtha); Jetty C:10,000 DWT (ethylene, Py-Gas, raffinate-1, butadiene, naphtha, and PFO).

Figure 46: Petrochemical plant complex in West Java area



Source: Company data, Deutsche Bank

Figure 47: Naphtha & Benzene supply sourcing

2016 Naphtha	US$mn	%
Vitol Asia	304.2	35.6%
Marubeni Petroleum	237.5	27.8%
SCG Chemicals	81.8	9.6%
Chevron USA	78.4	9.2%
Shell International	69.4	8.1%
Kuwait Petroleum	31.6	3.7%
Shell MDS Sendirain	26.2	3.1%
Konsorsium PT.Titis	22.0	2.6%
PT Surya Mandala Sakti	3.2	0.4%
PT Sadikun Chemical	0.5	0.1%
Total	**854.9**	**100.0%**

Beneze Supplier	2014 kton	%	2015 kton
SCG Chemicals	96	48.7%	52
Third party suppliers	101	51.3%	130
Total	**197**	**100.0%**	**182**

Source: Deutsche Bank

Feedstock supply

Naphtha is CAP's primary feedstock, which comes from both naphtha purchase agreements and purchases on the spot market. From 2014 to 2016, 69.7%, 69.6% and 76.1% of naphtha supply came from naphtha purchase agreements with major oil trading companies ranging from six months to one year, and the rest came from the spot market. For most contracts, pricing is based on the average of the mean of Platts Japan for five consecutive days. Also, pricing can be determined by the mean of Platts Arab Gulf or the mean of Platts Singapore. For spot market purchases, pricing is determined through negotiation and is usually on a CFR basis. In terms of benzene, which is CAP's principal raw material of styrene monomer, SCG Chemicals is its No.1 supplier, contributing 48.7%, 28.6% and 41.1% of volume of benzene supplied from 2014 to 2016.

Vertical integration for margins expansion

CAP's total nameplate capacity of 3,301ktpa is currently the largest in Indonesia, equal to the combined nameplate capacity of the next five largest petrochemical companies in the country. Further capacity under development would bring the company's nameplate capacity to 4,201ktpa by 2020E (+27% vs. 2016 capacity). These are downstream integration projects and the company expects to achieve higher margins in the long term. Besides, we believe the next step for the company is to build a second NCC and aromatic plant; however, we have not factored a second NCC into our model, given it is still undergoing a feasibility study while the aromatic plant is a longer-term vision.

Nameplate capacity + 27% by 2020 vs 2016

CAP is on track to add value to its butadiene (100ktpa) output by establishing a 45%-owned subsidiary, PT Synthetic Rubber Indonesia, which is a joint venture with Michelin (55% ownership) to produce synthetic butadiene rubber. The construction began in 2015 and will start production in 1Q18. Moreover, CAP is also focused on expanding its butadiene and polypropylene capacity. As of

1Q17, CAP appointed Toyo Engineering Korea as EPC contractor for the butadiene plan, which is expected to commence full operation in 2Q18.

Figure 48: Plant expansion plans in pipeline

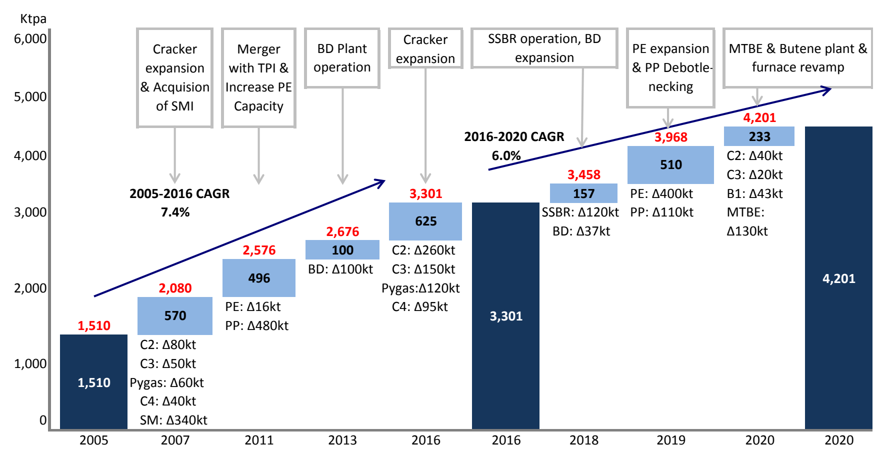
Commited	Capex (US$ mn)	Estimated plant commencement	Nameplate capacity (ktpa) Before	After	Addition
Butadiene expansion	42	2Q18	100	137	37
Polypropylene debottlenecking	40	3Q19	480	560	80
New polyethylene plant	350	4Q19	336	736	400
Naptha cracker furnace revamp for ethylene	45	1Q20	860	900	40
Naptha cracker furnace revamp for propylene			470	490	20
Sub-total	**477**		**1,910**	**2,087**	**177**
In the pipeline					
MTBE and Butene-1 plant	87	3Q20	0	130 MTBE and 43 Butene-1	173
Sub-total	**87**		**336**	**909**	**573**
Total	**564**				

Source: Company data, Deutsche Bank; Note: This table only shows those plants that are being expanded

The company's second petrochemical site, which produces Styrene Monomer of 340ktpa, is located some 40km from the main petrochemical complex in the northern part of Cilegon. It is also connected by pipeline to its main integrated complex. Upon the commencement of production by PT Synthetic Rubber Indonesia next year, styrene monomer (the key feedstock) will be transported to its main plant and combined with butadiene to produce synthetic rubber.

In the longer term, a second petrochemical complex with a 1mntpa ethylene cracker capacity, and a cost of US$4-5bn, is part of the company's goal to tap into growing petrochemical demand in Indonesia and expand downstream integration. We have not factored it into our model as it is still under a feasibility study and the timing remains uncertain.

Figure 49: Roadmap to success – Chandra Asri's capacity expansion in 2005-20E



Source: Company data, Deutsche Bank; Note: C2 – ethylene, C3 – propylene, C4 – mixed C4

The company's expansion track record

The company's large nameplate capacity has been a result of combining internal organic expansion with several acquisitions in the past. Key milestones for CAP over the past 2.5 decades include:

- 1992: PT Tri Polyta Indonesia started commercial production of polypropylene with a capacity of 160ktpa.

- 1995: PT Chandra Asri (CA) began commercial production with a naphtha cracker capacity of 520ktpa; PT Tri Polyta Indonesia increased the polypropylene plant capacity to 360ktpa.
- 1996: Listing of PT Tri Polyta Indonesia Tbk on IDX.
- 2007: Increased ethylene production to 600ktpa; CA acquired PT Styrindo Mono Indonesia as the sole producer of styrene monomer in Indonesia.
- 2009: PT Tri Polyta Indonesia Tbk ramped up polypropylene capacity to 480ktpa.
- 2011: CA merged with PT Tri Polyta Indonesia Tbk; Polypropylene capacity raised to 480ktpa.
- 2013: Began operation of butadiene plant.
- 2015: Completed cracker expansion project, capacity raised to 860ktpa.

Risk factors

Crude oil, naphtha and petrochemical prices

The volatile petrochemical market is highly correlated with economic conditions. Naphtha is the most important feedstock of CAP's petrochemical products and usually fluctuates with the crude oil price. The naphtha price increase may not be well-compensated by product price increases. Vice versa, lower naphtha price may not be fully offset by product price drops.

Domestic competition

There could be more licensed domestic capacity in the foreseeable future and increasing imports from global players are possible. Currently, CAP is the only domestic producer of ethylene, butadiene and styrene monomer, and a leading producer of polyethylene, propylene and polypropylene.

Indonesian economy and currency fluctuation risk

Indonesia could experience an economic downturn. Currency fluctuations or domestic incidents including political, social and geological events, could contribute to the instability of the economic environment. The above may take a toll on the domestic petrochemical industry. Fluctuations in the exchange rate may materially and adversely impact CAP's business operations, mainly pertaining to taxes and certain expenses, which are denominated in rupiah. CAP's revenues, costs and borrowings are denominated mostly in US dollars.

Project postponement / cancelation / sooner-than-expected

There are several risks regarding CAP's expansion plan including: 1) the large capital expenditure amount may not be in place in time, 2) unforeseen construction development and governmental regulation problems, 3) the construction cost may not be well-controlled and within budget, and 4) the licenses and permits may not be obtained successfully. Vice versa, the next projects may commission soon-than-our-expectations.

Operation outage & execution risk

During CAP's routine production operation, there are intended and unintended operational outages. CAP has a scheduled maintenance plan including turnaround maintenance (TAM) and shutdown maintenance (SDM). However, the maintenance plan may not proceed exactly as scheduled and there might be some periods of delay regarding different production plants.

- During the last TAM period for its naphtha cracker, CAP not only shut down its ethylene production for 85 days, but also shut down its butadiene production for 40 days.

Policy & regulatory risk

The import of PE and PP is subject to a tariff of 5% to 15% of the import price if imported from non-ASEAN countries. The elimination of any existing import tariffs could lead to a decrease in the tariff-related pricing advantage. CAP has benefited from a favorable tariff rate towards petrochemical products which has been a key factor in allowing it to compete against imported products.

Dividend payout risk

The dividend payout rate might not always remain at existing levels, bearing in mind the large amount of scheduled capital expenditure. Moreover, the dividend payout might be affected by currency exchange rate fluctuations which will affect the amount in foreign currency received upon conversion of cash dividends paid in rupiah by CAP.

Forecasts and assumptions

Key operating assumptions

Based on stronger oil prices ahead, we expect 2017-19E feedstock costs to gradually rise with naphtha prices of US$455-530per ton and benzene prices of US$655-780per ton in Asia. On the product side, we expect the company to achieve an 8-10% premium to regional prices for PE and PP, which is in line with its historical range. We expect regional product prices for LLDPE at US$1,105-1,027per ton, HDPE at US$1,115-1,105 per ton and PP at US$1, 075-1,160per ton in 2017-19E. On the other hand, we reflect a utilization ramp-up of the existing petrochemical capacity to 90-93% in 2017-19E.

We expect CAP to achieve 28%/7% net profit growth in 2017/18E, while we expect a sequential drop of 10% in 2019E due to a narrowing in olefin spreads.

Figure 51: Income statement (US$'000)

Year ended Dec 31 (US$ '000)	2015	2016	2017E	2018E	2019E
Income statement	**2015**	**2016**	**2017E**	**2018E**	**2019E**
Net revenues	1,377,573	1,930,336	2,171,284	2,211,452	2,289,079
Cost of revenues	-1,231,844	-1,436,018	-1,572,903	-1,590,493	-1,731,830
Gross profit	**145,729**	**494,318**	**598,381**	**620,959**	**557,249**
GP margin	*11%*	*26%*	*28%*	*28%*	*24%*
Selling expenses	-41,675	-42,624	-42,516	-43,303	-44,823
General & administrative expenses	-24,832	-27,904	-27,044	-27,545	-28,512
EBIT	**79,222**	**423,790**	**528,820**	**550,112**	**483,914**
DDA	63,771	74,865	79,005	84,164	100,294
EBITDA	**142,993**	**498,655**	**607,825**	**634,276**	**584,209**
Finance costs	-22,537	-31,887	-25,631	-25,077	-26,571
Share of profits from associates	-3,720	-5,861	-5,861	7,478	23,265
Other one-off gains/losses	2,934	14,511	14,875	15,354	15,151
Gain/ (loss) on derivative financial instruments	-1,524	606	0	0	0
Gain/ (loss) on foreign exchange	-11,505	-1,320	0	0	0
Other gains & losses	15,963	15,225	14,875	15,354	15,151
Profit before tax	**55,899**	**400,553**	**512,203**	**547,867**	**495,760**
Income tax	-29,643	-100,428	-128,421	-137,363	-124,299
Effective tax rate	*53%*	*25%*	*25%*	*25%*	*25%*
Profit after tax	**26,256**	**300,125**	**383,782**	**410,504**	**371,461**
Less: MI	81	-109	-384	-411	-371
Net attributable profit	**26,337**	**300,016**	**383,398**	**410,093**	**371,090**
NP margin	*2%*	*16%*	*18%*	*19%*	*16%*
NP Yoy%	*44%*	*1039%*	*28%*	*7%*	*-10%*
Dividends	**10,500**	**150,000**	**191,699**	**205,047**	**185,545**
Dividend payouts	*40%*	*50%*	*50%*	*50%*	*50%*
EPS (US$/share)	**0.008**	**0.091**	**0.114**	**0.118**	**0.107**
DPS (US$/share)	**0.003**	**0.046**	**0.057**	**0.059**	**0.053**
Key ratios	**2015**	**2016**	**2017E**	**2018E**	**2019E**
Total invested capital	1,337,740	1,267,888	1,330,702	1,616,106	2,042,833
ROIC	**3%**	**24%**	**30%**	**28%**	**20%**
Net Debts	450,894	126,220	-286,495	-217,226	39,186
Net gearings	**51%**	**11%**	**-18%**	**-12%**	**2%**
ROE	**3%**	**30%**	**28%**	**24%**	**19%**

Source: Company data, Deutsche Bank estimates

Figure 50: Key assumptions

Key assumptions	2017E	2018E	2019E
Asia chemicals prices (US$/t)			
Brent (US$/bbl)	**53.5**	**54.5**	**56.0**
Naphtha	**455**	**464**	**530**
Benzene	655	714	780
Ethylene	1,105	1,064	1,027
Propylene	754	857	857
LLDPE	1,105	1,064	1,094
HDPE	1,115	1,084	1,105
PP	1,075	1,094	1,160
Styrene	963	1,164	1,256
Butadiene	1,155	1,314	1,380
Total production (ktonnes)	**3,054**	**3,073**	**3,099**
Utilisation rate	**93%**	**90%**	**91%**
Ethylene	99%	95%	92%
Propylene	99%	94%	92%
Py-gas	62%	65%	63%
Mixed C4	93%	92%	90%
LLDPE	94%	93%	93%
HDPE	94%	93%	93%
PP	96%	89%	98%
Styrene	95%	93%	90%
Butadiene	104%	84%	93%
SSBR (45% stakes in SRI)	0%	50%	90%
EBIT (US$mn)	**528.8**	**550.1**	**483.9**
yoy%	*25%*	*4%*	*-12%*
EBIT/ton (US$/t)	234	253	228
yoy%	*12%*	*8%*	*-10%*
EBITDA (US$mn)	**607.8**	**634.3**	**584.2**
yoy%	*22%*	*4%*	*-8%*
EBITDA/ton (US$/t)	269	292	276
yoy%	*10%*	*8%*	*-5%*
NP (US$mn)	**383.4**	**410.1**	**371.1**
yoy%	*28%*	*7%*	*-10%*
NP/ton (US$/t)	170	188	175
yoy%	*15%*	*11%*	*-7%*

Source: Deutsche Bank estimates

Balance sheet and cash flows statement

According to CAP's debt to capital policy, the maximum target debt to capital ratio is 40%. The historical debt/assets ratio from 2014 to 2016 was 25%, 29% and 20%. Other financial policies include: 1) a minimum EBITDA/interest ratio of 3.0x, 2) a maximum net debt to EBITDA ratio of 3.0x, and 3) a minimum cash balance of US$100mn. We expect CAP's balance sheet to continue to be healthy despite the fact that we expect the balance sheet to turn into net debt by 2019E, with 2% net gearing vs. net cash % of 18% in 2017E, due to a surge in capex spending.

Figure 52: Balance sheet statement (US$'000)

Balance sheet	2015	2016	2017E	2018E	2019E
Cash and cash equivalents	96,835	298,763	744,365	679,096	420,234
Restricted cash in banks	12,764	10,398	10,398	10,398	10,398
Trade accounts receivables	46,496	137,348	69,444	141,173	76,837
Other accounts receivable	3,783	3,141	3,141	3,141	3,141
Inventories	178,400	199,508	214,423	204,137	251,618
Prepaid taxes	66,302	23,676	23,676	23,676	23,676
Advances and prepaid expenses	12,054	19,692	16,017	20,353	17,293
Total Current Assets	**416,634**	**692,526**	**1,081,463**	**1,081,974**	**803,197**
Deferred tax assets	5,813	3,504	3,504	3,504	3,504
Investment in an associate	38,017	32,156	26,295	33,773	57,038
Advances for purchase of PPE	13,278	3,101	3,101	3,101	3,101
Derivative financial assets	659	1,500	1,500	1,500	1,500
Claims for tax refund	64,550	64,235	64,235	64,235	64,235
Restricted cash in banks	12,953	12,953	12,953	12,953	12,953
Property, plant and equipment	1,308,048	1,316,744	1,402,739	1,671,575	2,064,280
Other noncurrent assets	2,434	2,550	2,550	2,550	2,550
Total Noncurrent Assets	**1,445,752**	**1,436,743**	**1,516,877**	**1,793,191**	**2,209,161**
Total Assets	**1,862,386**	**2,129,269**	**2,598,341**	**2,875,165**	**3,012,358**
Bank loans	50,800	0	0	0	0
Trade accounts payable	227,824	344,105	299,213	356,006	322,213
Other accounts payable	15,931	157	157	157	157
Taxes payable	1,839	34,036	38,284	38,993	40,361
Accrued expenses	6,089	3,880	7,333	4,087	7,734
Customer advances	4,800	8,631	6,476	8,910	7,017
Current maturities of bank loans	70,470	63,113	60,000	40,000	40,000
Total Current Liabilities	**377,753**	**453,922**	**411,465**	**474,603**	**417,482**
Deferred tax liabilities - net	146,098	141,467	141,467	141,467	141,467
Bank loans	426,459	325,276	361,276	385,276	409,276
Bonds payable	0	36,594	36,594	10,144	10,144
Derivative financial liabilities	677	40	40	40	40
Post-employment benefits obligation	22,426	28,139	28,139	28,139	28,139
Decommissioning cost	2,127	2,163	2,163	2,163	2,163
Total Noncurrent Liabilities	**597,787**	**533,679**	**569,679**	**567,229**	**591,229**
Total Liabilities	**975,540**	**987,601**	**981,144**	**1,041,833**	**1,008,711**
Equity attributable to owners of the Company	880,104	1,134,998	1,610,143	1,825,868	1,995,811
Non-controlling interests	6,742	6,670	7,054	7,464	7,836
Total Equity	**886,846**	**1,141,668**	**1,617,197**	**1,833,332**	**2,003,647**
Total Liabilities & Equity	**1,862,386**	**2,129,269**	**2,598,341**	**2,875,165**	**3,012,358**

Source: Company data, Deutsche Bank estimates

We factor in capex of US$165/353/493m in 2017-19E, including preliminary capex for the second petrochemical complex. We expect CAP to use its bank loan credit line for financing in 2017-19E, and to repay tranche 1 of its bonds (US$27.1mn for tranche 1, total US$10.4mn) in 2019E, as scheduled.

With a healthier balance sheet, we expect the company to pay c.50% in our forecast years; CAP's current dividend policy is to pay c.40% of total net profit to its shareholders.

Figure 53: Cash flow statement (US$'000)

Cash flow statement	2015	2016	2017E	2018E	2019E
Cash receipts from customers	1,435,887	1,843,295	2,251,909	2,157,510	2,366,673
Cash paid to suppliers	-1,301,429	-1,300,404	-1,629,035	-1,527,750	-1,810,045
Cash paid to directors and employees	-47,267	-51,997	12,897	10,071	30,607
Cash generated from operations	**87,191**	**490,894**	**635,772**	**639,832**	**587,235**
Tax paid/ restitution	17,523	-15,001	-124,173	-136,655	-122,930
Net Cash from Operating Activities	**104,714**	**475,893**	**511,599**	**503,177**	**464,305**
Acquisitions of PP&E	-205,149	-65,439	-165,000	-353,000	-493,000
Addition on investment in associates	-40,500	0	0	0	0
Others	7,603	-3,543	5,040	6,876	5,436
Net Cash from Investing Activities	**-238,046**	**-68,982**	**-159,960**	**-346,124**	**-487,564**
Proceeds/ (repayment) of bank loans	59,307	-160,600	32,887	4,000	24,000
Proceeds/ (repayment) of bonds	0	37,510	0	0	-26,450
Interests paid	-25,157	-27,873	-30,671	-31,953	-32,007
Dividends paid	-4,500	-43,434	-155,406	-194,369	-201,146
Others	-7,422	-10,586	247,153	0	0
Net Cash from Financing Activities	**22,228**	**-204,983**	**93,963**	**-222,321**	**-235,603**
Net increase/ (decrease) in cash	-111,104	201,928	445,602	-65,269	-258,862
Cash and cash equivalents at start of year	207,939	96,835	298,763	744,365	679,096
Cash and cash equivalents at end of year	**96,835**	**298,763**	**744,365**	**679,096**	**420,234**

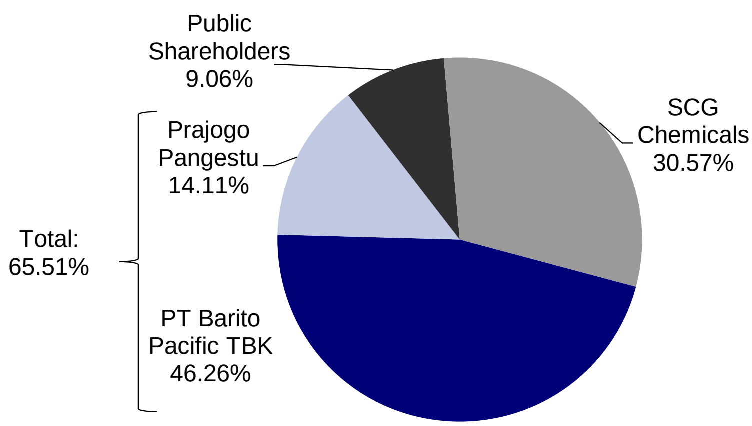
Source: Company data, Deutsche Bank estimates

Company background

PT Chandra Asri Petrochemical TBK is the largest integrated petrochemical company in Indonesia. CAP's major products include: 1) olefins (ethylene, propylene), 2) polyolefins, 3) styrene monomer, and 4) butadiene. CAP's plant is located in Ciwandan, Cilegon in Banten province.

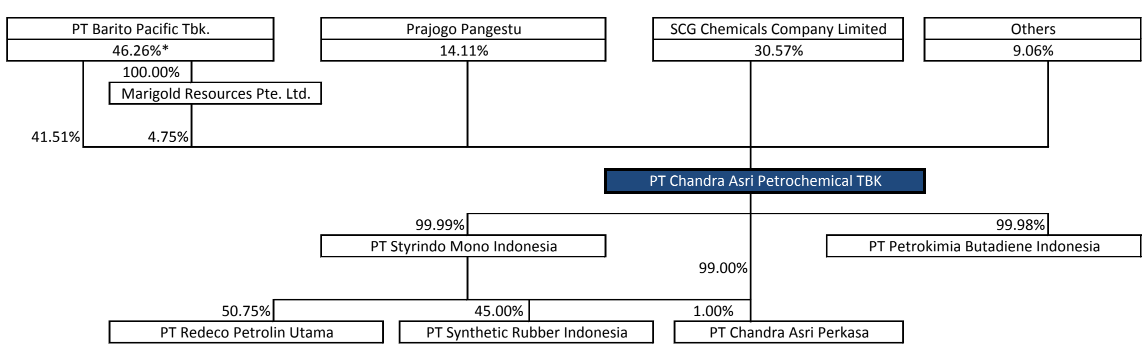
On 1 January 2011, PT Tri Polyta Indonesia Tbk (TPI), which is the largest polypropylene producer in Indonesia, established in 1984, merged with PT Chandra Asri (CA), which produces olefins and polyethylene products, established in 1989, to become CAP. CAP (previously TPI) was listed on the Indonesian Stock Exchange in 1996.

Figure 54: Chandra Asri current shareholding structure



Source: Company data, Deutsche Bank.

Figure 55: Corporate structure summary



Subsidiary/Associate	CAP ownership	Plant detail	Capacity (KTPA)
PT Styrindo Mono Indonesia	99.99%	2 styrene monomer plants	340 of styrene monomer
PT Petrokimia Butadiene Indonesia	99.98%	1 naphtha cracker	860 KT/A of ethylene, 470 KT/A of propylene, 400 KT/A of pygas and 315 KT/A of mixed C4
		2 polyethylene plants	336 of polyethylene
		1 polypropylene plant	480 of polypropylene
		1 butadiene plant	100 of butadiene
PT Synthetic Rubber Indonesia	45.00%	1 synthetic rubber plant	-

Source: Company data, Deutsche Bank

Senior management profile

The company's current Board of Commissioners and Board of Directors include a combination of people with professional backgrounds, representatives of the Pangestu family (as the founder and majority shareholder of Barito Pacific) and executives from SCG Group.

Figure 56: Management profile

Name	Position	Age	Profile
Djoko Suyanto	President and Independent Commissioner	67	Mr. Djoko Suyanto was appointed as President Commissioner and Independent Commissioner in 2015. Previously, he was Chief of Indonesia Airforce in 2005-06, Chief of Indonesian Defense Forces in 2006-08 and Coordinating Minister of Political, Legal and Security of Indonesia in 2009-14.
Tan Ek Kia	VP and Independent Commissioner	69	Mr. Tan Ek Kia has served as Independent Commissioner since 2012. He previously worked in various positions and different companies in the oil and gas and petrochemical industries in Malaysia, China and Singapore.
Ho Hon Cheong	Independent Commissioner	62	Mr. Ho Hon Cheong has served as Independent Commissioner since 2015. Previously he served as President Director of PT Bank Danamon Indonesia until 2015, and Managing Director of Investments at Temasek Holdings Pte Ltd until 2010.
Agus Salim Pangestu	Commissioner	43	Mr. Agus Salim Pangestu has served as Commissioner since 2011. He also holds the position of President Director of PT Barito Pacific Tbk. He is the son of Prajogo Pangestu, the majority shareholder of PT Barito Pacific Tbk.
Loeki Sundjaja Putera	Commissioner	63	Ms. Loeki Sundjaja Putera has served as Commissioner since 2008. She previously served as President Director of PT Chandra Asri in 2002-07 and President Director of PT Barito Pacific Tbk in 2008-13. She joined PT Barito Pacific Tbk in 1998.
Chaovalit Ekabut	Commissioner	58	Mr. Chaovalit Ekabut has served as Commissioner since 2012. He is currently a member of the Board of Directors of SCG's major business.
Cholanat Yanaranop	Commissioner	57	Mr. Cholanat Yanaranop has served as Commissioner since 2012. He was appointed as President of SCG Chemicals in January 2006.
Erwin Ciputra	President Director	42	Mr. Erwin Ciputra has served as President Director since 2011. He joined PT Chandra Asri as Vice President Director of Finance in 2004-07. Prior to that, he was advisor at PT Petrokimia Nusantara Interindo and has worked for JP Morgan Securities and TIAA-CREF Asset Management
Kulachet Dharachandra	VP Director of Operations	43	Mr. Kulachet Dharachandra has served as Vice President Director since 2016. He previously served as Business Development Director at SCG Chemicals Co. in 2009, Director - Planning, Finance and Investment at SCG Chemicals Co. in 2012 and Corporate Planning Director at The Siam Cement PCL in 2013.
Baritono Prajogo Pangestu	VP Director of Polymer Commercial	38	Mr. Baritono Prajogo Pangestu has served as Director since 2011. He was Commercial Director of Monomer until 2015, Sales Manager of Polyethylene in 2007 and Feedstock Manager in 2005-07. He is the son of Prajogo Pangestu, the majority shareholder of PT Barito Pacific Tbk.
Terry Lim Chong Thian	Director of Finance	58	Mr. Terry Lim Chong Thian has served as Director since 2011. Prior to joining PT Chandra Asri, he served in various positions at Shell Companies in Brunei Darussalam, Malaysia and Australia in 1980-2004.
Suryandi	Director of Human Resource and Corp. Administration	54	Mr. Suryandi has served as Director since 2013. He previously joined PT Tripolyta Indonesia Tbk in 1990 as Finance Manager and served as Director of Treasury since 1998.
Piboon Sirinantanakul	Director of Manufacturing	45	Mr. Piboon Sirinantanakul has served as Director since 2016. He previously worked at Map Ta Phut Olefins Co., Ltd. as Production Division Manager in 2013 and Olefins Production Department Manager in 2008.
Fransiskus Ruly Aryawan	Director of Monomer Commercial	38	Mr. Fransiskus Ruly Aryawan has served as Director since 2015. He has previously served as Monomer Feedstock General Manager until 2015, Monomer Sales Department Manager until 2009, Operational Section Manager until 2007 and Feedstock Purchasing Supervisor in 2002-05.

Source: Company data, Deutsche Bank

Appendix A

Company plants details

Naphtha cracker:

CAP operates the only naphtha cracker in Indonesia and it is powered by Lummus technology. The commissioning date was April 1995. The naphtha cracker is integrated with two polyethylene plants to provide ethylene as feedstock. An expansion project completed in December 2015 increased production capacity to 860ktpa of ethylene, 470ktpa of propylene, 400ktpa of Py-Gas and 315ktpa of mixed C4. CAP plans to construct a second petrochemical complex near its facilities in Cilegon to expand capacity and further integrate downstream.

There is also a scheduled furnace revamp of the naphtha cracker to expand capacity to 900ktpa of ethylene and 490ktpa of propylene, with an estimated commencement in 1Q2021. The plants are owned by PT Petrokimia Butadiene Indonesia (PBI).

Polyethylene plant

CAP possesses two polyethylene plants, which are located near the naphtha cracker for production integration. The plants are powered by Univation Technologies and Showa Denko. The commissioning date of the first polyethylene plant was April 1995, producing both LLDPE and HDPE with 200ktpa capacity. The commissioning date of the second polyethylene plant was July 1995, producing HDPE with 136ktpa capacity. There is a planned new polyethylene plant to produce LLDPE, HDPE and metallocene LLDPE, which is expected to commence in 3Q2019, with the aim of more than doubling the current capacity to 736ktpa. The plants are owned by PT Petrokimia Butadiene Indonesia (PBI).

Polypropylene plant

CAP's polypropylene plant has three trains to produce homopolymer, random copolymer and impact copolymer, powered by Union Carbide. The commissioning date was 1992 with a production capacity of 480ktpa. There is an expansion project of polypropylene de-bottlenecking to expand the capacity to 560ktpa, which is expected to complete in 3Q2018. The plant is owned by PT Petrokimia Butadiene Indonesia (PBI).

Styrene monomer plant

CAP operates two styrene monomer plants with a combined capacity of 340ktpa, powered by Lummus technology. The plant is owned by PT Styrindo Mono Indonesia (SMI).

Butadiene plant

CAP's butadiene plant, which commenced production in September 2013, is the first and only butadiene plant in Indonesia. The butadiene plant has a capacity of 100ktpa and uses BASF technology licensed by Lummus.

There is an expansion project of an extra 137ktpa capacity, which was started in 1Q2017 and is expected to be completed in 2Q2018. The plant is owned by PT Petrokimia Butadiene Indonesia (PBI).

MTBE and Butene-1 plant

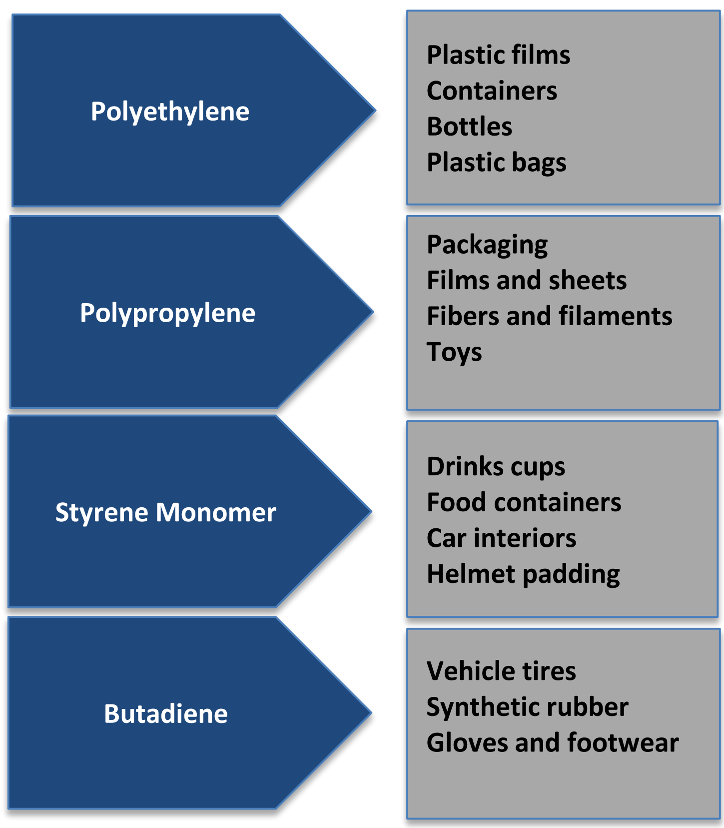
CAP plans to establish a new MTBE and Butene-1 plant with a capacity of 130ktpa of MTBE and 43ktpa of Butene-1. The estimated commencement of operation is in 3Q2020.

SRI

SRI is the joint venture between Michelin (55%) and CAP's wholly-owned subsidiary, SMI (45%), to produce downstream higher-value added products by constructing a new synthetic rubber plant.

Understanding key products demands

Figure 57: Key products' end-demand



Source: Company data, Deutsche Bank

Olefins (ethylene and propylene)

- Globally, ethylene and propylene are the most important commercial petrochemical products. The combined consumption of olefins was nearly 244mn tonnes worldwide in 2016, while ethylene and propylene accounted for c.60% and c.40% of the total. Over 60% of olefins are consumed to produce polyolefins, including polyethylene and polypropylene, and nearly 20% goes to intermediates such as ethylene dichloride, 15% is for oxides including ethylene oxide, and 5% is reserved for other use such as synthetic rubber manufacturing.
- Ethylene and propylene have posted a historical CAGR of 3.3% over the past five years globally and are likely to maintain similar growth in the next five years. The growth in global olefin demand is in line with global GDP CAGR growth of 3.4% between 2011 and 2016. Olefin demand in Indonesia is driven by CAP's new LLDPE/HDPE plant. Over the past five years, the average operating rate of olefins globally has been maintained above c.85% and the trend is expected to continue, according to industry consultants, despite heavy capacity additions in the future.

- The price of ethylene is significantly influenced by crude oil, as the ethylene-naphtha spread is associated with crude oil pricing. On the other hand, as propylene is mainly composed via a co-product process, the price of propylene tends to be driven by supply and demand rather than production cost.

Polyolefin

- The most common polyolefins include polyethylene (PE) and polypropylene (PP). Polyethylene can be divided into three types: low-density polyethylene (LDPE), linear low-density polyethylene (LLDPE), and high-density polyethylene (HDPE). Currently, PP accounts for 41% of the global polyolefin consumption, and HDPE is the second-most popular polyolefin at 26%, followed by LLDPE at 19% and LDPE at 14%.

- Global polyolefin demand was 155mn tonnes in 2016. The average operating rate was at a high level of more than 86%. Most of the polyolefins are consumed in injection molding and film and fiber applications. Global consumption, at a 3.5% CAGR, is in line with the global GDP CAGR growth of 3.4% from 2011 to 2016. In the long run, total polyolefin consumption in Indonesia is expected to grow in accordance with Indonesian GDP growth. Asia Pacific accounts for around half of global demand for polyolefins.

Butadiene and synthetic rubber

- Butadiene is the feedstock for synthetic rubber and polymer resin and can be consumed to produce engineering resin including acrylonitrile butadiene styrene (ABS). Butadiene is also the feedstock for hexamethylene diamine (HMDA) and caprolactam to produce nylon. Nearly 60% of butadiene is consumed to produce synthetic rubber including butadiene rubber (BR) and styrene butadiene rubber (SBR), and nearly 10% goes to each of ABS and styrene butadiene latex (SBL). The other products include HMDA.

- Global consumption of butadiene recorded a CAGR of 2%, lower than global GDP CAGR growth of 3.4% in 2011 to 2016. Global demand for butadiene was 11mn tonnes in 2016. Growth in demand recovered to 3.8% in 2015 followed by 3% in 2016, offsetting the softer market in the previous years, largely due to the rapid development of the automotive industry. Asia is the largest butadiene consumer in the world, accounting for over 50% of demand in 2016.

- Indonesia is a major rubber and tire producer, with a fast-growing automotive industry. CAP's new JV PT Synthetic Rubber Indonesia (SRI) between Michelin and PBI could boost demand for domestic butadiene by over a 17.7% CAGR in 2017 to 2023.

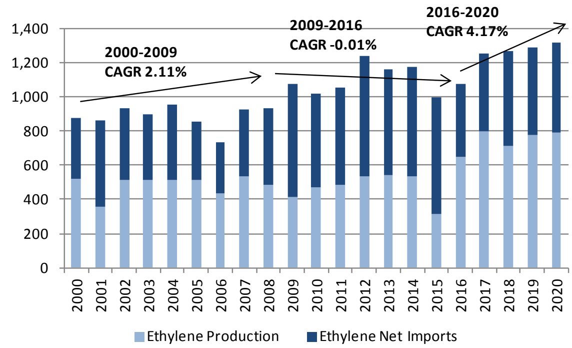
Styrene monomer (SM)

- Styrene monomer is a major feedstock for plastic and rubber. Total global demand for styrene monomer was 29mn tonnes in 2016. Polystyrene is the major end-use and accounts for nearly 40%, while expandable polystyrene accounts for over 20%. The other end-use products include ABS at 16%, SBL at 5%, UPR at 5% and SBR at 4%. However, as polystyrene is replaceable by other polymers due to the change in consumer behavior, the long-term growth for polystyrene remains questionable. Growth in global consumption of styrene monomer was 1.6%, lower than 3.1% global GDP growth in 2016. CAP's new SBR plant could boost demand for domestic styrene by over a 10% CAGR in 2017-23.

Appendix B

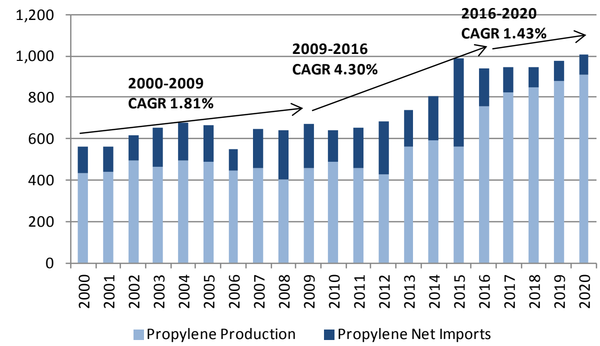
Indonesia's chemical demand growth

Figure 58: Indonesia ethylene demand ('000 tonnes)



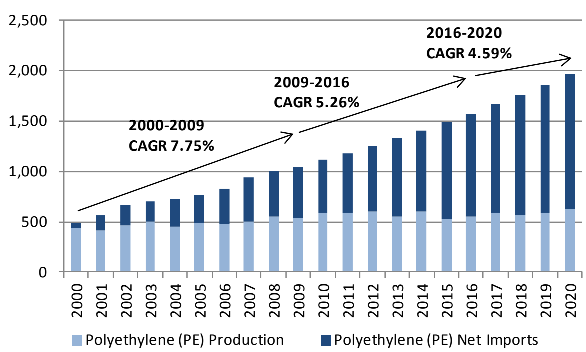
Source: IHS, Deutsche Bank estimates

Figure 59: Indonesia propylene demand('000 tonnes)



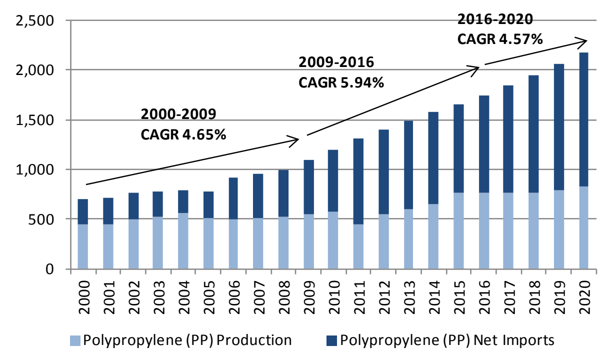
Source: IHS, Deutsche Bank estimates

Figure 60: Indonesia polyethylene demand ('000 tonnes)



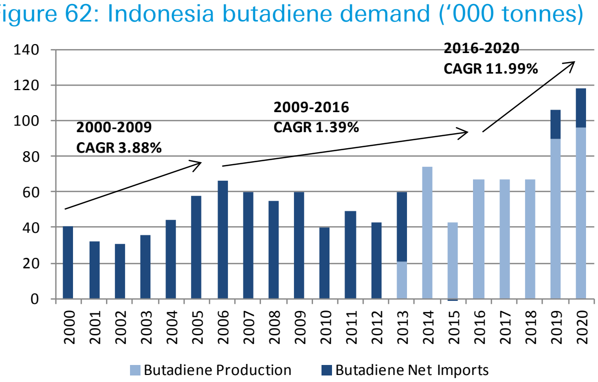
Source: IHS, Deutsche Bank estimates

Figure 61: Indonesia polypropylene demand ('000 tonnes)



Source: IHS, Deutsche Bank estimates

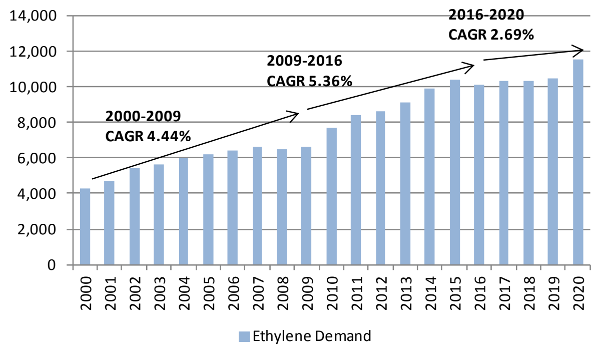
Figure 62: Indonesia butadiene demand ('000 tonnes)



Source: IHS, Deutsche Bank estimates

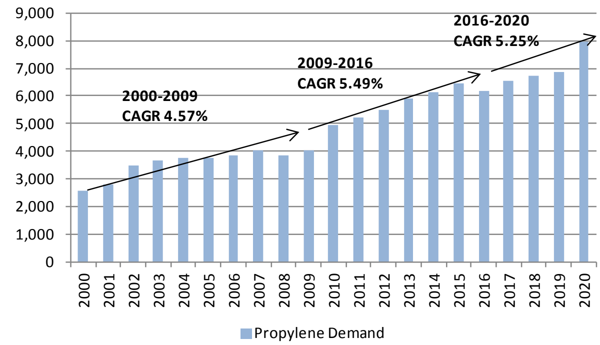
South East Asia chemical demand growth

Figure 63: South East Asia ethylene demand ('000 tonnes)



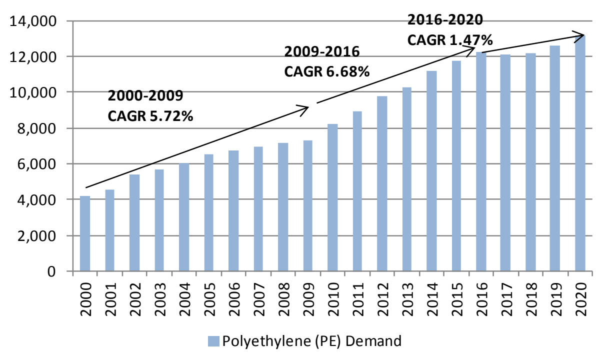
Source: IHS, Deutsche Bank estimates

Figure 64: South East Asia propylene demand ('000 tonnes)



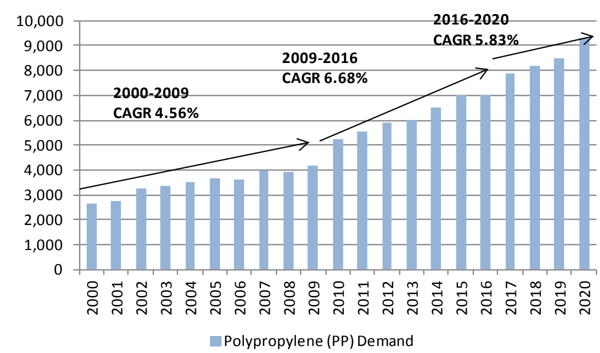
Source: IHS, Deutsche Bank estimates

Figure 65: South East Asia polyethylene demand ('000 tonnes)



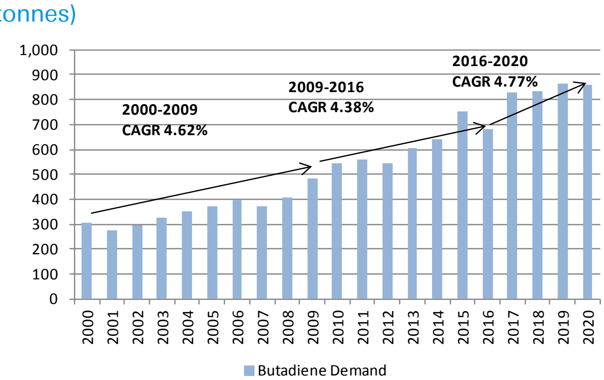
Source: IHS, Deutsche Bank estimates

Figure 66: South East Asia polypropylene ('000 tonnes) demand



Source: IHS, Deutsche Bank estimates

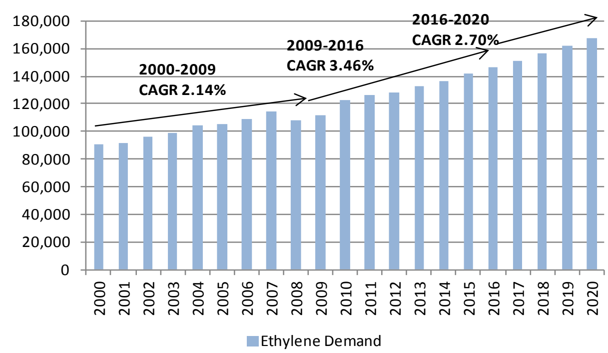
Figure 67: South East Asia butadiene demand ('000 tonnes)



Source: IHS, Deutsche Bank estimates

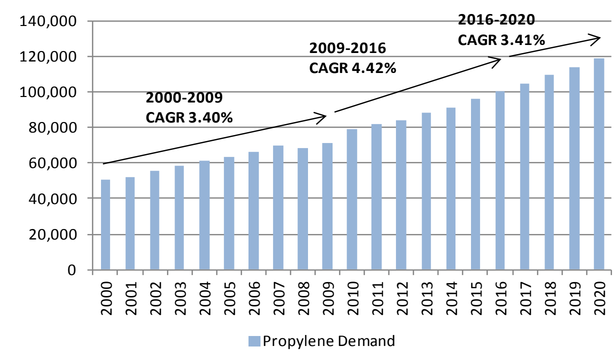
Global chemical demand growth

Figure 68: World ethylene demand ('000 tonnes)



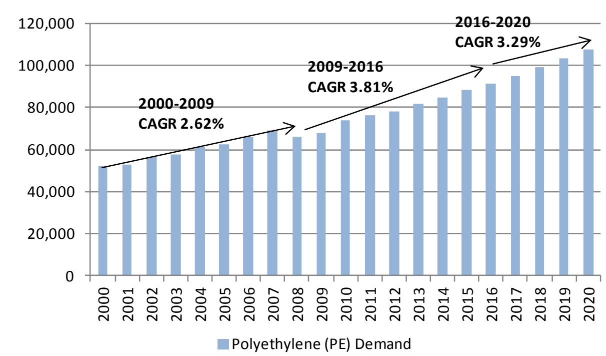
Source: IHS, Deutsche Bank estimates

Figure 69: World propylene demand ('000 tonnes)



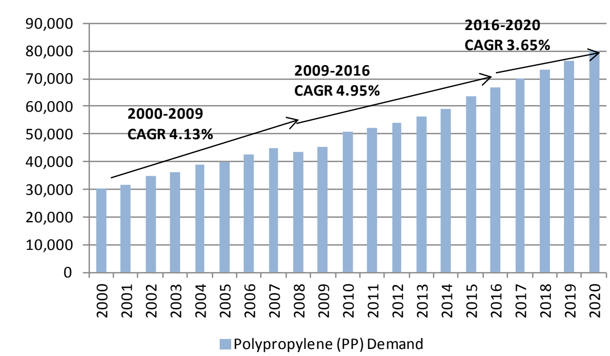
Source: IHS, Deutsche Bank estimates

Figure 70: World polyethylene demand ('000 tonnes)



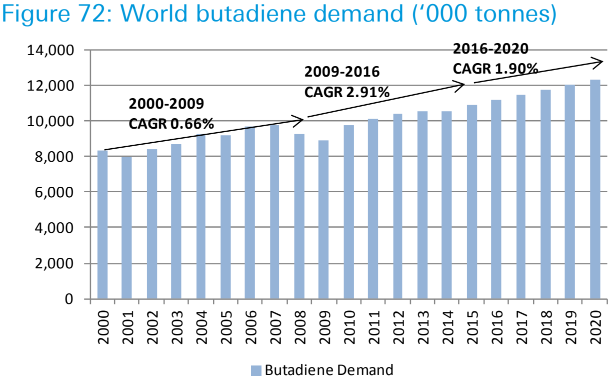
Source: IHS, Deutsche Bank estimates

Figure 71: World polypropylene demand ('000 tonnes)



Source: IHS, Deutsche Bank estimates

Figure 72: World butadiene demand ('000 tonnes)



Source: IHS, Deutsche Bank estimates

Appendix 1

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*Other information available upon request

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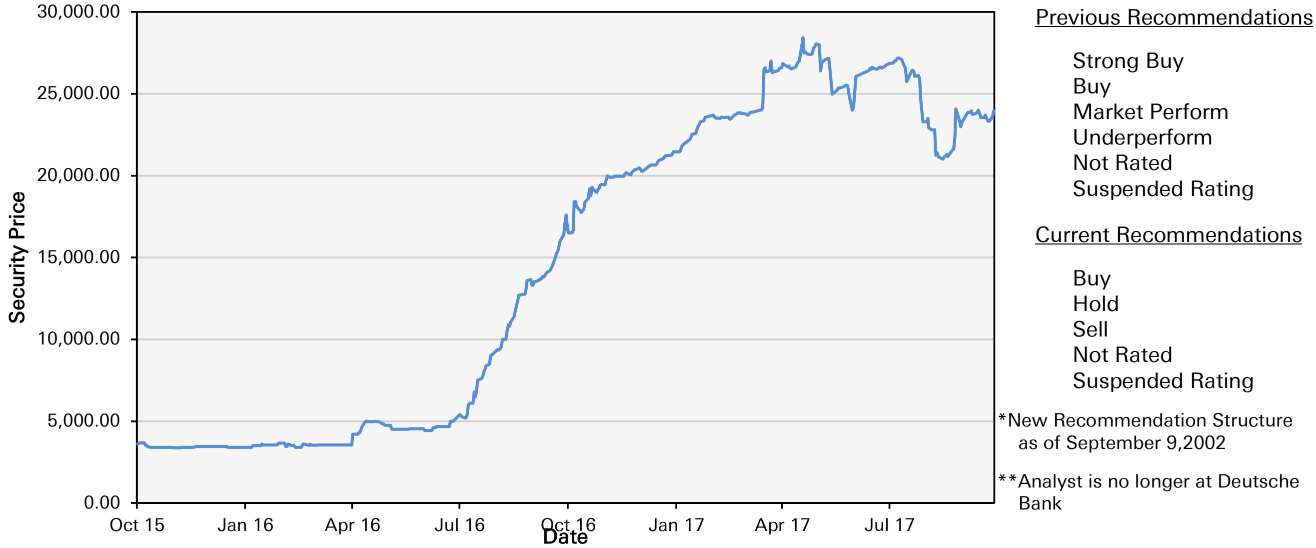
(as of 10/17/2017)



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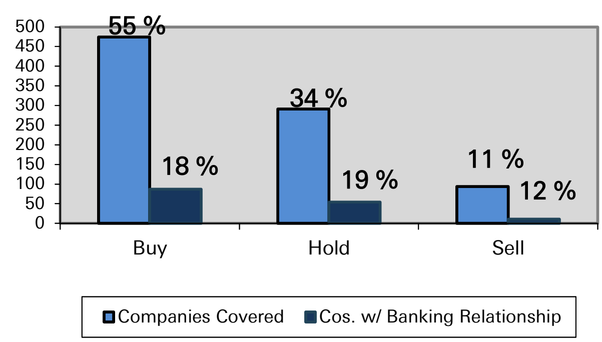

Asia-Pacific Universe

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Note:

- Page 1: DB is still using old initial spending cost for 2nd petrochemical complex of $450m. As per our latest analyst meeting presentation, this already updated to $540m.
- Page 5: DB is using no. of existing shares of 3,470 mn in calculating price per share. Not sure where they get this figure, it should be 3,566 mn following our rights.
- Page 18: DB mentioned about our last TAM of 85days, perhaps should be added with explanation that this 85 days includes tie-ins for our cracker expansion. Normal TAM days is around 45 days only.
- Page 21: Corporate Structure, missing Altus Capital Pte. Ltd, owns 100% by CAP.