

Malaysia

HOLD (previously ADD)

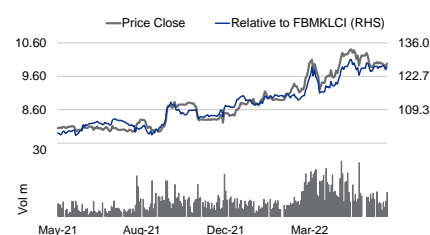
Consensus ratings*: Buy 17 Hold 0 Sell 2

Current price:	RM9.98
Target price:	RM10.60
Previous target:	RM10.76
Up/downside:	6.2%
CGS-CIMB / Consensus:	-4.6%
Reuters:	PCGB.KL
Bloomberg:	PCHM MK
Market cap:	US\$18,234m
	RM79,840m
Average daily turnover:	US\$26.48m
	RM112.6m
Current shares o/s:	8,000m
Free float:	25.0%

*Source: Bloomberg

Key changes in this note

- FY22F core EPS forecast raised 32% due to strong petrochemical selling prices in 1Q22, which exceeded expectations.
- FY23-24F core EPS forecasts raised 20-24% on the back of the same dynamics. Note that we have not yet factored in potential contributions from the proposed acquisition of Perstorp Holding AB.



Source: Bloomberg

Price performance	1M	3M	12M
Absolute (%)	0.6	7.4	22.2
Relative (%)	3.1	10.2	25.2

Major shareholders	% held
Petronas	64.4
Employees Provident Fund	7.3

Analyst(s)

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Petronas Chemicals Group

Are we close to the cyclical earnings peak?

- 1Q22 core net profit outperformed at 33%/30% of our/consensus forecasts, due to the strength in petrochemical selling prices on high feedstock costs.
- While we upgrade our core EPS forecasts, we downgrade from Add to Hold as the petrochemical price upcycle may be nearing its peak, in our view.
- Our TP is lowered slightly to RM10.60, based on CY23F EV/EBITDA of 7x (-1 s.d. from mean), down from 8x previously (pegged to mean of 8x).

Another record-breaking quarterly profit in 1Q22

Core net profit of RM2.1bn in 1Q22 was up 5% qoq due to 1) higher selling prices for polymer products in the O&M division, and 2) lower depreciation as certain olefins assets at Kertih became fully amortised. These factors more than offset 1) significantly lower O&D production and utilisation due to turnaround activities at the olefins, derivatives and aromatics plants, 2) lower urea selling prices and higher maintenance costs, which pulled down F&M profits qoq, and 3) lower share of profits from associate BASF Petronas Chemicals due to lower spreads for oxo-alcohols and acrylic acid. PCG's 1Q22 core net profit was its highest ever as part of its longest continuous upswing in profits, with PCG hitting new profit records for five consecutive quarters.

Outlook for 2Q22F strong, with likely sharp O&D profit recovery

The outlook for 2Q22F appears to be strong as well; while the 1Q22 utilisation at the O&D division was suppressed at just 75% due to intense turnaround activities, the 2Q22F utilisation should rebound to above 90%, in our view. Meanwhile, average polymer selling prices from 1 Apr to 20 May averaged higher compared to 1Q22 and the PX-naphtha spread has widened qoq, even though MEG selling prices so far this 2Q22F have weakened slightly qoq. A potentially strong set of O&D profits in 2Q22F may help offset possibly weaker qoq performance at the F&M division as the Sabah fertiliser plant and the Labuan Methanol Plant 2 are undergoing turnaround and the F&M division's plant utilisation may drop from 1Q22's 93% to below <80% in 2Q22F, according to PCG. Additionally, average selling prices for urea in 2Q22F have declined qoq, with buyers waiting on the sidelines due to the still-high price of urea. The good outlook for 2Q22F should support PCG's share price in the near term.

The petrochemical price cycle may be reaching a peak soon

We downgrade PCG from Add to Hold; despite very strong cyclical earnings in 2021 that are likely to continue for a second year running in 2022F, we think the probability of weaker earnings in 2023F is rising given increases in petrochemical production capacity and supply and a potential slowdown in global consumer spending due to the squeeze on spending power from high inflation and rising interest rates, which could put pressure on petrochemical selling prices even if feedstock costs remain high. Upside risk: high feedstock costs may sustain high selling prices for longer than expected. Downside risk: potential margin compression for the PCG group arising from the impending start-up of PCG's Pengerang facilities that have to absorb the high naphtha costs.

Financial Summary

	Dec-20A	Dec-21A	Dec-22F	Dec-23F	Dec-24F
Revenue (RMm)	14,362	23,084	30,453	32,043	32,043
Operating EBITDA (RMm)	3,265	8,130	9,870	9,232	9,232
Net Profit (RMm)	1,629	7,263	8,346	7,564	7,515
Core EPS (RM)	0.23	0.91	1.04	0.95	0.94
Core EPS Growth	(34%)	290%	15%	(9%)	(1%)
FD Core P/E (x)	42.90	10.99	9.57	10.56	10.62
DPS (RM)	0.12	0.56	0.63	0.57	0.56
Dividend Yield	1.20%	5.61%	6.31%	5.71%	5.61%
EV/EBITDA (x)	21.18	7.98	5.98	5.98	5.54
P/FCFE (x)	44.06	12.01	8.40	9.65	10.00
Net Gearing	(33.9%)	(39.4%)	(49.2%)	(54.5%)	(58.9%)
P/BV (x)	2.62	2.28	2.06	1.94	1.81
ROE	6.2%	22.2%	22.6%	18.9%	17.6%
% Change In Core EPS Estimates			31.9%	20.2%	24.1%
CGS-CIMB/Consensus EPS (x)			1.18	1.19	1.22

SOURCES: CGS-CIMB RESEARCH, COMPANY REPORTS

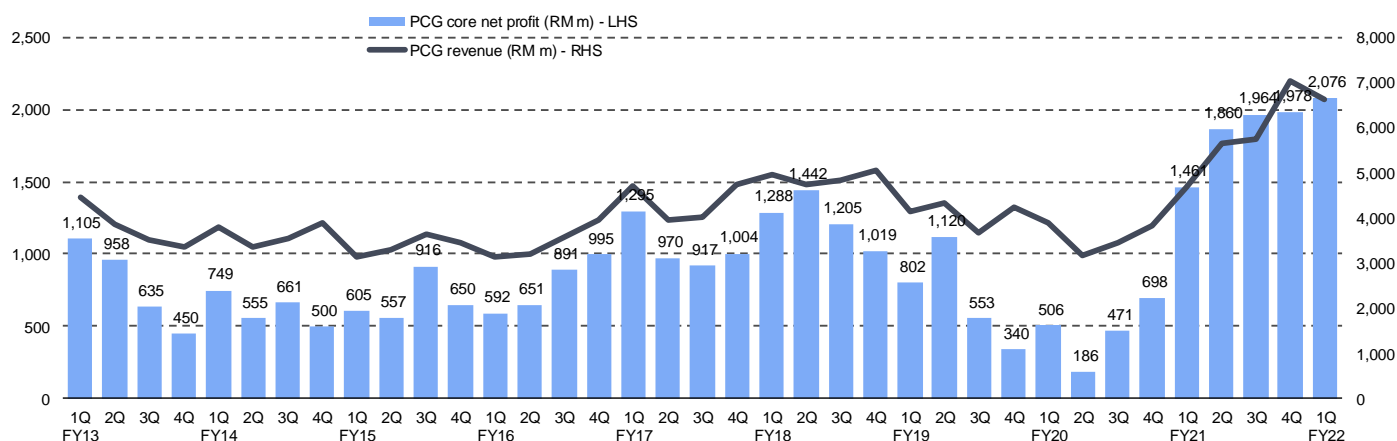
Results comparison table ►

Figure 1: Results comparison

FYE Dec (RM m)	1QFY22	1QFY21	yoy % chg	4QFY21	qoq % chg	Prev FY22F	Comments
Revenue	6,634	4,675	41.9	7,035	-5.7	24,785	1Q22 revenue fell 5.7% qoq due to significantly lower production at O&D due to plant turnaround activities, and lower selling prices for urea.
Operating costs	(4,230)	(2,999)	41.0	(4,828)	-12.4	(17,288)	
EBITDA	2,404	1,676	43.4	2,207	8.9	7,496	1Q22 EBITDA rose qoq on the back of higher average selling prices for O&M, lower production costs at O&M, and the contribution from the Da Vinci specialty chemicals group, partially offset by lower EBITDA at F&M due to maintenance costs incurred at the ASEAN Bintulu Fertilizer.
EBITDA margin (%)	36.2	35.9		31.4		30.2	1Q22 EBITDA rose qoq on the back of higher average selling prices for O&M, lower production costs at O&M, and the contribution from the Da Vinci specialty chemicals group, partially offset by lower EBITDA at F&M due to maintenance costs incurred at the ASEAN Bintulu Fertilizer.
Depn & amort.	(389)	(402)	-3.2	(429)	-9.3	(1,881)	
EBIT	2,015	1,274	58.2	1,778	13.3	5,615	
Interest expense	(7)	(7)	0.0	(9)	-22.2	(19)	
Interest & invt inc	82	169	-51.5	110	-25.5	502	
Associates' contrib	123	133	-7.5	173	-28.9	649	Share of associates fell 29% qoq in 1Q22 due to production issues that have since been resolved, coupled with lower spreads for oxo-alcohols and acrylic acid.
Exceptionals	-	-		-		-	
Pretax profit	2,213	1,569	41.0	2,052	7.8	6,747	
Tax	(141)	(103)	36.9	(100)	41.0	(443)	
Tax rate (%)	6.4	6.6		4.9		6.6	
Minority interests	4	(5)	180.0	26	-84.6	25	
Net profit	2,076	1,461	42.1	1,978	5.0	6,328	
Core net profit	2,076	1,461	42.1	1,978	5.0	6,328	Core net profit in 1Q22 was up 5% qoq, due to higher EBITDA, coupled with 9% lower depreciation qoq as certain olefins assets at Kertih became fully depreciated.
EPS (sen)	25.95	18.26	42.1	24.73	5.0	79.10	
Core EPS (sen)	25.95	18.26	42.1	24.73	5.0	79.10	

SOURCE: CGS-CIMB RESEARCH, COMPANY REPORTS

Figure 2: PCG's quarterly revenue and core net profit performance (RM m)



SOURCES: CGS-CIMB RESEARCH, COMPANY REPORTS

Abbreviation key

O&D: Olefins and derivatives segment

- PE: Polyethylene polymers
 - HDPE: High-density polyethylene
 - LDPE: Low-density polyethylene
 - LLDPE: Linear low-density polyethylene
- PP: Polypropylene polymers
- MEG: Mono ethylene glycol, used as feedstock for polyester fibres and PET resins
- PX: Paraxylene, part of the aromatics family
- BZ: Benzene, part of the aromatics family
- PDH: Propane dehydrogenation plant
- F&M: Fertilisers and methanol segment

Earnings revision table ►

Figure 3: Earnings revision

RM m	2021A	2022F			2023F			2024F		
		Old	New	chg	Old	New	chg	Old	New	chg
Revenue	23,084	24,785	30,453	23%	27,724	32,043	16%	27,724	32,043	16%
EBITDA	8,130	7,496	9,870	32%	7,910	9,232	17%	7,910	9,232	17%
Reported PBT	7,627	6,747	8,879	32%	6,712	8,019	19%	6,474	7,971	23%
Core pretax profit	7,627	6,747	8,879	32%	6,712	8,019	19%	6,474	7,971	23%
Reported net profit	7,263	6,328	8,346	32%	6,293	7,564	20%	6,054	7,515	24%
Reported EPS	0.91	0.79	1.04	32%	0.79	0.95	20%	0.76	0.94	24%
Core net profit	7,263	6,328	8,346	32%	6,293	7,564	20%	6,054	7,515	24%
Core EPS	0.91	0.79	1.04	32%	0.79	0.95	20%	0.76	0.94	24%

SOURCES: CGS-CIMB RESEARCH ESTIMATES, COMPANY REPORTS

Note that PCG had proposed the acquisition of a 100% stake in Perstorp, a Swedish specialty chemicals company. However, subject to the completion of the transaction, we have not included Perstorp's financials into our earnings forecasts for PCG for now.

Target price computation ►

Figure 4: Valuation of Petronas Chemicals Group

	As at end-2022F
One-year forward EBITDA of PCG (RM m) - FY23F	9,231.9
Add: EBITDA of Perstorp in FY21, €248m (RM m)	1,165.6
Total proforma PCG group EBITDA	10,397.5
EV/EBITDA target multiple (x)	7.0
EV (RM m) - end-FY22F	72,782.64
Less: Debt (RM m) - end-FY22F	-1,939.0
Add: Cash (RM m) - end-FY22F	21,250.0
Less: Cost to purchase 100% of Perstorp, €1,538m (RM m)	-7,228.6
Less: Perstorp's debt to be taken over, €852m (RM m)	-4,004.4
Add: Associates and JVs at P/BV of 2x (RM m) - end-FY22F	3,938.0
Equity market value (RM m) - end-FY22F	84,798.6
No of shares (m)	8,000
Target price (RM/share) - end-FY22F	10.60

SOURCES: CGS-CIMB RESEARCH ESTIMATES, COMPANY REPORTS

We reduce our target price for PCG slightly to RM10.60, now based on a target EV/EBITDA multiple of 7x (-1 s.d. from PCG's average multiple of 8x since its listing in 2011) against our FY23F EBITDA. Our previous target price of RM10.76 was based on the mean EV/EBITDA multiple of 8x.

Note that for the purposes of our valuation computation, we have factored in the proposed Perstorp acquisition as separate line items in Figure 4 above.

We have reduced our target EV/EBITDA multiple from 8x to 7x on the back of a 16.7% increase in our FY23F EBITDA estimate (excluding contribution from the proposed acquisition of Perstorp). After extremely strong cyclical earnings in 2021, which are likely to continue for a second year running in 2022F, we think that the probability of weaker earnings in 2023F is rising given increases in petrochemical production capacity and supply and a potential slowdown in global consumer spending due to the squeeze on spending power from high inflation and rising interest rates, which could put pressure on petrochemical selling prices even if feedstock costs remain high.

Current feedstock costs are very already high due to the Russia-Ukraine war, continued US sanctions against Iranian barrels, production constraints among non-Middle East OPEC producers, and the reluctance of Saudi Arabia and the UAE (the most influential Middle East OPEC producers) to increase production of crude oil beyond the drip-feed pace of production increases. In the event that

certain geopolitical issues are resolved, such as the lifting of US sanctions on Iran, oil prices may moderate, assisted by potentially higher output from the US, Canada, Norway, Libya, etc. and possible demand destruction from high prices. If oil prices moderate, petrochemical selling prices may also slide and have a dampening effect on earnings from PCG's Kertih petrochemical complex, which rely on fixed-cost ethane feedstock and/or an adverse impact on PCG's F&M complex of urea and methanol production.

Oil prices, naphtha feedstock costs, and their impact on petrochemical selling prices are very dynamic and difficult to predict accurately. For instance, PCG performed a lot better in 2021 than our original forecast and will likely continue its golden run in 2022F as well. Will the uptrend continue into 2023F? It may but the probability of mean reversion is greater, in our view, due to the fundamental factors that we describe above. PCG's share price peaked at RM10.40 and has since weakened to close at RM9.98 last Friday despite market expectations of very strong 1Q22 results. We think that the smart money is already anticipating peak earnings for PCG this year and taking profit early while the outlook for PCG still looks good.

Upside risks include potentially strong feedstock costs that may flow through to higher petrochemical selling prices as well as the negative impact of the Russia-Ukraine war on the ability of Russia to export ammonia, urea, and methanol.

Downside risks include the potential for Asian petrochemical prices to moderate given the high cumulative amounts of new petrochemical capacity additions in 2022F that may tilt the supply-demand balance unfavourably for producers in 2022F. Also, PCG guided that it expects its Pengerang plants to start up from late-2Q22F onwards; in the initial phase, utilisation rates may not yet have stabilised, while depreciation and interest costs must be expensed to the P&L upon plant commissioning; as a result, Pengerang may not yield PCG good margins at the start.

The proposed Perstorp acquisition ►

On 14 May 2022, PCG signed an agreement to buy a 100% stake in Perstorp Holdings AB, a Swedish specialty chemicals company, for an EV of RM10.5bn. The cash outlay of RM10.9bn (RM7bn for its equity, and another RM3.9bn to take over its debt) will consume more than half of PCG's forecast RM21.3bn cash pile by end-2022F.

A proforma consolidation of Perstorp's FY21 financials will increase PCG's FY21 revenue by 28%, increase PCG's EBITDA by a lower 15% (due to Perstorp's lower EBITDA margin), and increase PCG's PATAMI by 6%. We have not incorporated our forecasts of Perstorp's numbers into PCG's financial forecasts yet, pending completion of the deal.

The acquisition EV/EBITDA valuation of the deal is 9.3x, higher than PCG's current EV/EBITDA multiple of 8x (using FY21's results). The acquisition P/E valuation of the deal is 15.7x, higher than PCG's current P/E multiple of 11x (based on FY21's results). The acquisition P/BV valuation of the deal is 7.3x, higher than PCG's P/BV multiple of 2.3x (as at 31 Dec 2021).

While FY21 acquisition multiples of the Perstorp deal are more expensive than the acquirer's own valuations, PCG may take a longer-term view of the deal and look to grow Perstorp's earnings and book values over time. We also think that suitable targets may be scarce.

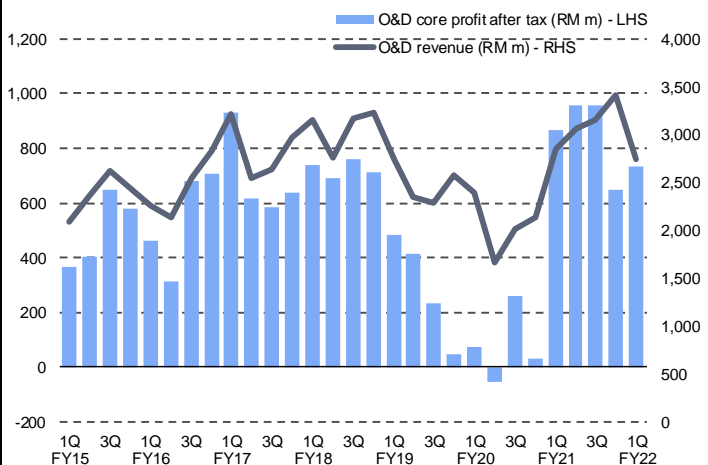
Further information on the results ➤

Figure 5: Segmental breakdown

	1QFY22	1QFY21	yoy %	4QFY21	qoq %	
			chg	chg	Comments	
Overall production (000 mt)	2.4	2.5	-4.0	2.5	-4.6	1Q22 production was 4.6% lower qoq due to plant turnaround
Overall plant utilisation (%)	87%	90%	-3% pts	89%	-2% pts	at several O&D plants, causing overall plant utilisation to fall 2% pts qoq.
Olefins and derivatives (O&D)						
Revenue (RM m)	2,743	2,853	-3.9	3,406	-19.5	1Q22 rev fell 20% qoq due to lower plant utilisation of just
EBITDA (RM m)	832	1,004	-17.1	731	13.8	74%, down 26% pts qoq, due to turnaround at PC Olefins,
EBITDA margin (%)	30%	35%	-5% pts	21%	9% pts	PC Derivatives, and PC Aromatics plants. There were also
Profit after tax (RM m)	733	867	-15.5	650	12.8	pit-stop maintenance at PC Glycols and PC MTBE.
O&D production (000 mt)						
	0.7	1.0	-27.1	1.0	-27.8	However, revenue, EBITDA and PAT rose qoq in 1Q22 due to
* Ethylene	0.2	0.3	-11.8	0.3	-6.6	higher average selling prices, and lower qoq production
O&D plant utilisation (%)	75%	101%	-26% pts	101%	-26% pts	costs.
Fertilisers and methanol (F&M)						
Revenue (RM m)	3,304	1,565	111.1	3,358	-1.6	Despite 10% higher production qoq, upon higher utilisation
EBITDA (RM m)	1,396	700	99.4	1,623	-14.0	rate, revenue was flattish qoq on the back of lower urea
EBITDA margin (%)	42%	45%	-2% pts	48%	-6% pts	prices qoq.
Profit after tax (RM m)	1,172	528	122.0	1,436	-18.4	EBITDA and PAT fell 14-18% qoq due to maintenance costs
F&M production (000 mt)						
	1.7	1.5	10.4	1.5	10.1	incurred at ASEAN Bintulu Fertilizer, which was carried
* Urea	0.6	0.5	10.5	0.6	2.4	over from 4Q21.
* Methanol	0.6	0.5	20.6	0.4	42.0	
F&M plant utilisation (%)	93%	84%	9% pts	83%	10% pts	

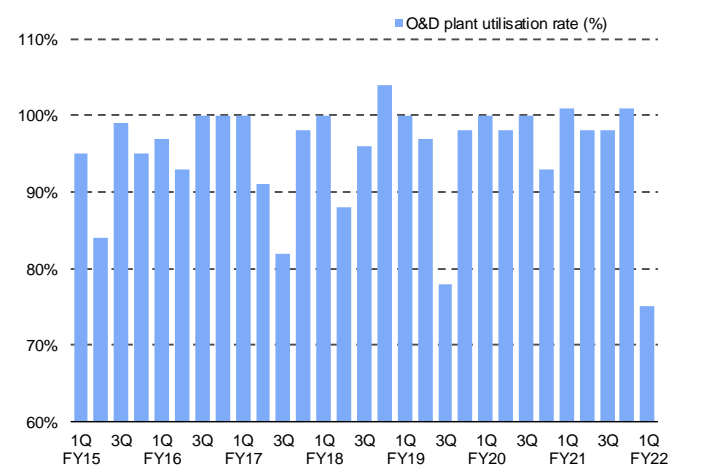
SOURCE: CGS-CIMB RESEARCH, COMPANY REPORTS

Figure 6: O&D: revenue and core profit after tax performance (RM m)



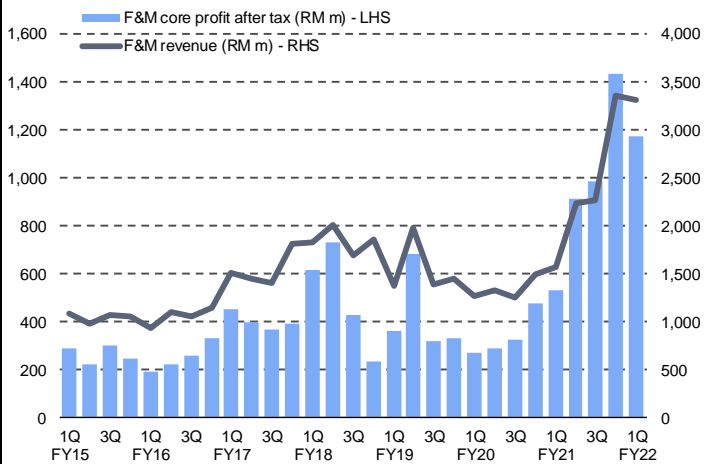
SOURCES: CGS-CIMB RESEARCH, COMPANY REPORTS

Figure 7: O&D plant utilisation rate (%)



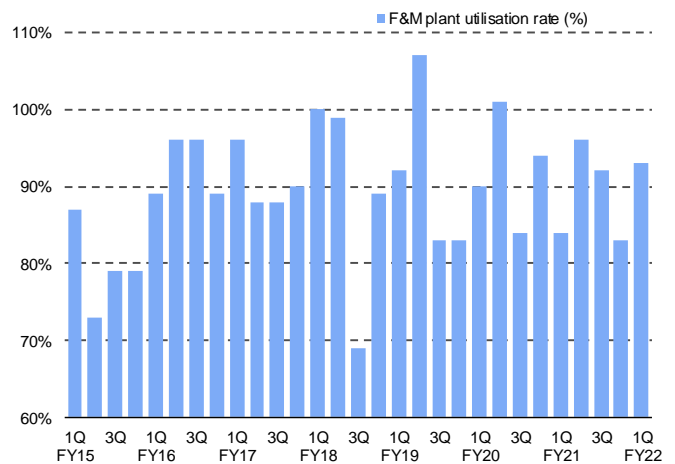
SOURCES: CGS-CIMB RESEARCH, COMPANY REPORTS

Figure 8: F&M: revenue and core profit after tax performance (RM m)



SOURCES: CGS-CIMB RESEARCH, COMPANY REPORTS

Figure 9: F&M plant utilisation rate (%)



SOURCES: CGS-CIMB RESEARCH, COMPANY REPORTS

Sequential quarterly tables ►

Figure 10: Results comparison

FYE Dec (RM m)	1QFY20	2QFY20	3QFY20	4QFY20	1QFY21	2QFY21	3QFY21	4QFY21	1QFY22
Revenue	3,891	3,178	3,457	3,836	4,675	5,638	5,736	7,035	6,634
Operating costs	(3,162)	(2,515)	(2,638)	(2,782)	(2,999)	(3,489)	(3,638)	(4,828)	(4,230)
EBITDA	729	663	819	1,054	1,676	2,149	2,098	2,207	2,404
<i>EBITDA margin (%)</i>	18.7	20.9	23.7	27.5	35.9	38.1	36.6	31.4	36.2
Depn & amort.	(408)	(420)	(424)	(418)	(402)	(402)	(417)	(429)	(389)
EBIT	321	243	395	636	1,274	1,747	1,681	1,778	2,015
Interest expense	(6)	(4)	(6)	(11)	(7)	(6)	(7)	(9)	(7)
Interest & invt inc	285	82	78	160	169	69	100	110	82
Associates' contrib	(32)	(30)	12	(34)	133	167	255	173	123
Exceptionals	-	-	-	(232)	-	-	-	-	-
Pretax profit	568	291	479	519	1,569	1,977	2,029	2,052	2,213
Tax	(75)	(106)	(27)	(63)	(103)	(121)	(66)	(100)	(141)
Tax rate (%)	13.2	36.4	5.6	12.1	6.6	6.1	3.3	4.9	6.4
Minority interests	13	1	19	10	(5)	4	1	26	4
Net profit	506	186	471	466	1,461	1,860	1,964	1,978	2,076
Core net profit	506	186	471	698	1,461	1,860	1,964	1,978	2,076
EPS (sen)	6.33	2.33	5.89	5.83	18.26	23.25	24.55	24.73	25.95
Core EPS (sen)	6.33	2.33	5.89	8.73	18.26	23.25	24.55	24.73	25.95

SOURCES: CGS-CIMB RESEARCH, COMPANY REPORTS

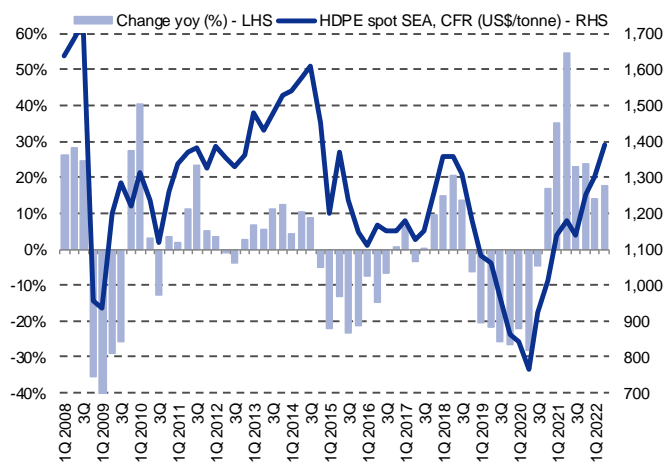
Figure 11: Segmental breakdown

FYE Dec (RM m)	1QFY20	2QFY20	3QFY20	4QFY20	1QFY21	2QFY21	3QFY21	4QFY21	1QFY22
Overall production (000 mt)	2.7	2.8	2.6	2.7	2.5	2.7	2.7	2.5	2.4
Overall plant utilisation (%)	94%	100%	90%	94%	90%	97%	94%	89%	87%
Olefins and derivatives (O&D)									
Revenue (RM m)	2,398	1,667	2,006	2,137	2,853	3,063	3,155	3,406	2,743
EBITDA (RM m)	276	227	414	476	1,004	1,072	952	731	832
EBITDA margin (%)	11.5%	13.6%	20.6%	22.3%	35.2%	35.0%	30.2%	21.5%	30.3%
Profit after tax (RM m)	71	-57	258	29	867	957	955	650	733
O&D production (000 mt)	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	0.7
* Ethylene	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2
O&D plant utilisation (%)	100%	98%	100%	93%	101%	98%	98%	101%	75%
Fertilisers and methanol (F&M)									
Revenue (RM m)	1,261	1,317	1,242	1,491	1,565	2,237	2,271	3,358	3,304
EBITDA (RM m)	504	492	519	667	700	1,094	1,142	1,623	1,396
EBITDA margin (%)	40.0%	37.4%	41.8%	44.7%	44.7%	48.9%	50.3%	48.3%	42.3%
Profit after tax (RM m)	271	286	323	476	528	912	983	1,436	1,172
F&M production (000 mt)	1.6	1.8	1.6	1.7	1.5	1.8	1.7	1.5	1.7
* Urea	0.6	0.7	0.5	0.6	0.5	0.6	0.6	0.6	0.6
* Methanol	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.4	0.6
F&M plant utilisation (%)	90%	101%	84%	94%	84%	96%	92%	83%	93%

SOURCES: CGS-CIMB RESEARCH, COMPANY REPORTS

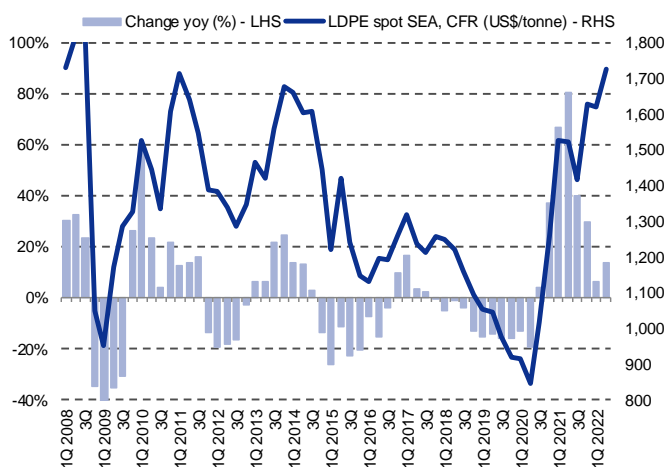
Petrochemical price charts and tables ➤

Figure 12: HDPE spot SEA, quarterly CFR average prices (US\$/tonne)



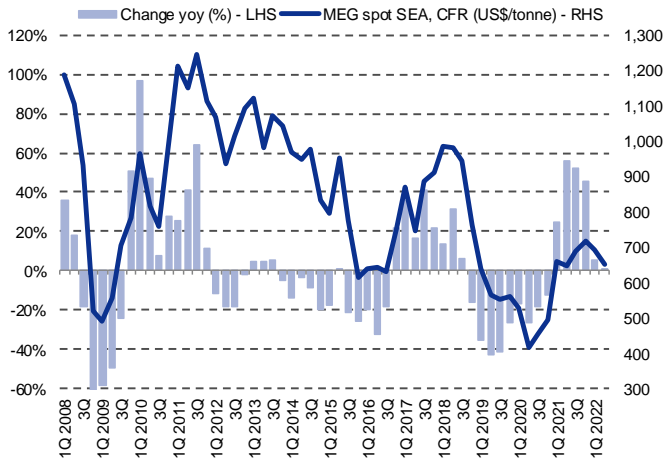
SOURCES: CGS-CIMB RESEARCH, POLYMERUPDATE.COM, BLOOMBERG

Figure 13: LDPE spot SEA, quarterly CFR average prices (US\$/tonne)



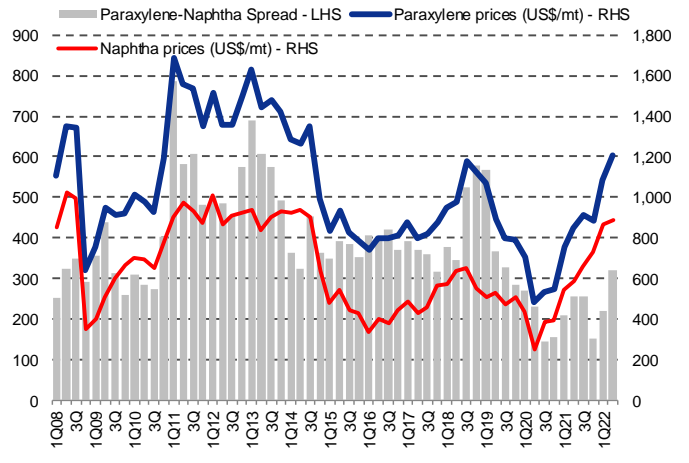
SOURCES: CGS-CIMB RESEARCH, POLYMERUPDATE.COM, BLOOMBERG

Figure 14: MEG spot SEA, quarterly CFR average prices (US\$/tonne)



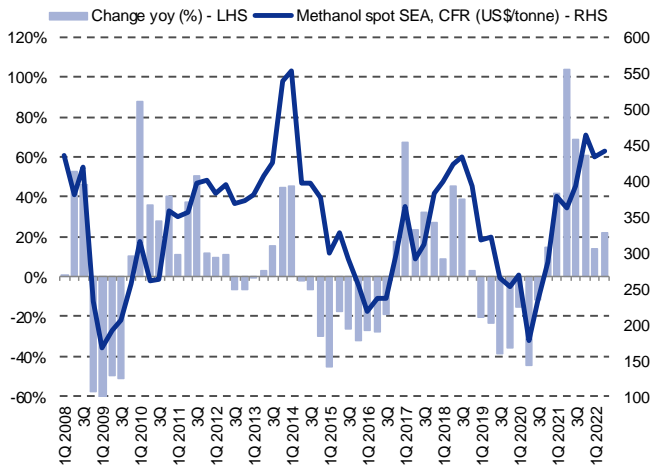
SOURCES: CGS-CIMB RESEARCH, POLYMERUPDATE.COM, BLOOMBERG

Figure 15: Paraxylene (SEA CFR) and naphtha (Singapore FOB) quarterly prices vs. Paraxylene-Naphtha spread



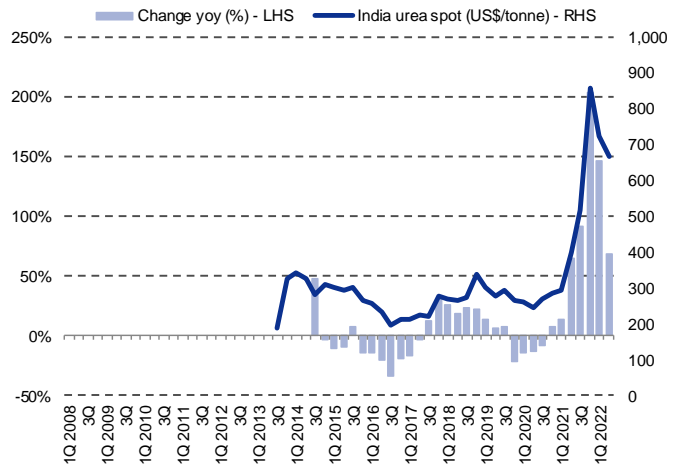
SOURCES: CGS-CIMB RESEARCH, POLYMERUPDATE.COM, BLOOMBERG

Figure 16: Methanol spot SEA, quarterly CFR average prices (US\$/tonne)



SOURCES: CGS-CIMB RESEARCH, POLYMERUPDATE.COM, BLOOMBERG

Figure 17: India urea spot (US\$/tonne)



SOURCES: CGS-CIMB RESEARCH, GREEN MARKETS, BLOOMBERG

Figure 18: Quarterly average prices of polyethylene (PE) (US\$/tonne)

	HDPE Spot SEA, CFR (US\$/tonne)					LDPE Spot SEA, CFR (US\$/tonne)					LLDPE Spot SEA, CFR (US\$/tonne)				
	1Q	2Q	3Q	4Q	Full year	1Q	2Q	3Q	4Q	Full year	1Q	2Q	3Q	4Q	Full year
2008	1,637	1,687	1,732	958	1,504	1,731	1,821	1,870	1,048	1,618	1,630	1,707	1,759	960	1,514
2009	934	1,198	1,283	1,222	1,159	951	1,171	1,285	1,323	1,183	951	1,155	1,273	1,256	1,159
2010	1,313	1,234	1,118	1,261	1,232	1,527	1,442	1,332	1,606	1,477	1,403	1,297	1,145	1,337	1,295
2011	1,339	1,371	1,382	1,324	1,354	1,713	1,640	1,544	1,386	1,571	1,422	1,350	1,325	1,204	1,325
2012	1,386	1,355	1,330	1,362	1,358	1,382	1,336	1,283	1,344	1,336	1,303	1,329	1,310	1,362	1,326
2013	1,479	1,430	1,478	1,529	1,479	1,463	1,419	1,559	1,675	1,529	1,474	1,406	1,473	1,534	1,472
2014	1,542	1,579	1,609	1,453	1,546	1,660	1,603	1,605	1,443	1,578	1,555	1,570	1,603	1,439	1,542
2015	1,202	1,371	1,234	1,145	1,238	1,218	1,418	1,240	1,146	1,256	1,201	1,361	1,210	1,135	1,227
2016	1,111	1,166	1,150	1,150	1,144	1,129	1,194	1,189	1,258	1,193	1,106	1,163	1,164	1,173	1,151
2017	1,181	1,128	1,151	1,260	1,180	1,317	1,235	1,212	1,257	1,255	1,202	1,135	1,141	1,191	1,167
2018	1,356	1,358	1,308	1,179	1,300	1,247	1,218	1,160	1,092	1,179	1,220	1,181	1,122	1,072	1,149
2019	1,081	1,061	968	864	993	1,053	1,045	975	918	998	1,030	1,005	922	843	950
2020	843	763	925	1,011	886	913	842	1,014	1,255	1,006	839	751	872	977	860
2021	1,140	1,181	1,138	1,253	1,178	1,525	1,522	1,416	1,628	1,523	977	1,188	1,187	1,304	1,164
2022	1,299	1,391			1,345	1,620	1,726			1,673	1,323	1,404			1,364
<i>Change yoy (US\$/tonne)</i>															
2009	-703	-490	-449	264	-344	-780	-650	-584	275	-435	-678	-552	-486	296	-355
2010	379	37	-165	40	73	576	271	47	283	294	452	142	-128	81	137
2011	26	137	263	63	122	186	198	212	-220	94	19	53	180	-133	30
2012	47	-16	-52	38	4	-331	-305	-260	-42	-234	-119	-21	-15	157	1
2013	93	75	148	167	121	82	83	276	330	193	171	77	164	173	146
2014	63	149	132	-76	67	197	184	46	-232	49	81	163	130	-95	70
2015	-340	-208	-375	-308	-308	-442	-185	-365	-297	-322	-354	-209	-393	-304	-315
2016	-91	-205	-84	5	-94	-90	-224	-51	113	-63	-95	-198	-46	38	-75
2017	70	-38	0	110	35	188	40	23	-1	63	96	-28	-23	18	16
2018	175	230	157	-81	120	-70	-16	-52	-166	-76	18	47	-19	-119	-18
2019	-275	-297	-340	-315	-307	-194	-173	-185	-173	-182	-191	-177	-200	-229	-199
2020	-237	-298	-44	147	-108	-140	-203	39	337	8	-191	-254	-50	134	-90
2021	296	417	214	242	292	611	680	402	372	516	138	437	315	328	304
2022	160	210			167	95	205			151	347	216			200

SOURCES: CGS-CIMB RESEARCH, POLYMERUPDATE.COM, BLOOMBERG

Figure 19: Quarterly average prices of MEG, Urea and Methanol (US\$/tonne)


	MEG Spot SEA, CFR (US\$/tonne)					India Urea Spot Bulk (US\$/tonne)					Methanol Spot SEA, CFR (US\$/tonne)				
	1Q	2Q	3Q	4Q	Full year	1Q	2Q	3Q	4Q	Full year	1Q	2Q	3Q	4Q	Full year
2008	1,186	1,106	933	518	936						435	381	420	232	367
2009	490	558	704	783	634						168	192	206	255	205
2010	966	818	759	1,000	886						315	260	263	359	299
2011	1,214	1,151	1,245	1,115	1,181						350	356	396	400	376
2012	1,068	937	1,013	1,093	1,028						383	395	369	372	380
2013	1,120	982	1,072	1,042	1,054			189	323		380	407	425	539	438
2014	968	947	978	832	931	341	324	279	310	313	552	397	397	376	430
2015	795	953	773	615	784	302	293	299	262	289	300	327	291	255	293
2016	638	642	629	750	665	256	232	196	212	224	218	236	236	300	248
2017	870	746	887	913	854	213	223	221	277	234	365	291	311	382	337
2018	985	979	944	762	918	268	263	273	339	286	398	422	432	391	411
2019	637	563	553	562	579	302	278	293	262	284	317	322	264	252	289
2020	528	414	453	492	472	258	242	269	283	263	268	178	233	288	242
2021	658	646	689	718	678	293	397	515	858	516	379	362	393	463	399
2022	693	652			672	722	666			694	432	442			437
<i>Change yoy (US\$/tonne)</i>															
2009	-696	-548	-229	265	-302						-268	-190	-214	23	-162
2010	476	260	55	218	252						147	68	58	103	94
2011	248	333	487	115	296						35	96	133	41	76
2012	-146	-215	-232	-22	-154						32	39	-28	-28	4
2013	52	45	58	-51	26						-3	12	57	167	58
2014	-153	-35	-93	-210	-123			90	-14	313	173	-9	-29	-163	-7
2015	-173	7	-205	-217	-147	-39	-31	20	-47	-24	-252	-70	-105	-120	-137
2016	-156	-312	-144	136	-119	-46	-61	-103	-51	-65	-82	-91	-55	45	-46
2017	231	104	257	163	189	-43	-9	25	66	10	147	55	75	82	90
2018	115	233	58	-151	64	55	40	52	62	52	33	131	121	10	74
2019	-347	-417	-391	-201	-339	34	15	20	-76	-2	-80	-100	-168	-140	-122
2020	-109	-148	-100	-69	-107	-44	-36	-24	20	-21	-49	-144	-31	36	-47
2021	130	232	236	226	206	35	155	246	576	253	111	184	160	175	157
2022	35	6			-5	429	269			178	53	79			38

SOURCES: CGS-CIMB RESEARCH, POLYMERUPDATE.COM, GREEN MARKETS, BLOOMBERG

Figure 20: Benzene (spot Japan CFR), toluene (SEA FOB) and paraxylene (SEA FOB) spreads against naphtha (Singapore FOB) - US\$/tonne

	Benzene-naphtha spreads (US\$/tonne)					Toluene-naphtha spreads (US\$/tonne)					Paraxylene-naphtha spreads (US\$/tonne)				
	1Q	2Q	3Q	4Q	Full year	1Q	2Q	3Q	4Q	Full year	1Q	2Q	3Q	4Q	Full year
2008	204	211	211	101	181	109	139	109	168	131					
2009	12	162	224	203	150	138	170	176	148	158					
2010	267	213	187	173	210	180	126	110	113	132					
2011	251	179	192	134	189	110	129	198	244	170					
2012	179	247	282	449	289	200	260	238	380	270					
2013	440	455	360	361	404	348	315	251	238	288	688	608	576	492	591
2014	385	364	408	326	371	212	169	268	218	216	365	323	453	362	376
2015	204	272	233	171	220	171	260	232	215	219	349	391	384	354	369
2016	238	231	263	290	255	269	234	219	238	240	407	404	419	372	401
2017	431	337	305	281	339	236	219	208	157	205	393	369	361	318	360
2018	319	212	212	161	226	185	162	171	181	175	379	346	524	578	457
2019	97	87	205	176	141	147	167	216	190	180	566	368	327	284	386
2020	200	134	46	131	128	187	130	47	78	111	269	230	144	156	200
2021	205	382	365	245	299	115	171	127	86	125	209	257	255	151	218
2022	234	308			271	98	234			166	222	319			270
<i>Change yoy (US\$/tonne)</i>															
2009	-192	-48	14	102	-31	28	32	67	-20	27					
2010	255	51	-37	-30	60	43	-45	-66	-35	-26					
2011	-16	-35	5	-39	-21	-70	3	88	131	38					
2012	-72	68	90	314	100	89	132	41	136	99					
2013	261	208	79	-88	115	148	55	13	-142	19					
2014	-55	-92	48	-35	-33	-136	-146	16	-20	-72	-323	-284	-124	-131	-216
2015	-181	-91	-175	-155	-150	-40	91	-36	-3	3	-16	67	-69	-8	-6
2016	33	-41	29	119	35	98	-26	-13	23	21	58	14	35	18	31
2017	194	106	42	-9	83	-34	-15	-11	-81	-35	-14	-35	-58	-53	-40
2018	-112	-126	-93	-120	-113	-51	-57	-37	23	-30	-15	-23	163	259	96
2019	-223	-124	-7	15	-85	-38	5	46	9	6	187	22	-198	-293	-70
2020	103	46	-159	-45	-14	40	-38	-169	-112	-70	-297	-138	-183	-128	-187
2021	5	248	319	115	172	-73	41	80	8	14	-60	27	111	-5	18
2022	29	-74			-28	-16	63			41	12	62			52

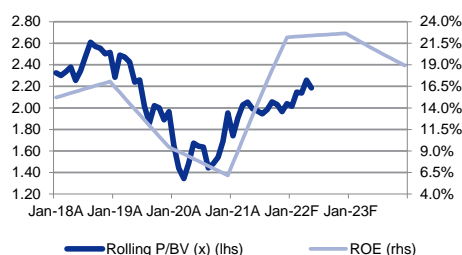
SOURCES: CGS-CIMB RESEARCH, POLYMERUPDATE.COM, BLOOMBERG

<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: left;"> <h2>ESG in a nutshell</h2> </div> <div style="text-align: center;">  </div> <div style="text-align: right;"> <h3>Refinitiv ESG Scores</h3> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="background-color: #90EE90;">B</td> <td style="background-color: #90EE90;">A+</td> <td style="background-color: #90EE90;">B</td> <td style="background-color: #90EE90;">C+</td> <td style="background-color: #90EE90;">B+</td> <td style="background-color: #90EE90;">B</td> </tr> <tr> <td style="font-size: 8px;">ESG Score</td> <td style="font-size: 8px;">ESG Controversies Score</td> <td style="font-size: 8px;">ESG Combined Score</td> <td style="font-size: 8px;">ESG Environment Pillar Score</td> <td style="font-size: 8px;">ESG Social Pillar Score</td> <td style="font-size: 8px;">ESG Government Pillar Score</td> </tr> </table> </div> </div>		B	A+	B	C+	B+	B	ESG Score	ESG Controversies Score	ESG Combined Score	ESG Environment Pillar Score	ESG Social Pillar Score	ESG Government Pillar Score
B	A+	B	C+	B+	B								
ESG Score	ESG Controversies Score	ESG Combined Score	ESG Environment Pillar Score	ESG Social Pillar Score	ESG Government Pillar Score								
<p>As a large petrochemical producer, Petronas Chemicals Group (PCG) is responsible for a large volume of pollution and waste. These not only include the Scope 1 and Scope 2 emissions of greenhouse gases (GHG) and emissions of air pollutants, like sulphur oxides (SOx) and nitrous oxides (NOx), and the wastewater that is the by-product of its production processes but also the waste that results from the indiscriminate disposal of plastic products by the end-consumers. While the latter is not directly under PCG's control, it is heartening to see that PCG is taking active steps to address the growing problem of plastic pollution in rivers, seas and in landfills. As a subsidiary of Petronas, PCG will strive to achieve its parent company's net zero carbon emissions target by 2050F, otherwise known as 'Aspiration 2050', in our view.</p>													
<p>Keep your eye on</p> <p>In 2020, PCG completed a feasibility study with London-based Plastic Energy Ltd to establish a facility that converts difficult-to-recycle plastic waste into naphtha-quality oil, also known as Thermal Anaerobic Conversion Oil (TACOIL), which can be used to produce ethylene and propylene en route to the production of new virgin-quality plastics. This is called chemical recycling and aims to fundamentally break down plastics into its molecular building blocks. Chemical recycling fills the large gap left by the inadequacies of mechanical recycling, which is typically done only for high-value plastics like polyethylene terephthalate (PET) but is rarely done in Malaysia for general plastic waste like plastic bags, plastic food wrappers, etc.</p>	<p>Implications</p> <p>Following the success of its feasibility study, PCG is currently performing a detailed engineering study of the facility. If PCG establishes this facility, it may help to reduce plastic pollution in Malaysia. PCG has set a 2030F target to recover plastic waste equivalent to 100% of its domestic polymer sales volume. This plastic waste can then be used as feedstock for its chemical recycling plant, with the output being TACOIL. Using TACOIL to produce virgin plastics can reduce the problem of plastic pollution and can also reduce the consumption of non-renewable fossil gases, such as ethane and propane, which are used as feedstock in PCG's petrochemical plants.</p>												
<p>ESG highlights</p> <p>In 2017, PCG set a target to reduce its absolute GHG emissions to 6.92m tonnes of CO₂-equivalent (CO₂-e) by 2024. PCG emitted 7.08m tonnes of CO₂-e in 2018, 7.02m tonnes in 2019, and 7.1m tonnes in 2020, with the latter comprising 5.77m tonnes of Scope 1 emissions and 1.33m tonnes of Scope 2 emissions. This means that PCG still needs to reduce its absolute GHG emissions by 2.6% between 2020 and 2024.</p> <p>With respect to air emissions, PCG reported that its NO_x and SO_x air emissions were reduced by 19% yoy in 2020 while emissions intensity fell 24% yoy due to improvements in its production processes that resulted in stabilised flaring during 2020.</p>	<p>Implications</p> <p>Despite seeing absolute GHG emissions rise yoy in 2020, PCG saw its GHG intensity decline from 0.87 tonnes of CO₂-e per tonne of production in 2018 to 0.83 in 2019, and down further to 0.80 in 2020. We are unclear if PCG's absolute GHG emissions target of 6.92m tonnes of CO₂-e will or will not be modified for the incoming Pengerang Integrated Complex that should be commissioned by end-2021F. In order to achieve its net zero carbon emissions target by 2050F, PCG has said that it will optimise energy use, invest in low-carbon solutions and even explore carbon offsets. We expect the exact details to be fleshed out in time to come.</p>												
<p>Trends</p> <p>PCG is committed to constructing best-in-class production facilities in order to reduce its carbon footprint, including designing new PCG projects with zero continuous flaring as well as reducing flaring at existing facilities by monetising hydrocarbon gas. PCG will also conduct Carbon Footprint Assessments (CFA) to calculate the 'Carbon Cost' of any new projects.</p>	<p>Implications</p> <p>The calculation of 'Carbon Cost' ensures that PCG's new projects will remain economically viable if a carbon tax is imposed during their operation phase. CFA also allows PCG to assess a project's compliance with Petronas's 'Aspiration 2050' commitment.</p>												

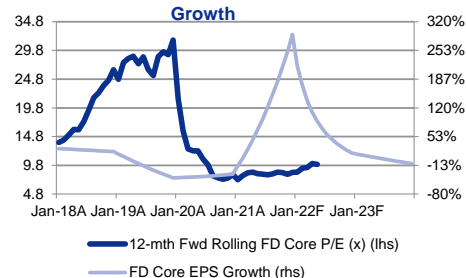
SOURCES: CGS-CIMB RESEARCH, REFINITIV

BY THE NUMBERS

P/BV vs ROE



12-mth Fwd FD Core P/E vs FD Core EPS Growth



Profit & Loss

(RMm)	Dec-20A	Dec-21A	Dec-22F	Dec-23F	Dec-24F
Total Net Revenues	14,362	23,084	30,453	32,043	32,043
Gross Profit	4,778	10,287	11,848	11,392	11,392
Operating EBITDA	3,265	8,130	9,870	9,232	9,232
Depreciation And Amortisation	-1,670	-1,650	-1,795	-1,981	-2,050
Operating EBIT	1,595	6,480	8,075	7,251	7,182
Financial Income/(Expense)	196	88	74	80	100
Pretax Income/(Loss) from Assoc.	-84	728	489	449	449
Non-Operating Income/(Expense)	382	331	240	240	240
Profit Before Tax (pre-EI)	2,089	7,627	8,879	8,019	7,971
Exceptional Items	-232	0	0	0	0
Pre-tax Profit	1,857	7,627	8,879	8,019	7,971
Taxation	-271	-390	-558	-480	-481
Exceptional Income - post-tax					
Profit After Tax	1,586	7,237	8,321	7,539	7,490
Minority Interests	43	26	25	25	25
Preferred Dividends					
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax					
Net Profit	1,629	7,263	8,346	7,564	7,515
Recurring Net Profit	1,861	7,263	8,346	7,564	7,515
Fully Diluted Recurring Net Profit	1,861	7,263	8,346	7,564	7,515

Cash Flow

(RMm)	Dec-20A	Dec-21A	Dec-22F	Dec-23F	Dec-24F
EBITDA	3,265	8,130	9,870	9,232	9,232
Cash Flow from Inv. & Assoc.					
Change In Working Capital	-550	-188	1,261	313	0
(Incr)/Decr in Total Provisions					
Other Non-Cash (Income)/Expense					
Other Operating Cashflow	280	323	240	240	240
Net Interest (Paid)/Received	178	38	58	81	101
Tax Paid	-204	-197	-493	-415	-416
Cashflow From Operations	2,969	8,106	10,936	9,451	9,157
Capex	-1,476	-1,538	-987	-1,005	-1,005
Disposals Of FAs/subsidiaries	2	1	0	0	0
Acq. Of Subsidiaries/Investments	-18	-169	0	0	0
Other Investing Cashflow	48	150	0	0	0
Cash Flow From Investing	-1,444	-1,556	-987	-1,005	-1,005
Debt Raised/(repaid)	287	97	-449	-176	-170
Proceeds From Issue Of Shares	0	0	0	0	0
Shares Repurchased					
Dividends Paid	-964	-3,206	-4,640	-5,040	-4,560
Preferred Dividends					
Other Financing Cashflow	-69	4	0	0	0
Cash Flow From Financing	-746	-3,105	-5,089	-5,216	-4,730
Total Cash Generated	779	3,445	4,860	3,230	3,422
Free Cashflow To Equity	1,812	6,647	9,500	8,270	7,982
Free Cashflow To Firm	1,571	6,629	9,985	8,479	8,182

SOURCES: CGS-CIMB RESEARCH, COMPANY REPORTS

BY THE NUMBERS... cont'd

Balance Sheet

(RMm)	Dec-20A	Dec-21A	Dec-22F	Dec-23F	Dec-24F
Total Cash And Equivalents	12,707	16,390	21,250	24,480	27,902
Total Debtors	1,938	2,737	3,611	3,799	3,799
Inventories	1,806	2,214	2,031	2,217	2,217
Total Other Current Assets	46	85	85	85	85
Total Current Assets	16,497	21,426	26,976	30,581	34,003
Fixed Assets	20,987	22,195	21,405	20,429	19,384
Total Investments	722	1,480	1,969	2,418	2,867
Intangible Assets	744	684	684	684	684
Total Other Non-Current Assets	879	823	823	823	823
Total Non-current Assets	23,332	25,182	24,881	24,354	23,758
Short-term Debt	198	232	223	223	223
Current Portion of Long-Term Debt					
Total Creditors	2,966	4,648	6,599	7,287	7,287
Other Current Liabilities	80	73	73	73	73
Total Current Liabilities	3,244	4,953	6,895	7,583	7,583
Total Long-term Debt	1,994	2,156	1,716	1,541	1,371
Hybrid Debt - Debt Component					
Total Other Non-Current Liabilities	0	0	0	0	0
Total Non-current Liabilities	1,994	2,156	1,716	1,541	1,371
Total Provisions	3,582	3,959	4,024	4,089	4,154
Total Liabilities	8,820	11,068	12,635	13,212	13,107
Shareholders' Equity	30,446	35,005	38,711	41,235	44,189
Minority Interests	563	535	510	485	460
Total Equity	31,009	35,540	39,221	41,720	44,649

Key Ratios

	Dec-20A	Dec-21A	Dec-22F	Dec-23F	Dec-24F
Revenue Growth	(12.3%)	60.7%	31.9%	5.2%	0.0%
Operating EBITDA Growth	(25%)	149%	21%	(6%)	0%
Operating EBITDA Margin	22.7%	35.2%	32.4%	28.8%	28.8%
Net Cash Per Share (RM)	1.31	1.75	2.41	2.84	3.29
BVPS (RM)	3.81	4.38	4.84	5.15	5.52
Gross Interest Cover	59.1	223.4	411.7	209.0	229.9
Effective Tax Rate	14.6%	5.1%	6.3%	6.0%	6.0%
Net Dividend Payout Ratio	51.6%	61.7%	60.4%	60.3%	59.6%
Accounts Receivables Days	50.10	36.96	38.04	42.20	43.40
Inventory Days	66.14	57.33	41.64	37.54	39.29
Accounts Payables Days	113.7	103.7	105.0	117.9	124.4
ROIC (%)	5.4%	21.1%	25.6%	25.1%	26.4%
ROCE (%)	5.4%	18.1%	20.1%	17.0%	15.9%
Return On Average Assets	4.2%	16.6%	16.8%	14.0%	13.2%

Key Drivers

	Dec-20A	Dec-21A	Dec-22F	Dec-23F	Dec-24F
Total O&D production (m tonnes)	3.9	3.9	4.2	5.2	5.2
Total O&D plant utilisation (%)	97.7%	100.0%	86.3%	90.7%	90.7%
Total O&D avg selling price (US\$/tonne)	672.2	998.8	1,068.7	1,015.3	1,015.3
Total F&M production (m tonnes)	6.8	6.5	6.6	6.6	6.6
Total F&M plant utilisation (%)	92.2%	89.0%	91.0%	91.0%	91.0%
Total F&M avg selling price (US\$/tonne)	243.0	444.6	533.6	480.2	480.2

SOURCES: CGS-CIMB RESEARCH, COMPANY REPORTS

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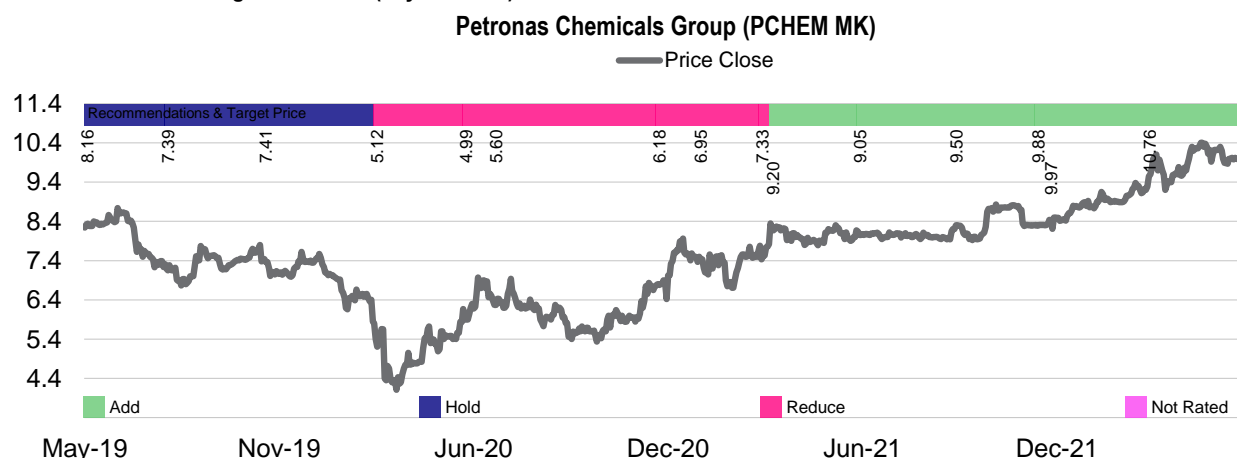
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Distribution of stock ratings and investment banking clients for quarter ended on 31 March 2022		
632 companies under coverage for quarter ended on 31 March 2022		
	Rating Distribution (%)	Investment Banking clients (%)
Add	70.3%	0.8%
Hold	22.0%	0.0%
Reduce	7.8%	0.2%

Spitzer Chart for stock being researched (2 year data)



Corporate Governance Report of Thai Listed Companies (CGR). CG Rating by the Thai Institute of Directors Association (Thai IOD) in 2021, Anti-Corruption 2021

ADVANC – Excellent, Certified, **AMATA** – Excellent, Certified, **ANAN** – Excellent, n/a, **AOT** – Excellent, n/a, **AP** – Excellent, Certified, **ASP** – Excellent, n/a, **AWC** – Excellent, Declared, **AU** – Good, n/a, **BAM** – Very Good, Certified, **BAY** – Excellent, Certified, **BBL** – Excellent, Certified, **BCH** – Very Good, Certified, **BCP** - Excellent, Certified, **BCPG** – Excellent, Certified, **BDMS** – Excellent, n/a, **BEAUTY** – Good, n/a, **BEM** – Excellent, n/a **BH** - Good, n/a, **BJC** – Very Good, n/a, **BLA** – Very Good, Certified, **BTS** - Excellent, Certified, **CBG** – Very Good, n/a, **CCET** – n/a, n/a, **CENTEL** – Excellent, Certified, **CHAYO** – Very Good, n/a, **CHG** – Very Good, n/a, **CK** – Excellent, n/a, **COM7** – Excellent, Certified, **CPALL** – Excellent, Certified, **CPF** – Excellent, Certified, **CPN** - Excellent, Certified, **CPNREIT** – n/a, n/a, **CRC** – Excellent, Declared, **DELTA** - Excellent, Certified, **DDD** – Excellent, n/a, **DIF** – n/a, n/a, **DOHOME** – Very Good, Declared, **DREIT** – n/a, n/a, **DTAC** – Excellent, Certified, **ECL** – Excellent, Certified, **EGCO** - Excellent, Certified, **EPG** – Excellent, Certified, **ERW** – Very Good, Certified, **GFPT** - Excellent, Certified, **GGC** – Excellent, Certified, **GLOBAL** – Excellent, n/a, **HANA** - Excellent, Certified, **HMPRO** - Excellent, Certified, **HUMAN** – Good, n/a, **ICHI** – Excellent, Certified, **III** – Excellent, Declared, **INTUCH** - Excellent, Certified, **IRPC** – Excellent, Certified, **ITD** – Very Good, n/a, **IVL** - Excellent, Certified, **JASIF** – n/a, n/a, **JKN** – n/a, Certified, **JMT** – Very Good, n/a, **KBANK** - Excellent, Certified, **KCE** - Excellent, Certified, **KEX** – Very Good, Declared, **KKP** – Excellent, Certified, **KSL** – Excellent, Certified, **KTB** - Excellent, Certified, **KTC** – Excellent, Certified, **LH** - Excellent, n/a, **LPN** – Excellent, Certified, **M** – Very Good, Certified, **MAKRO** – Excellent, Certified, **MC** – Excellent, Certified, **MEGA** – Very Good, n/a, **MINT** - Excellent, Certified, **MTC** – Excellent, Certified, **NETBAY** – Very Good, n/a, **NRF** – Very Good, Declared, **OR** – Excellent, n/a, **ORI** – Excellent, Certified, **OSP** – Excellent, n/a, **PLANB** – Excellent, Certified, **PRINC** – Very Good, Certified, **PR9** – Excellent, Declared, **PSH** – Excellent, Certified, **PTT** - Excellent, Certified, **PTTEP** - Excellent, n/a, **PTTGC** - Excellent, Certified, **QH** – Excellent, Certified, **RAM** – n/a, n/a, **RBF** – Very Good, n/a, **RS** – Excellent, Declared, **RSP** – Good, n/a, **S** – Excellent, n/a, **SAK** – Very Good, Declared, **SAPPE** – Very Good, Certified, **SAWAD** – Very Good, n/a, **SCB** - Excellent, Certified, **SCC** – Excellent, Certified, **SCGP** – Excellent, Declared, **SECURE** – n/a, n/a, **SHR** – Excellent, n/a, **SIRI** – Excellent, Certified, **SPA** – Very Good, n/a, **SPALI** - Excellent, Certified, **SPRC** – Excellent, Certified, **SSP** - Good, Certified, **STEC** – Excellent, n/a, **SVI** – Excellent, Certified, **SYNEX** – Very Good, Certified, **TCAP** – Excellent, Certified, **THANI** – Excellent, Certified, **TIDLOR** – n/a, Certified, **TISCO** - Excellent, Certified, **TKN** – Very Good, n/a, **TOP** - Excellent, Certified, **TRUE** – Excellent, Certified, **TTB** - Excellent, Certified, **TU** – Excellent, Certified, **TVO** – Excellent, Certified, **VGI** – Excellent, Certified, **WHA** – Excellent, Certified, **WHART** – n/a, n/a, **WICE** – Excellent, Certified, **WORK** – Good, n/a.

- CG Score 2021 from Thai Institute of Directors Association (IOD)

- Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of August 5, 2021) are categorised into: companies that have declared their intention to join CAC, and companies certified by CAC.

Recommendation Framework	
Stock Ratings	Definition:
Add	The stock's total return is expected to exceed 10% over the next 12 months.
Hold	The stock's total return is expected to be between 0% and positive 10% over the next 12 months.
Reduce	The stock's total return is expected to fall below 0% or more over the next 12 months.
<i>The total expected return of a stock is defined as the sum of the: (i) percentage difference between the target price and the current price and (ii) the forward net dividend yields of the stock. Stock price targets have an investment horizon of 12 months.</i>	
Sector Ratings	Definition:
Overweight	An Overweight rating means stocks in the sector have, on a market cap-weighted basis, a positive absolute recommendation.
Neutral	A Neutral rating means stocks in the sector have, on a market cap-weighted basis, a neutral absolute recommendation.
Underweight	An Underweight rating means stocks in the sector have, on a market cap-weighted basis, a negative absolute recommendation.
Country Ratings	Definition:
Overweight	An Overweight rating means investors should be positioned with an above-market weight in this country relative to benchmark.
Neutral	A Neutral rating means investors should be positioned with a neutral weight in this country relative to benchmark.
Underweight	An Underweight rating means investors should be positioned with a below-market weight in this country relative to benchmark.