

India
HOLD (Initiating coverage)

Consensus ratings*: Buy 4 Hold 0 Sell 0

Current price:	Rs1,048
Target price:	Rs1,073
Previous target:	NA
Up/downside:	2.4%
EIP Research / Consensus:	-27.1%
Reuters:	ASTE.NS
Bloomberg:	ASTEL IN
Market cap:	US\$276m
	Rs20,533m
Average daily turnover:	US\$1.4m
	Rs105.5m
Current shares o/s:	19.6m
Free float:	34.8%

*Source: Bloomberg



Source: Bloomberg

Price performance	1M	3M	12M
Absolute (%)	(3.2)	(16.3)	162.3
Relative (%)	(1.1)	(15.3)	69.7

Major shareholders	% held
Promoter & Promoter Group	65.2
ICICI Prudential Asset Mgt	2.7
Tata Asset Mgt	1.8

Analyst(s)

Satish KUMAR

T (91) 9004603998

E satish.kumar@incredcapital.com

Shaily RUPARELIA

T 22 4161 1556

E shaily.ruparelia@incredcapital.com

Astec Lifesciences Ltd

Medium-term headwinds, Hold

- We forecast revenue growth at 15% CAGR and PAT at 13.9% CAGR over FY21F-24F for Astec LifeSciences.
- The key chemical segment SBI-triazole is facing demand headwinds, but we believe expansion into herbicides provides a growth opportunity.
- We value the stock at 25x FY23F EPS, in line with the mean P/E of the last eight years. We initiate coverage on the stock with Hold and TP of Rs1,073.

Hopes up by consensus, but medium-term headwinds

Astec LifeSciences manufactures a wide range of agrochemicals and pharmaceutical intermediates. Exports, including contract research and manufacturing services (CRAMS), form ~60% of FY21F of revenues. The company supplies products to such customers as Syngenta, Dow, Bayer AG, Farma Tech International Corporation, etc. Astec is particularly active in the SBI (Sterol Biosynthesis Inhibiting)-triazole group of fungicides, with tebuconazole one of its main molecules. Falling realisations of key products and the likely rise of raw material prices are the key risks in the short term. Globally there is a shift from SBI-triazoles to SDHI fungicides, presenting a key risk in the medium term. Astec is expanding capacity and trying to mitigate risks by venturing into herbicides, which likely will take time to fructify, in our view.

SBI-triazole group of fungicides is facing structural headwinds

The SBI-triazole market was largely flat (in sales terms) in 2019, rising just +0.4% to reach US\$3,212m in global sales. The SBI triazole market was flat over CY12-19 and declined by 2.1% CAGR over CY14-19 (Source: IHS Markit). Pressure continues to build on triazoles in Europe as potential regulatory action may constrain future growth if renewals of registrations are not achieved. This is likely to benefit competing Succinate dehydrogenase inhibitors (SDHI) and 'other' fungicide segments, in our view. We believe multiple SBI-triazole molecules are facing substitution risk in Europe. Another dampening factor is a strong pipeline of active ingredients targeted at cereal production, many of which feature novel modes of action. Tebuconazole, a key product for Astec and ~50% of exports (FY20), is on the European Union's active watch list. It is a generic agrochemical manufactured by multiple companies and, so, its price is likely to remain under pressure.

We value Astec at 25x FY23F EPS, initiate coverage with Hold

We forecast revenue to be 15% CAGR (FY21-24F) and PAT 13.9% CAGR for FY21F-24F. There are near-term headwinds as PAT growth will remain below consensus, however long-term positive remains as company is diversifying into herbicides. Risk balances reward, hence, Hold. Upside/downside risks: If tebuconazole prices do not bounce back in FY22F, gross margin will not recover and EPS will be lower than our estimates. We expect the domestic enterprise business to grow at 12% CAGR over FY21-24F, but a sudden increase in fungus attacks on rice and vegetables could increase the use of SBI-triazole fungicides (like tebuconazole) which will be positive for revenue and, hence, for EPS.

Financial Summary	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Revenue (Rsm)	4,309	5,226	5,799	6,688	7,719
Operating EBITDA (Rsm)	765	914	1,143	1,224	1,495
Net Profit (Rsm)	358	475	637	662	811
Core EPS (Rs)	18.3	26.8	32.6	33.8	41.5
Core EPS Growth	10.2%	46.2%	21.7%	3.9%	22.6%
FD Core P/E (x)	57.27	43.14	32.20	31.01	25.28
DPS (Rs)	1.5	1.5	2.0	2.1	2.6
Dividend Yield	0.17%	0.17%	0.19%	0.20%	0.24%
EV/EBITDA (x)	29.11	23.52	18.87	17.78	14.62
P/FCFE (x)	132.02	125.62	143.85	(156.80)	(140.34)
Net Gearing	85.9%	39.4%	33.0%	31.8%	26.9%
P/BV (x)	10.12	8.32	6.48	5.21	4.10
ROE	19.2%	23.3%	22.6%	18.6%	18.2%
% Change In Core EPS Estimates					
EIP Research/Consensus EPS (x)			0.97	0.82	0.80

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS, PRICED AS AT 16 APR 2021

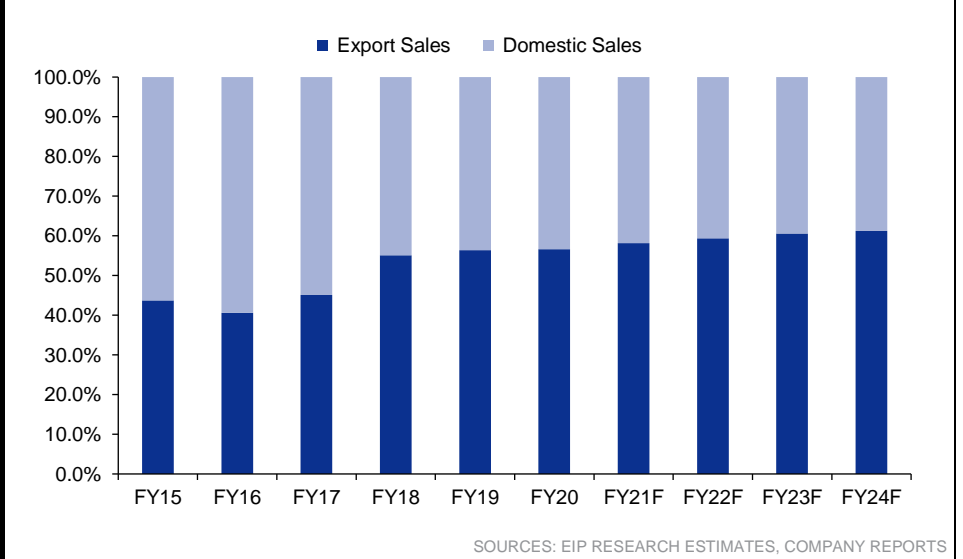
Medium-term headwinds, Hold

Business analysis

Exports form almost 60% of Astec’s revenue in FY20 ➤

Exports form 60% of Astec’s revenue in FY20 and have been the main drivers of revenue growth over the past six years. We expect exports revenue CAGR of 12% over FY21F-24F.

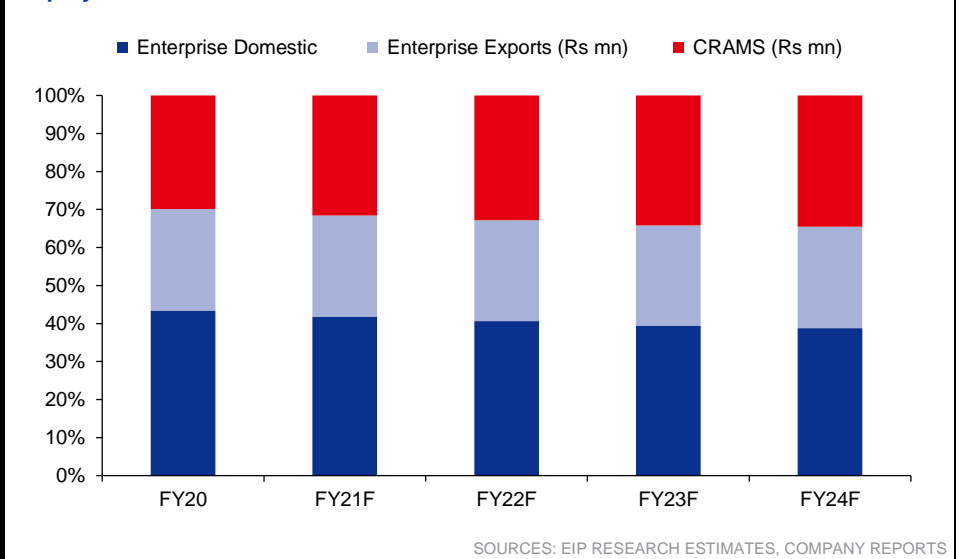
Figure 1: Exports share in overall revenue to rise to 61% by FY24F from 56% in FY19



Exports comprise enterprise sales and CRAMS ➤

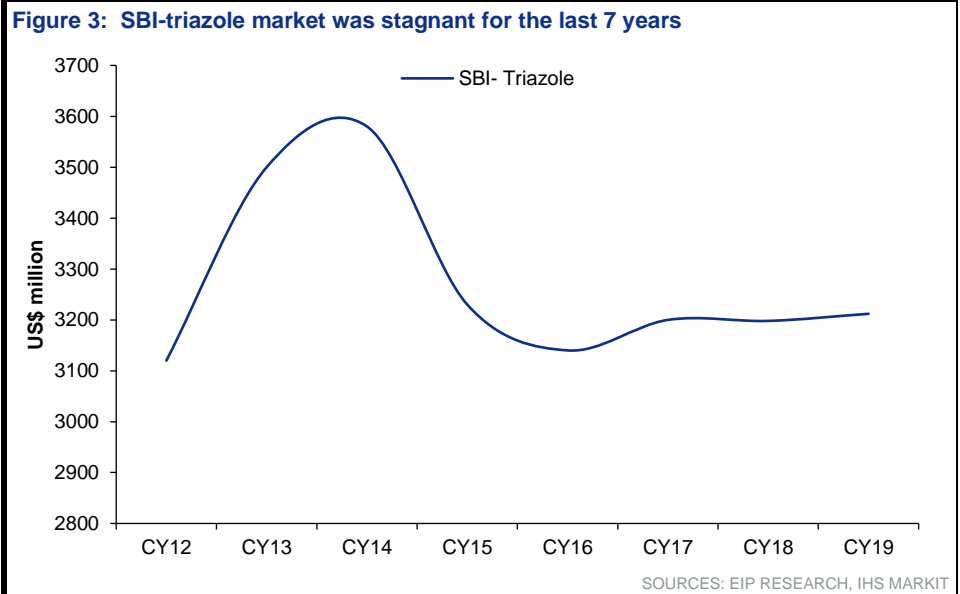
Astec’s enterprise sales and CRAMS have almost equal weightage in exports. Astec’s key customers are Syngenta, Dow Agrosciences, Bayer AG and Farma Tech International Corporation.

Figure 2: Enterprise sales and CRAMS had almost equal share in exports in FY20 and we project this for FY21-24F



Astec's key agrochemical exports belong to SBI-triazole group of fungicides, whose market has been stagnant for 7 years ➤

Astec's key exports belong to the SBI-triazole group whose sales were stagnant over the last few years. Last year (FY20) the sales growth rate of the SBI-triazole group of fungicides was a meagre 0.4% CAGR (Source: IHS Markit).



The prognosis for this market is not good, in our view ➤

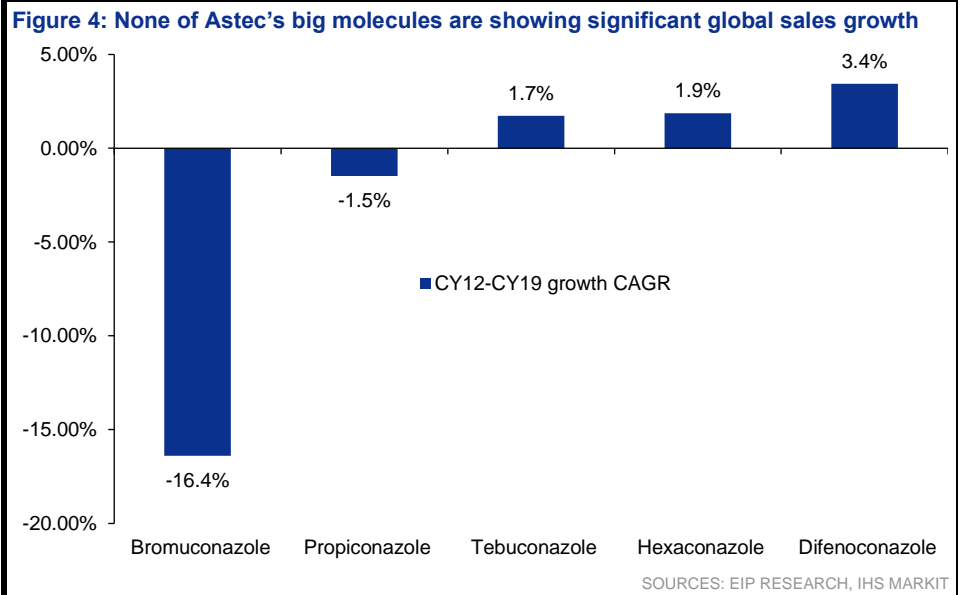
- The SBI-triazole market was largely flat in 2019, rising just +0.4% to reach US\$3,212m over CY12-19. This market was flat over CY14-19, declining by 2.1% CAGR (Source: IHS Markit).
- The impact of COVID-19 is likely to be higher for SBI-triazoles, given a higher relative exposure in the maize and oilseed rape/canola segments, which were impacted somewhat by the downturn in biofuel demand and, therefore, prices in 2020.
- There is continuing pressure on triazoles in Europe in terms of potential regulatory action that may constrain future growth if registration renewals are not achieved. This is likely to benefit competing SDHI (succinate dehydrogenase inhibitors) and 'other' fungicide segments.
- A positive factor in recent years has been the increasing usage in combination with strobilurins, due to the *Septoria* fungus developing resistance to this class, and more recently with SDHI products. We believe the SDHI segment is likely to grow faster than all other fungicides, and the triazole segment is likely to benefit in a limited way from its inclusion in mixture products with certain SDHIs.
- Multiple SBI-triazole molecules face substitution risk in Europe.
- Another dampening factor is a strong pipeline of active ingredients targeted at cereal production, many of which feature novel modes of action.
- Tebuconazole, a key Astec product, is on the European Union's active watch list. Tebuconazole is a generic manufactured by multiple companies and, hence, its prices are likely to remain under pressure.

Future growth could come from being a mixture partner to SDHI fungicides ➤

Given the success of the SDHI segment of fungicides (8.5% CAGR in sales terms over CY14-CY19, according to IHS Markit), the SBI-triazole group could be used as a mixture partner. This could be a potential growth driver for this group of fungicides.

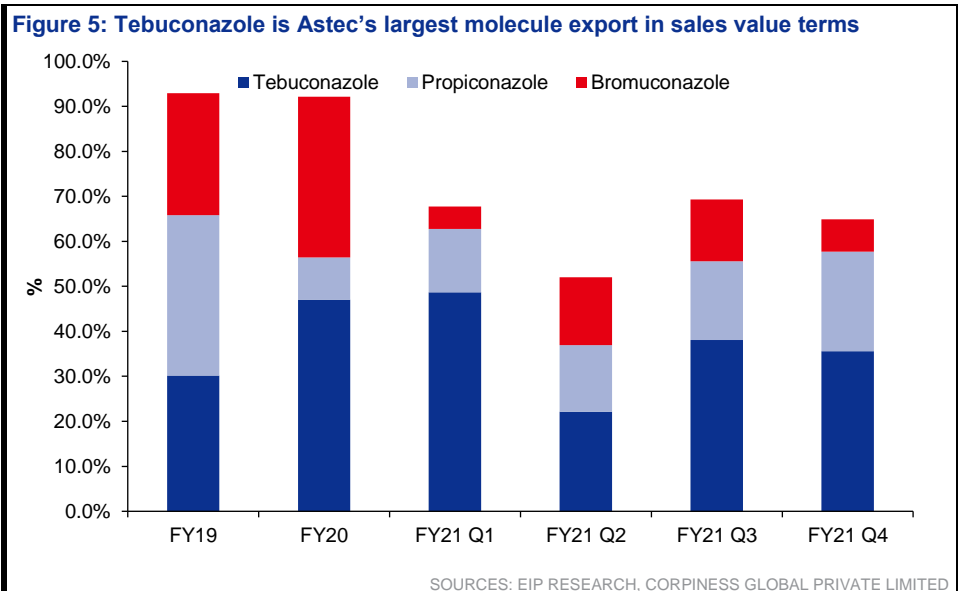
Within SBI-triazazole too, Astec’s molecules are facing serious demand issues ➤

Within SBI-triazazole, Astec’s molecules are doing worse than the overall segment. Tebuconazole, about 50% of Astec’s overall exports (Source: Corpiness Global Private Limited, an exports data provider), grew at only 1.7% CAGR over CY12-19 (Source: IHS Markit).



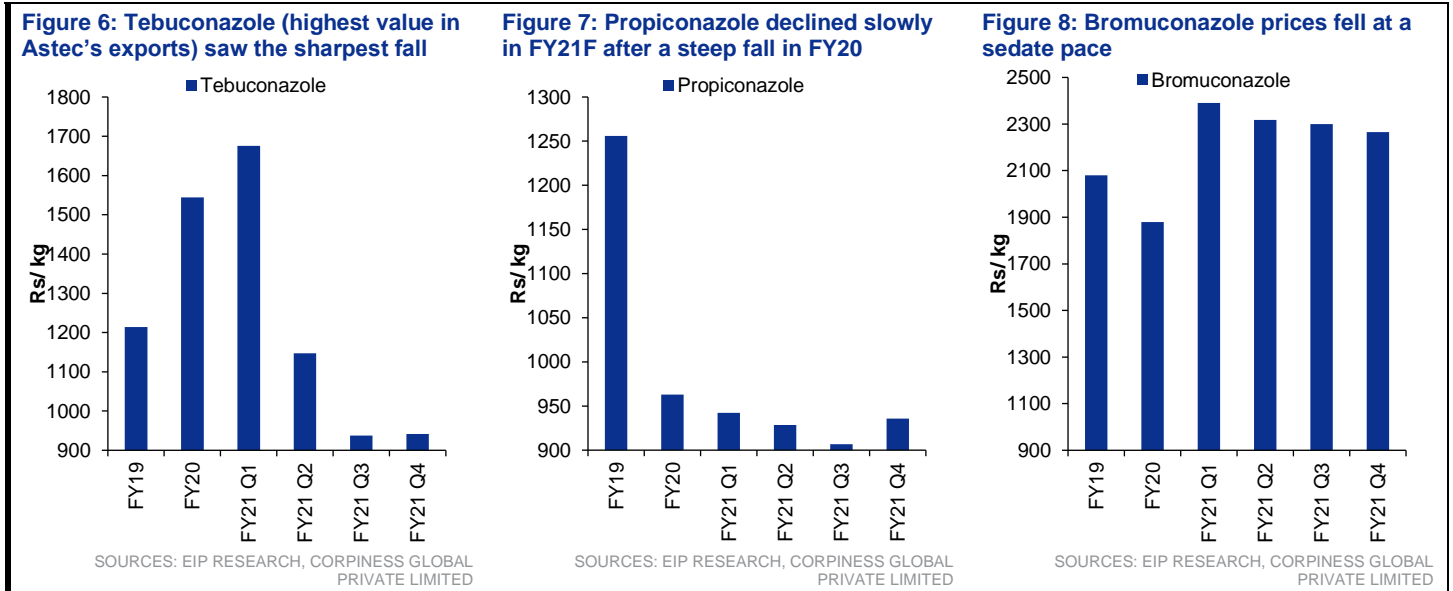
Tebuconazole, propiconazole, bromuconazole are the biggest molecules in Astec’s export basket ➤

Tebuconazole, propiconazole and bromuconazole are the biggest molecules in Astec’s export basket. In the last four quarters these molecules formed two-thirds of the total exports basket (in value terms).



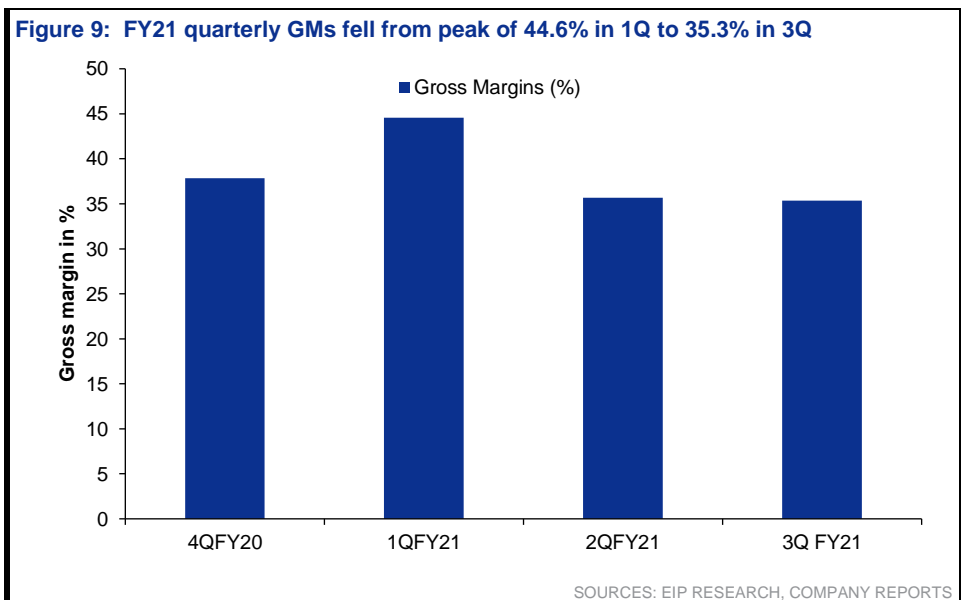
Molecule realisations fell over the last few quarters ➤

Globally the SBI-triazole group of molecules have been replaced by the SDHI molecules. Hence, it is natural that prices of SBI-triazoles molecules are falling. Tebuconazole is the biggest exports molecule for Astec (50% of exports, Source: Corpiness Global Private Limited) and its prices collapsed by ~45% in 2QFY21 over 1QFY21 (Source: Corpiness Global Private Limited).



Poor realisations showed in falling GMs (4QFY20 to 3QFY21) ➤

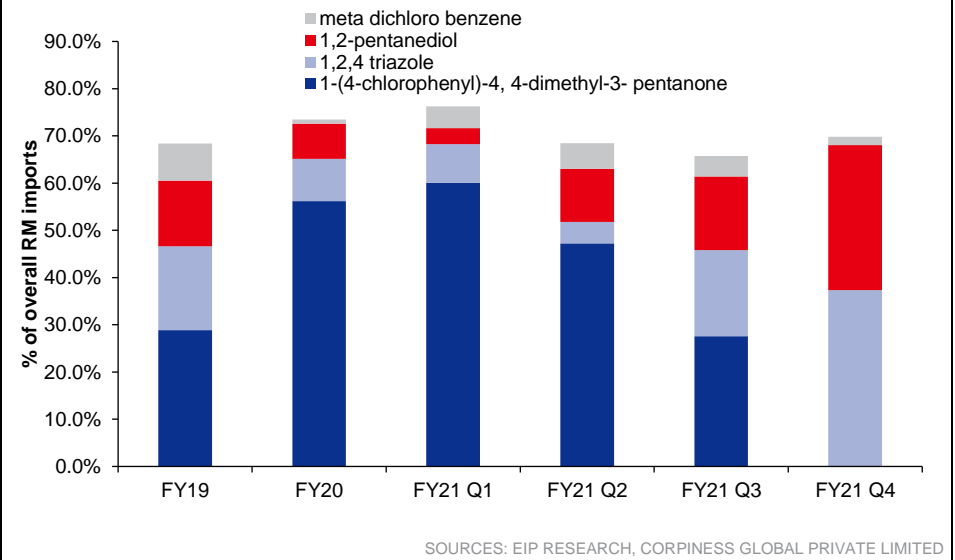
Astec's gross margins fell due to poorer export realisations. Tebuconazole, particularly, showed deep pricing pressure in 2QFY21, and its realisations fell by 45%.



Top four chemicals formed more than 70% of overall raw material import in FY20 ➤

Astec imports more than 90% of its raw material requirements (for FY20). We expect its future dependence on imports to come down as management is focussing on backward integration (Source: 3QFY21 results conference call).

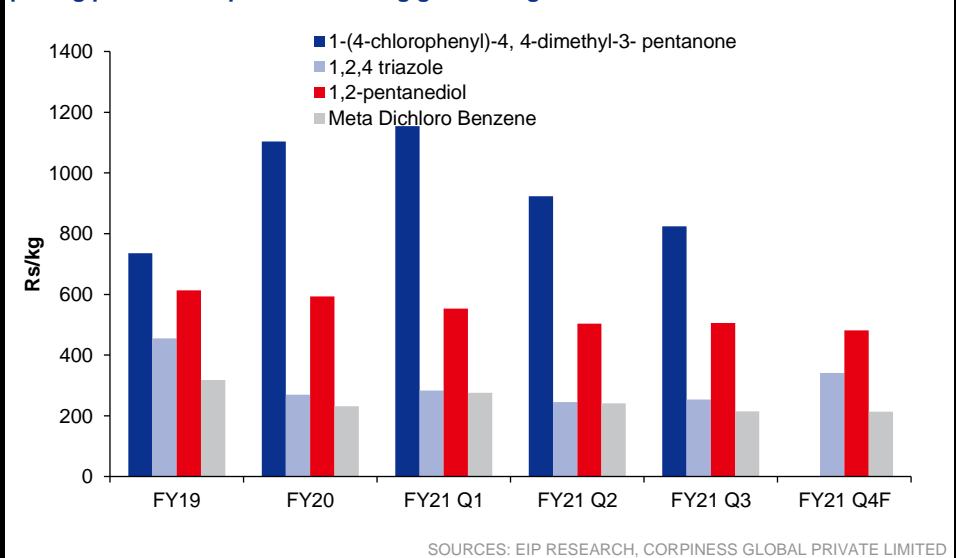
Figure 10: Top 4 chemicals account for ~70% of raw material import costs



The extent of pricing pressure is visible from the fact that all important raw material prices are falling, despite that GM is declining ➤

Almost all raw material prices fell sequentially in the first three quarters of this financial year. However, driven by crude oil prices (which rose by 60% vis-à-vis the CY20 average) raw material prices started rising in 4Q. As crude oil remains strong, we expect further a rise in raw material prices over coming quarters.

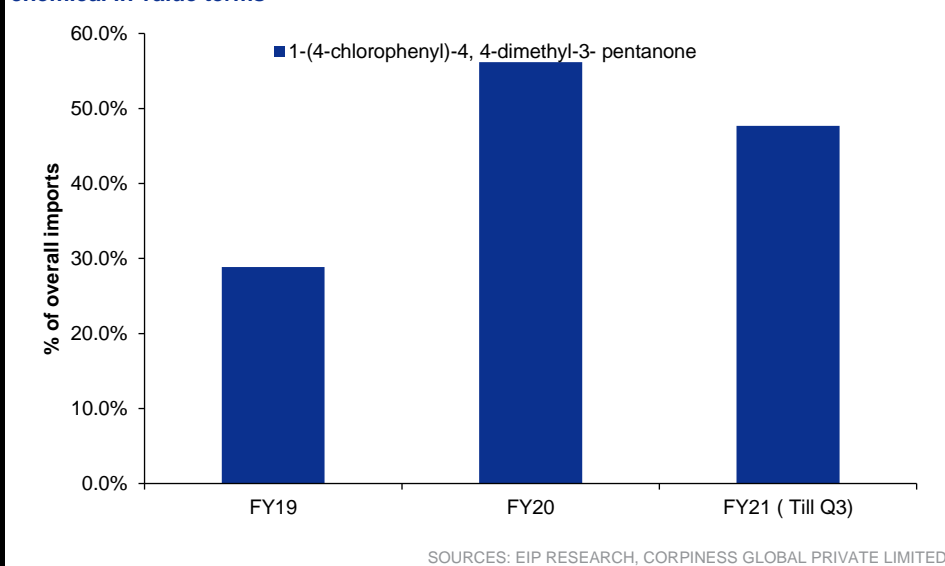
Figure 11: Comparing 1QFY21 and FY20 all RM prices fell, but there has been high pricing pressure on products making gross margins fall



Price of Astec’s largest imported chemical (1-(4-chlorophenyl)-4, 4-dimethyl-3- pentanone) could rise going forward ➤

According to Astec, its largest import is the chemical 1-(4-chlorophenyl)-4, 4-dimethyl-3- pentanone and forms ~50% (value terms) of total imports in FY20. 1-(4-chlorophenyl)-4, 4-dimethyl-3- pentanone is synthesised from crude derivatives, and the recent rise in crude price is bound to raise overall cost of production for 1-(4-chlorophenyl)-4, 4-dimethyl-3- pentanone, in our view. Consequently, its prices are likely to rise.

Figure 12: 1-(4-chlorophenyl)-4, 4-dimethyl-3- pentanone is Astec’s largest imported chemical in value terms



1-(4-chlorophenyl)-4, 4-dimethyl-3- pentanone) is used in SBI-triazole fungicides, making a cost pass through unlikely ➤

1-(4-chlorophenyl)-4, 4-dimethyl-3- pentanone is mostly used to manufacture SBI-triazoles. This group of fungicides is witnessing pricing pressure and demand issues, hence it is unlikely that increases in cost, if at all, will be able to be passed through.

Astec incurring Rs0.8bn of capex, but only 30% production tied up for sales ➤

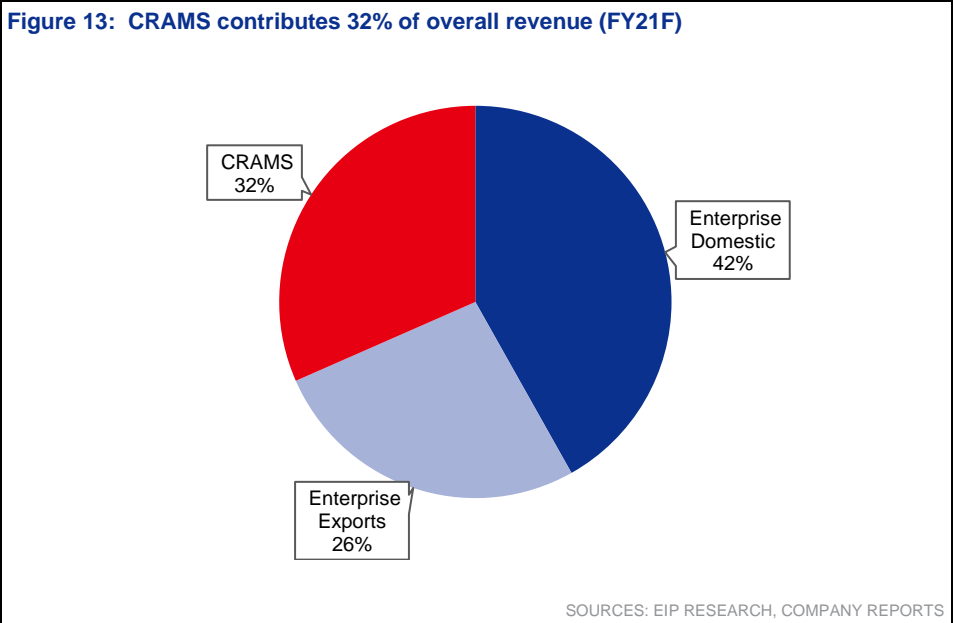
Realising the vulnerability of SBI-triazoles, Astec is getting into herbicide manufacturing but has contracts in place for only 30% of its production now (Source: 3QFY21 earnings conference call). We do not doubt management’s capability to deliver growth but ramping up to full revenue potential of Rs1.3bn-1.5bn could take a couple of years (i.e. by FY23F).

Earnings and valuation

Enterprise Domestic / Exports and CRAMS are three broad revenue segments for Astec ➤

Exports formed 58% of overall sales in FY21F. Enterprise exports (chemical exports to other companies) formed 26% of overall sales and CRAMS 32%.

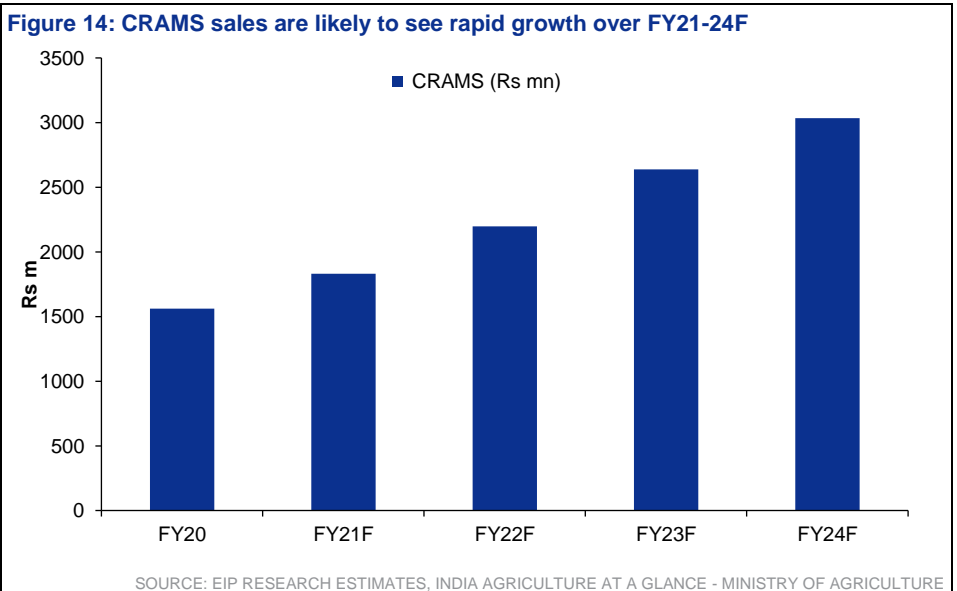
Figure 13: CRAMS contributes 32% of overall revenue (FY21F)



CRAMS has tailwinds to grow, but at a sedate pace ➤

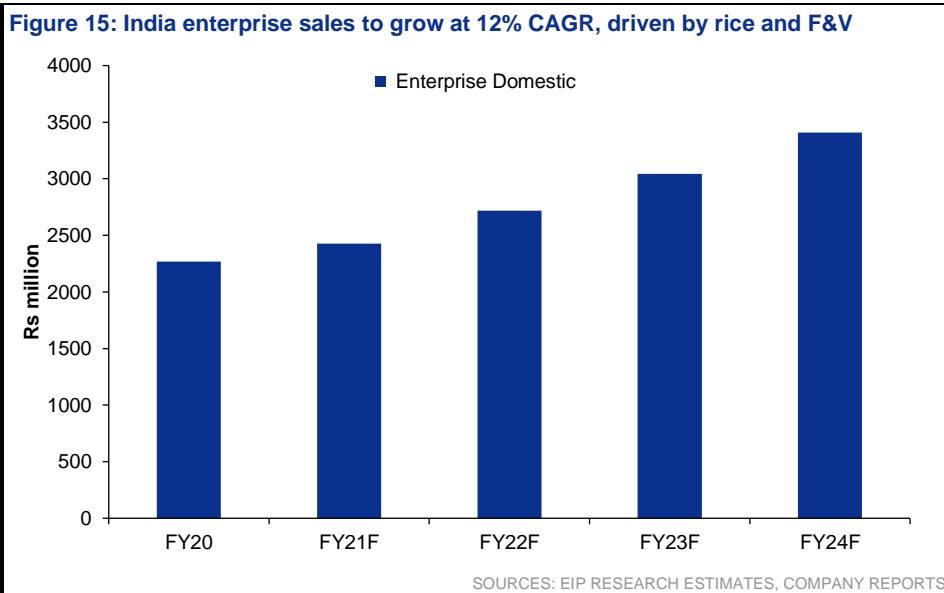
CRAMS has growth tailwinds as around US\$4bn worth of agrochemicals are going off patent in the next four years (Source: IHS Markit) and companies like Astec are likely to win supply contracts for the same, in our view. We expect sales to grow at 18% CAGR over FY21F-24F, which is a fast growth rate.

Figure 14: CRAMS sales are likely to see rapid growth over FY21-24F



We expect domestic enterprise business to grow at 12% CAGR over FY21-24F ➤

We expect Astec's enterprise domestic sales to grow at 12% CAGR over FY21-24F. Historically, sales of SBI-triazoles in Indian market increased by 13% CAGR (CY17-19, sales in US\$ terms, Source: IHS Markit).



The company is a leading player in triazoles fungicides and is well-placed to capitalise on opportunities arising in the domestic sector. The Indian fungicide market is still dominated by rice fungicides and SBI-triazoles-based fungicides are still popular in the country. The Indian rice fungicide market was valued at US\$222m in 2019 (Source: IHS Markit), a decrease of 2.6% over the previous year, and is dominated by older products which are led by mancozeb, tebuconazole, hexaconazole, azoxystrobin and trifloxystrobin. It is worth noting that fungicide consumption is the least among agrochemicals. In crops, rice and F&V are critical crops for fungicide consumption.

Figure 16: Share of fungicide consumption in Indian market is 29% of overall consumption (CY19)

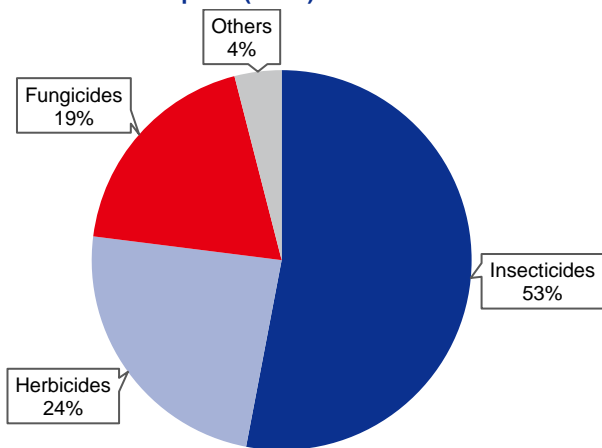
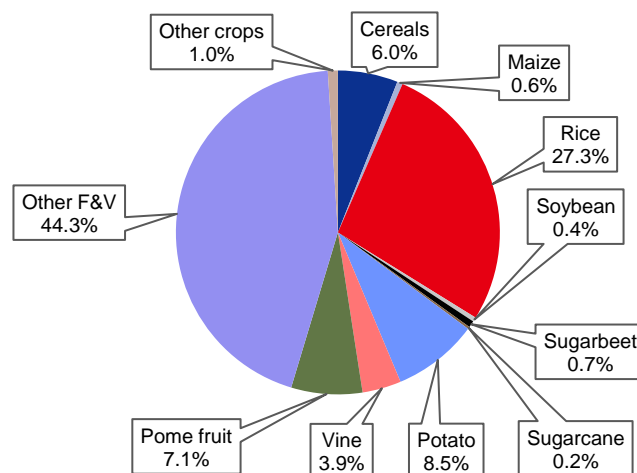


Figure 17: Rice and F&V form 71% of overall fungicide consumption (CY19)

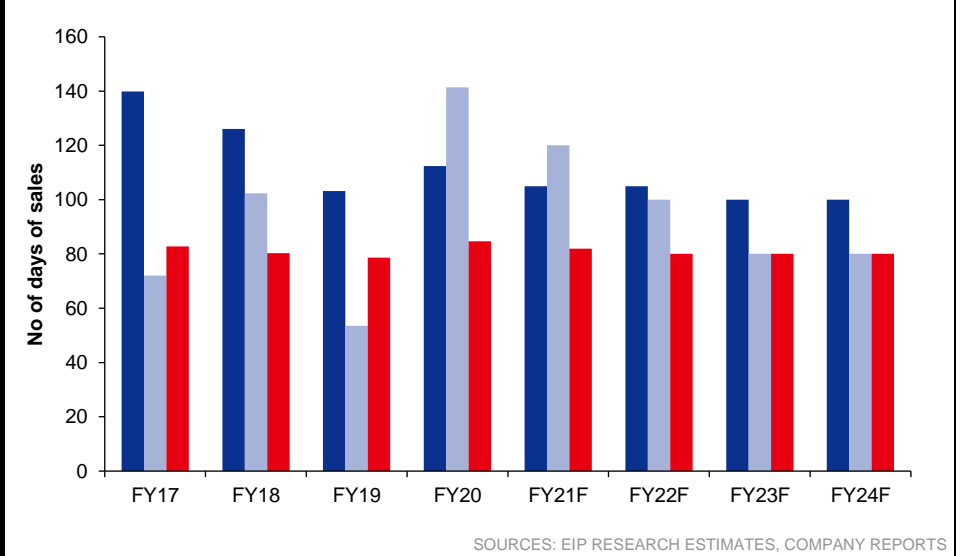


SBI-triazole is still the favourite for users in the Indian fungicide market, but India may fall in line with global trends and the SDHI fungicide could become more popular. Note that SBI-triazole creates ground water pollution (Source: IHS Markit) and is banned in many countries.

Working capital to remain steady ➤

We don't expect any change in trade terms like receivable and payable days, hence overall working capital will likely remain steady.

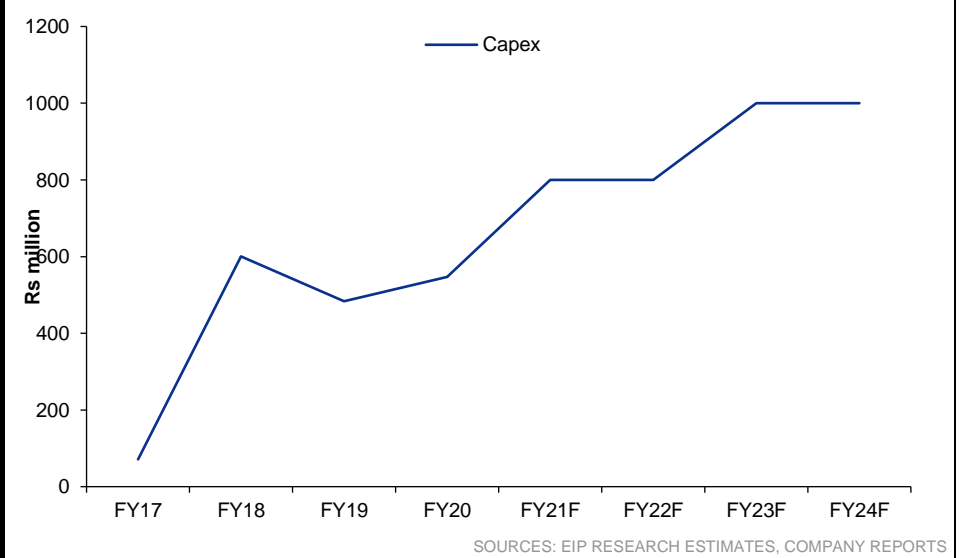
Figure 18: We do not expect a big change in working capital



Expect capex to keep increasing ➤

Astec's CRAMS business is capex-intensive business, but future sales growth is also dependent on CRAMS segment. We believe that to deliver growth, Astec will have to keep on investing in the business. Hence, we build in a further Rs800m capex in FY22F and Rs1,000m thereafter.

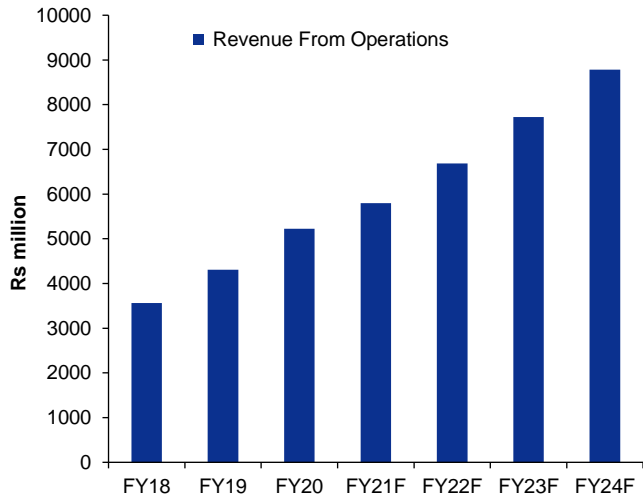
Figure 19: Being a capital-intensive business capex has to increase to keep up growth



Revenue and EBITDA likely to grow at a healthy pace ➤

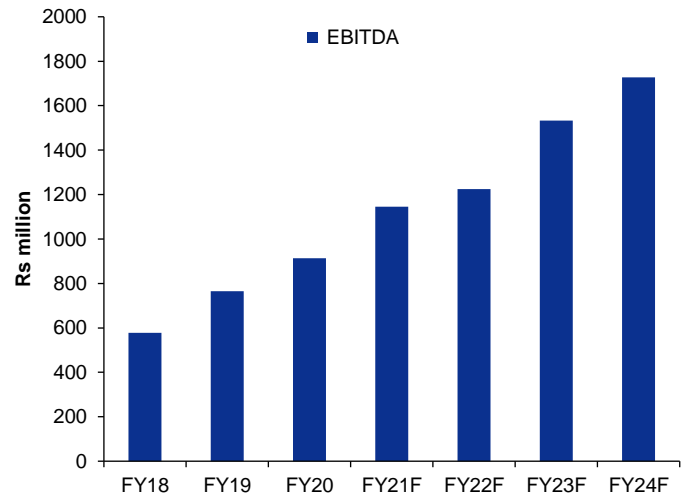
Driven primarily by revenue growth (from the domestic enterprise business and CRAMS), EBITDA is likely to grow at 14.7% CAGR over FY21-24F. Tebuconazole prices collapsed in FY21. We expect a normal recovery in its prices in FY22F (5-10% yoy rise in tebuconazole prices) as lower prices should induce demand and new capacities are not coming online.

Figure 20: We estimate revenue to grow at 15% CAGR over FY21F-24F to touch ~Rs9bn by FY24F



SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

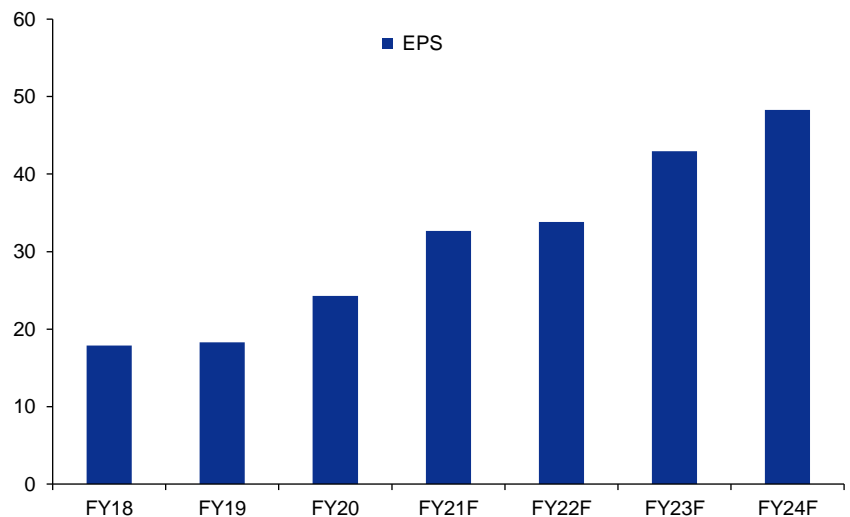
Figure 21: EBITDA to grow at 14.7% CAGR as we expect gross margins to increase by 100bp in FY23F



SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

EPS likely to grow at 13.9% CAGR over FY21F-24F ➤

Figure 22: We estimate EPS will grow at 13.9% CAGR over FY21F-24F (%)

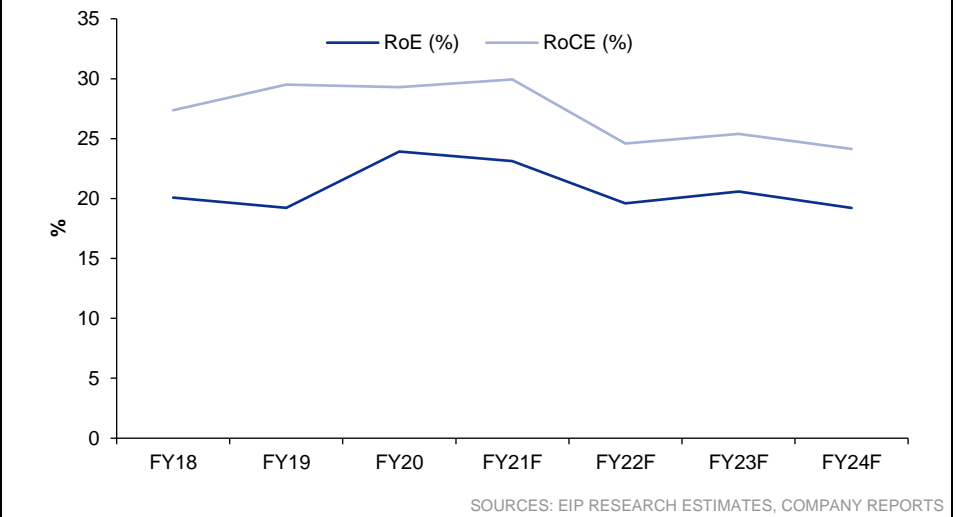


SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Expect RoE and RoCE to decline ➤

We expect pricing pressure on products that lead to falling margins, and rise in capex will lead to Astec's RoE and RoCE declining.

Figure 23: RoE and ROCE to decline over the next three years



Valuation & recommendation

We value Astec with a P/E methodology ➤

We value Astec on a P/E basis as we consider it a more appropriate valuation method for agrochemical companies than the DCF or EV/EBITDA. In our view, DCF is not a suitable valuation method because the earnings of chemicals companies are highly cyclical as forecasting long-term earnings reliably is difficult. We think a balance sheet-based valuation is inappropriate as short-term debt may rise because of inventory cycles or delay in subsidy payments which could distort the balance sheet for a short period (in many cases, for only one quarter).

We value Astec at 25x FY23F EPS; initiate with Hold rating ➤

Figure 24: We value the stock at long-term mean P/E



While the stock is currently trading at 30.4x FY22F EPS, we value the company at 25x FY23F EPS, the long-term mean P/E, to arrive at our TP of Rs1,073.

Figure 25: Valuation of Astec LifeSciences

FY22F EPS	Rs/Share	33.8
FY23F EPS	Rs/Share	42.9
P/E (1-year forward on FY23F EPS)	x	25
Target Price	Rs/Share	1,073

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

We value the company at an eight-year mean valuation as:

1. Core PAT growth will likely be 13.9% CAGR over FY21F-24F. This is lower than FY13-21 PAT growth of 34.7%. We forecast revenue to be 15% CAGR for FY21F-23F, lower than FY13-FY21F revenue growth of 16.2%. While revenue has mimicked past growth, earnings growth is lower and we value the company at a historical mean valuation. We do not assign any premium to it.
2. We expect EPS growth of 13.9% CAGR for the company, in line with peer average EPS growth for FY21F-24F. Astec's RoE of 19.22% is slightly higher than the average of peers (under our coverage) of 17.5% for FY23F. However, in terms of size, Astec is much smaller than its peers, business is highly concentrated in a single chemical class and the company has not got a track record like Bayer, UPL, SRF, NFIL or PI. Hence, we value the company at its historical mean valuation, which is lower than its peers by 60%. Astec's peer group comprises Rallis (Rallis IN, Add, TP Rs355, CMP Rs270), SRF (SRF IN, Add, TP Rs6,227, CMP Rs6,226), PI Industries (PI IN, ADD, TP Rs2,600, CMP Rs2,500), Vinati Organics (VOL IN, Add, TP Rs1,603, CMP Rs1,580), Navin Fluorine (NFIL IN, Hold, TP Rs2,599, CMP Rs3,085).
3. After a projected decline of 180bp in gross margins in FY21F, we expect it to bounce back 150bp over the next three years. However, Astec is at present in a declining chemical class, hence there are pricing pressures. At the same time, rising crude oil prices will lead to rising raw material costs. So, its possible margins could be a negative surprise.
4. We forecast revenue to be 15% CAGR (FY21-24F) and PAT 13.9% CAGR for FY21F-24F. There are near-term headwinds as PAT growth will remain below consensus, however the company is diversifying into herbicides which is a long-term positive. Risk balances reward, hence, Hold.

Peer comparison

Figure 26: Sector Peer Comparison

Company	Bloomberg Ticker	Closing Price (LC)	Target Price* (LC)	% Upside	Rating	Market cap (US\$ m)	EV/EBITDA (x)		P/BV (x)		RoE (%)		P/E (x)	
							CY21F	CY22F	CY21F	CY22F	CY21F	CY22F	CY21F	CY22F
UPL Ltd	UPLL IN	596	578	-3%	HOLD	6,078	9.3	8.4	2.0	1.7	14.4	13.9	18.3	15.1
Rallis India Ltd	RALI IN	267	355	33%	ADD	694	13.2	12.0	3.3	3.0	16.6	16.0	21.2	19.6
SRF Limited	SRF IN	6,145	6,227	1%	ADD	4,862	18.9	16.3	4.9	4.2	18.8	17.6	29.8	25.8
PI Industries Limited	PI IN	2,472	2,505	1%	ADD	5,007	30.6	23.2	6.2	5.7	17.9	15.6	45.2	38.0
Vinati Organics Ltd	VO IN	1,614	1,603	-1%	ADD	2,215	40.9	29.7	10.0	8.4	20.1	23.3	53.2	39.0
Dhanuka Agritech	DAGRI IN	706	689	-2%	REDUCE	439	13.0	11.9	4.2	3.5	26.3	22.7	17.1	16.8
Heranba Industries Ltd	HERANBA IN	625	457	-27%	REDUCE	334	17.5	17.8	6.0	4.9	34.5	24.9	24.2	25.4
Anupam Rasayan India Ltd	ANURAS IN	552	379	-31%	REDUCE	736	44.1	40.8	3.8	3.4	3.7	6.7	136.8	53.4
Laxmi Organics Ltd	LXCHEM IN	184	110	-40%	REDUCE	648	15.9	16.5	3.6	3.2	12.3	10.5	38.6	32.3
Aarti Industries	ARTO IN	1,393	1,087	-22%	REDUCE	3,240	23.2	21.7	6.2	5.0	16.1	13.1	34.6	22.0
Navin Fluorine International Ltd	NFIL IN	3,090	2,599	-16%	HOLD	2,042	41.7	33.5	7.9	7.1	12.8	15.4	54.0	48.6
Insecticide India Ltd	INST IN	462	461	0%	HOLD	128	7.3	6.8	1.2	1.1	10.7	9.9	12.2	12.0
Coromandel International Ltd	CRIN IN	728	1,000	37%	ADD	2,853	11.8	11.4	4.2	3.6	25.9	22.6	17.8	17.2
Atul Ltd	ATLP IN	7,626	6,370	-16%	REDUCE	3,013	24.9	21.9	6.2	5.4	17.7	16.3	37.8	35.6
Bayer Cropscience Ltd	BYRCS IN	5,070	6,621	31%	ADD	3,043	35.3	27.4	7.9	6.7	19.3	19.0	43.8	38.1
Astec Lifesciences Ltd	ASTEL IN	1,046	1,073	3%	HOLD	274	18.8	17.7	6.4	5.2	22.6	18.6	32.0	30.8
Kaveri Seed Co Ltd	KSCL IN	575	781	36%	ADD	463	8.7	6.4	2.6	2.0	29.7	25.8	9.9	8.9
Bayer	BAYN GR	55	NR	NR	NR	64,457	7.7	7.1	1.2	1.1	7.7	7.7	9.1	8.3
BASF	BAS GR	72	NR	NR	NR	79,740	8.6	8.4	1.5	1.5	2.8	2.8	16.5	15.5
Corteva	CTVA US	48	NR	NR	NR	35,180	13.0	11.5	1.4	1.3	3.4	3.4	25.0	21.0

SOURCES: NR COMPANY ESTIMATES ARE FROM BLOOMBERG CONSENSUS

SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS, BLOOMBERG. PRICED AS AT 16 APRIL 2021

Downside risks

1. We expect gross margins to bounce back by 150bp as prices are likely to recover for tebuconazole after a dismal FY21F. However, if prices do not bounce back, gross margin will not recover. Hence, EPS will be lower than our estimates.
2. We expect Astec to be able to pass on the crude oil-linked rise in raw material cost. However, if the company is unable to do so then gross margins and EPS will be lower than our estimates.

Upside risks

1. We build in a slow plant ramp up, which Astec is putting up at a cost of Rs0.8bn. We estimate the revenue in the first year at Rs0.3bn, however a faster ramp-up/ new order could surprise us positively.
2. We expect the domestic enterprise business to grow at 12% CAGR over FY21-24F. However, a sudden rise in fungus attacks on rice/ food and vegetables could increase the use of SBI-triazole fungicides (like tebuconazole) which will be positive for Astec's revenue and EPS.

SWOT Analysis

Figure 27: Astec LifeSciences

Strength	Weakness
Leader in SBI-triazole chemicals.	Astec's main product line declined over the last five years and we project that triazoles will remain under pricing / growth pressure.
Opportunity	Threat
Growing Indian demand agrochemicals presents an opportunity.	The inability to pass on cost increases will be a big threat.

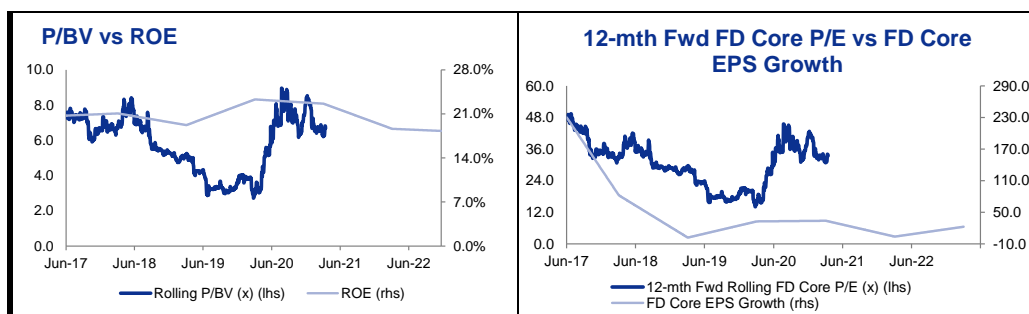
SOURCES: EIP RESEARCH ESTIMATES, COMPANY REPORTS

Annexure

Figure 28: Key management profiles at Astec LifeSciences

Mr Ashok V. Hiremath, MD	Mr. Ashok Vishwanath Hiremath is the Managing Director of Astec LifeSciences Limited. He has over 37 years of experience in the chemical industry. He has a master's degree in engineering from the University of Oxford and a Post Graduate Diploma in Chemical Engineering from University College, University of London. He founded Astec LifeSciences in 1994. He has been actively involved in the affairs of the company and played a key role in its growth. He was awarded the Dombivli Giants Award for Industry in 2008 and the Udyog Rattan Award by the Institute of Economic Studies in 2010 and several other awards in the chemical industry.
Mr. Nadir Godrej, Chairman	Mr. Nadir Burjor Godrej is the Managing Director of Godrej Industries Ltd and Chairman of Godrej Agrovet Ltd. He holds a Master of Science degree in Chemical Engineering from Stanford University and an MBA from Harvard Business School. He has been a director at several Godrej companies since 1977 and developed the animal feed, agricultural inputs and chemicals businesses of Godrej Industries Limited and other associate companies, and very active in research.

SOURCE: COMPANY WEBSITE

BY THE NUMBERS

Profit & Loss

(Rs mn)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Net Revenues	4,309	5,226	5,799	6,688	7,719
Gross Profit	1,514	1,841	2,192	2,408	2,818
Operating EBITDA	765	914	1,143	1,224	1,495
Depreciation And Amortisation	(193)	(232)	(266)	(315)	(391)
Operating EBIT	571	682	876	909	1,104
Financial Income/(Expense)	(124)	(126)	(76)	(87)	(94)
Pretax Income/(Loss) from Assoc.					
Non-Operating Income/(Expense)	112	119	52	62	74
Profit Before Tax (pre-EI)	559	676	852	884	1,085
Exceptional Items		(62)			
Pre-tax Profit	559	614	852	884	1,085
Taxation	(201)	(138)	(215)	(223)	(273)
Exceptional Income - post-tax					
Profit After Tax	358	475	637	662	811
Minority Interests					
Preferred Dividends					
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax					
Net Profit	358	475	637	662	811
Recurring Net Profit	358	523	637	662	811
Fully Diluted Recurring Net Profit	358	523	637	662	811

Cash Flow

(Rs mn)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
EBITDA	765	914	1,143	1,224	1,495
Cash Flow from Invt. & Assoc.					
Change In Working Capital	(545)	878	(205)	(495)	(522)
(Incr)/Decr in Total Provisions					
Other Non-Cash (Income)/Expense	(14)	17	(34)	1	(19)
Other Operating Cashflow	235	183	130	149	168
Net Interest (Paid)/Received	(124)	(126)	(76)	(87)	(94)
Tax Paid	(164)	(182)	(215)	(223)	(273)
Cashflow From Operations	153	1,684	743	569	754
Capex	(528)	(453)	(800)	(800)	(1,000)
Disposals Of FAs/subsidiaries		2			
Acq. Of Subsidiaries/investments		(289)			
Other Investing Cashflow	3	2			
Cash Flow From Investing	(525)	(738)	(800)	(800)	(1,000)
Debt Raised/(repaid)	527	(783)	200	100	100
Proceeds From Issue Of Shares	3	2			
Shares Repurchased					
Dividends Paid	(35)	(35)	(39)	(41)	(50)
Preferred Dividends					
Other Financing Cashflow	(124)	(129)	24	63	206
Cash Flow From Financing	371	(945)	184	123	256
Total Cash Generated	(1)	1	127	(108)	10
Free Cashflow To Equity	155	163	143	(131)	(146)
Free Cashflow To Firm	(248)	1,072	19	(144)	(153)

SOURCES: EIP RESEARCH, COMPANY REPORTS

BY THE NUMBERS...cont'd

Balance Sheet					
(Rs mn)	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Total Cash And Equivalents	15	15	142	34	44
Total Debtors	1,218	1,608	1,668	1,924	2,115
Inventories	928	1,212	1,303	1,466	1,692
Total Other Current Assets	323	482	485	488	491
Total Current Assets	2,485	3,318	3,598	3,911	4,342
Fixed Assets	1,860	2,177	2,711	3,196	3,805
Total Investments					
Intangible Assets					
Total Other Non-Current Assets	267	222	257	257	277
Total Non-current Assets	2,126	2,400	2,968	3,453	4,082
Short-term Debt	1,757	987	987	987	987
Current Portion of Long-Term Debt					
Total Creditors	633	2,024	1,907	1,832	1,692
Other Current Liabilities	99	173	238	239	278
Total Current Liabilities	2,488	3,184	3,132	3,059	2,957
Total Long-term Debt			200	300	400
Hybrid Debt - Debt Component					
Total Other Non-Current Liabilities					
Total Non-current Liabilities			200	300	400
Total Provisions	95	65	65	66	67
Total Liabilities	2,583	3,248	3,397	3,425	3,423
Shareholders Equity	2,025	2,466	3,165	3,936	4,997
Minority Interests	3	3	3	3	3
Total Equity	2,028	2,469	3,169	3,939	5,001

Key Ratios					
	Mar-19A	Mar-20A	Mar-21F	Mar-22F	Mar-23F
Revenue Growth	20.9%	21.3%	11.0%	15.3%	15.4%
Operating EBITDA Growth	32.4%	19.5%	25.0%	7.2%	22.1%
Operating EBITDA Margin	17.7%	17.5%	19.7%	18.3%	19.4%
Net Cash Per Share (Rs)	(89.09)	(49.68)	(53.41)	(64.06)	(68.65)
BVPS (Rs)	103.56	126.00	161.76	201.14	255.37
Gross Interest Cover	4.62	5.42	11.51	10.50	11.80
Effective Tax Rate	36.0%	22.5%	25.3%	25.2%	25.2%
Net Dividend Payout Ratio	9.8%	6.6%	6.2%	6.2%	6.2%
Accounts Receivables Days	103.75	98.71	103.12	98.02	95.48
Inventory Days	111.87	115.38	127.22	118.05	117.57
Accounts Payables Days	106.55	143.21	198.86	159.42	131.21
ROIC (%)	12.3%	13.7%	18.7%	15.9%	15.7%
ROCE (%)	16.6%	18.4%	22.1%	18.7%	18.8%
Return On Average Assets	10.0%	12.3%	11.3%	10.4%	11.2%

SOURCES: EIP RESEARCH, COMPANY REPORTS

DISCLAIMER

This report (including the views and opinions expressed therein, and the information comprised therein) has been prepared for and is distributed by CGS-CIMB, by InCred Research Services Private Limited pursuant to an arrangement between EIP and CGS-CIMB. EIP is not an affiliate of CGS-CIMB. EIP is held 100% by Siri Shubhan Investment Advisory and Management Private Ltd. As on the date of this report, EIP does not have any group companies or associates. EIP is registered with SEBI as a Research Analyst vide Registration No. INH000007793. Pursuant to a trademark agreement, EIP has adopted "INCRED" as its trademark for use in this report.

The term "EIP" shall, unless the context otherwise requires, mean EIP and its affiliates, subsidiaries and related companies. The term "CGS-CIMB" shall denote, where appropriate, the relevant entity distributing or disseminating the report in the particular jurisdiction referenced below, or, in every other case except as otherwise stated herein, CGS-CIMB Securities International Pte. Ltd. and its affiliates, subsidiaries and related corporations. This report is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation and remains subject to the "Restrictions on Distribution" set out below. If your status has changed or the distribution restrictions set out below impact your ability to receive this report please contact your usual CGS-CIMB representative.

By accepting this report, the recipient hereof represents and warrants that he is entitled to receive such report in accordance with the restrictions set forth below and agrees to be bound by the limitations contained herein (including the "Restrictions on Distributions" set out below). Any failure to comply with these limitations may constitute a violation of law and limit our ability to provide reports to you.

This report is being supplied to you strictly on the basis that it will remain confidential. No part of this report may be (i) copied, photocopied, duplicated, stored or reproduced in any form by any means; or (ii) redistributed or passed on, directly or indirectly, to any other person in whole or in part, for any purpose without the prior written consent of EIP or CGS-CIMB.

The information contained in this report is prepared from data believed to be correct and reliable at the time of issue of this report.

Under the terms of the agreement between EIP and CGS-CIMB, EIP is not required to issue regular reports on the subject matter of this report at any frequency and it may cease to do so or change the periodicity of reports at any time. Neither EIP nor CGS-CIMB is under any obligation to update this report in the event of a material change to the information contained in this report. Neither EIP nor CGS-CIMB has any and will accept any, obligation to (i) check or ensure that the contents of this report remain current, reliable or relevant; (ii) ensure that the content of this report constitutes all the information a prospective investor may require; (iii) ensure the adequacy, accuracy, completeness, reliability or fairness of any views, opinions and information, and accordingly, EIP and its affiliates/group companies and/or CGS-CIMB, its affiliates and related persons including China Galaxy International Financial Holdings Limited ("CGIFHL") and CIMB Group Sdn. Bhd. ("CIMBG") and their respective related corporations (and their respective directors, associates, connected persons and/or employees) shall not be liable in any manner whatsoever for any consequences (including but not limited to any direct, indirect or consequential losses, loss of profits and damages) of any reliance thereon or usage thereof. In particular, CGS-CIMB disclaims all responsibility and liability for the views and opinions set out in this report.

Unless otherwise specified, this report is based upon reasonable sources. Such sources will, unless otherwise specified, for market data, be market data and prices available from the main stock exchange or market where the relevant security is listed, or, where appropriate, any other market. Information on the accounts and business of company(ies) will generally be based on published statements of the company(ies), information disseminated by regulatory information services, other publicly available information and information resulting from our research. Whilst every effort is made to ensure that statements of facts made in this report are accurate, all estimates, projections, forecasts, expressions of opinion and other subjective judgments contained in this report are based on assumptions considered to be reasonable as of the date of the document in which they are contained and must not be construed as a representation that the matters referred to therein will occur. Past performance is not a reliable indicator of future performance. The value of investments may go down as well as up and those investing may, depending on the investments in question, lose more than the initial investment. No report shall constitute an offer or an invitation by or on behalf of EIP and its affiliates/group companies and/or CGS-CIMB or their respective affiliates (including CGIFHL, CIMBG and their respective related corporations) or EIP and its affiliates/group companies, to any person to buy or sell any investments.

By EIP producing this report for CGS-CIMB, EIP has confirmed to CGS-CIMB that the opinions expressed are based on information it believes to be accurate and complete and obtained through reliable public or other non-confidential sources at the time made. (Information barriers and other arrangements may be established where necessary to prevent conflicts of interests arising. However, the analyst(s) may receive compensation that is based on his/their coverage of company(ies) in the performance of his/their duties or the performance of his/their recommendations. In reviewing this report, an investor should be aware that any or all of the foregoing, among other things, may give rise to real or potential conflicts of interest. Additional information is, subject to the duties of confidentiality, available on request.

The report is not a "prospectus" as defined under Indian Law, including the Companies Act, 2013, and is not, and shall not be, approved by, or filed or registered with, any Indian regulator, including any Registrar of Companies in India, SEBI, any Indian stock exchange, or the Reserve Bank of India. No offer, or invitation to offer, or solicitation of subscription with respect to any such securities listed or proposed to be listed in India is being made, or intended to be made, to the public, or to any member or section of the public in India, through or pursuant to this report.

The research analysts, strategists or economists principally responsible for the preparation of this research report are segregated from the other activities of EIP. Information barriers and other arrangements have been established, as required, to prevent any conflicts of interests.

EIP may have issued other reports (based on technical analysis, event specific, short term views etc.) that are inconsistent with and reach different conclusion from the information presented in this report.

Holding of Analysts/Relatives of Analysts, EIP and Associates of EIP in the covered securities, as on the date of publishing of this report

	Analyst/ Relative	Entity/ Associates
any financial interests in the company covered in this report (subject company) and nature of such financial interest	NO	NO
actual/beneficial ownership of 1% or more in securities of the subject company at the end of the month immediately preceding the date of publication of the research report or date of the public appearance;	NO	NO
any other material conflict of interest at the time of publication of the research report or at the time of public appearance	NO	NO
received any compensation from the subject company in the past twelve months for investment banking or merchant banking or brokerage services or investment advisory or depository or distribution from the subject company in the last twelve months for products/services other than investment banking or merchant banking or broker- age services or investment advisory or depository or distribution from the subject company in the last twelve months	NO	NO
managed or co-managed public offering of securities for the subject company in the last twelve months	NO	NO
received any compensation or other benefits from the subject company or third party in connection with the research report	NO	NO
served as an officer, director or employee of the subject company	NO	NO
been engaged in market making activity for the subject company	NO	NO

Analyst declaration

- The analyst responsible for the production of this report hereby certifies that the views expressed herein accurately and exclusively reflect his or her personal views and opinions about any and all of the issuers or securities analysed in this report and were prepared independently and autonomously in an unbiased manner.
- No part of the compensation of the analyst(s) was, is, or will be directly or indirectly related to the inclusion of specific recommendations(s) or view(s) in this report or based any specific investment banking transaction.
- The analyst(s) has(have) not had any serious disciplinary action taken against him/her(them).
- The analyst, strategist, or economist does not have any material conflict of interest at the time of publication of this report.
- The analyst(s) has(have) received compensation based upon various factors, including quality, accuracy and value of research, overall firm performance, client feedback and competitive factors.

CGS-CIMB DISCLOSURES

Country	CGS-CIMB Entity	Regulated by
Hong Kong	CGS-CIMB Securities (Hong Kong) Limited	Securities and Futures Commission Hong Kong
India	CGS-CIMB Securities (India) Private Limited	Securities and Exchange Board of India (SEBI)
Indonesia	PT CGS-CIMB Sekuritas Indonesia	Financial Services Authority of Indonesia
Malaysia	CGS-CIMB Securities Sdn. Bhd.	Securities Commission Malaysia
Singapore	CGS-CIMB Research Pte. Ltd.	Monetary Authority of Singapore
South Korea	CGS-CIMB Securities (Hong Kong) Limited, Korea Branch	Financial Services Commission and Financial Supervisory Service
Thailand	CGS-CIMB Securities (Thailand) Co. Ltd.	Securities and Exchange Commission Thailand

Other Significant Financial Interests:

As of 31st March 2021 CGS-CIMB does not:

- have a proprietary position in the securities (which may include but not be limited to shares, warrants, call warrants and/or any other derivatives) in the company(ies) covered in this report except for the following:
 - Nil
- act as market maker or have assumed an underwriting commitment in securities of the company(ies) covered in this report except for the following:
 - Nil
- perform or seek to perform significant investment banking, advisory, underwriting or placement services for or relating to the company(ies) covered in this report and/or solicit such investment, advisory or other services from the company(ies) covered in this report except for the following:
 - Nil

CGS-CIMB, its affiliates, related corporations (including CGIFHL, CIMBG and their respective related corporations) and/or their respective directors, associates, connected parties and/or employees and/or EIP and/or its affiliates and/or its Directors/employees may own or have positions in securities of the company(ies) covered in this report or any securities related thereto and may from time to time add to or dispose of, or may be materially interested in, any such securities.

CGS-CIMB, its affiliates and related corporations (including CGIFHL, CIMBG and their respective related corporations) and/or EIP and/or its affiliates and/or its Directors/employees may do and seek to do business with the company(ies) covered in this research report and may from time to time (a) buy/sell the securities covered in this report, from time to time and/or (b) act as market maker or have assumed an underwriting commitment in securities of such company(ies), and/or (c) may sell them to or buy them from customers on a principal basis and/or (d) may also perform or seek to perform significant investment banking, advisory, underwriting or placement services for or relating to such company(ies) and/or (e) solicit such investment, advisory or other services from any entity mentioned in this report and/or (f) act as a lender/borrower to such company and may earn brokerage or other compensation. However, Analysts are forbidden to acquire, on their own account or hold securities (physical or uncertificated, including derivatives) of companies in respect of which they are compiling and producing financial recommendations or in the result of which they play a key part

This report does not purport to contain all the information that a prospective investor may require. Neither CGS-CIMB nor any of its affiliates (including CGIFHL, CIMBG and their related corporations) make any guarantee, representation or warranty, express or implied, as to the adequacy, accuracy, completeness, reliability or fairness of any such information and opinion contained in this report. Neither CGS-CIMB nor any of its affiliates nor their related persons (including CGIFHL, CIMBG and their related corporations) shall be liable in any manner whatsoever for any consequences (including but not limited to any direct, indirect or consequential losses, loss of profits and damages) of any reliance thereon or usage thereof.

This report is general in nature and has been prepared for information purposes only. It is intended for circulation amongst CGS-CIMB's and its affiliates' (including CGIFHL's, CIMBG's and their respective related corporations') clients generally and does not have regard to the specific investment objectives, financial situation and the particular needs of any specific person who may receive this report. The information and opinions in this report are not and should not be construed or considered as an offer, recommendation or solicitation to buy or sell the subject securities, related investments or other financial instruments or any derivative instrument, or any rights pertaining thereto.

Investors are advised to make their own independent evaluation of the information contained in this report, consider their own individual investment objectives, financial situation and particular needs and consult their own professional and financial advisers as to the legal, business, financial, tax and other aspects before participating in any transaction in respect of the securities of company(ies) covered in this report. The securities of such company(ies) may not be eligible for sale in all jurisdictions or to all categories of investors.

The report is not a "prospectus" as defined under Indian Law, including the Companies Act, 2013, and is not, and shall not be, approved by, or filed or registered with, any Indian regulator, including any Registrar of Companies in India, SEBI, any Indian stock exchange, or the Reserve Bank of India. No offer, or invitation to offer, or solicitation of subscription with respect to any such securities listed or proposed to be listed in India is being made, or intended to be made, to the public, or to any member or section of the public in India, through or pursuant to this report

Restrictions on Distributions

Australia: Despite anything in this report to the contrary, this research is prepared for and provided in Australia by CGS-CIMB Securities (Singapore) Pte. Ltd. and CGS-CIMB Securities (Hong Kong) Limited. This research is only available in Australia to persons who are "wholesale clients" (within the meaning of the Corporations Act 2001 (Cth) and is supplied solely for the use of such wholesale clients and shall not be distributed or passed on to any other person. You represent and warrant that if you are in Australia, you are a "wholesale client". This research is of a general nature only and has been prepared without taking into account the objectives, financial situation or needs of the individual recipient. CGS-CIMB Securities (Singapore) Pte. Ltd. and CGS-CIMB Securities (Hong Kong) Limited do not hold, and are not required to hold an Australian financial services license. CGS-CIMB Securities (Singapore) Pte. Ltd. and CGS-CIMB Securities (Hong Kong) Limited rely on "passporting" exemptions for entities appropriately licensed by the Monetary Authority of Singapore (under ASIC Class Order 03/1102) and the Securities and Futures Commission in Hong Kong (under ASIC Class Order 03/1103).

Canada: This report has not been prepared in accordance with the disclosure requirements of Dealer Member Rule 3400 – Research Restrictions and Disclosure Requirements of the Investment Industry Regulatory Organization of Canada. For any research report distributed by CIBC, further disclosures related to CIBC conflicts of interest can be found at <https://researchcentral.cibcwm.com>.

China: For the purpose of this report, the People's Republic of China ("PRC") does not include the Hong Kong Special Administrative Region, the Macau Special Administrative Region or Taiwan. The distributor of this report has not been approved or licensed by the China Securities Regulatory Commission or any other relevant regulatory authority or governmental agency in the PRC. This report contains only marketing information. The distribution of this report is not an offer to buy or sell to any person within or outside PRC or a solicitation to any person within or outside of PRC to buy or sell any instruments described herein. This report is being issued outside the PRC to a limited number of institutional investors and may not be provided to any person other than the original recipient and may not be reproduced or used for any other purpose.

France: Only qualified investors within the meaning of French law shall have access to this report. This report shall not be considered as an offer to subscribe to, or used in connection with, any offer for subscription or sale or marketing or direct or indirect distribution of financial instruments and it is not intended as a solicitation for the purchase of any financial instrument.

Germany: This report is only directed at persons who are professional investors as defined in sec 31a(2) of the German Securities Trading Act (WpHG). This publication constitutes research of a non-binding nature on the market situation and the investment instruments cited here at the time of the publication of the information.

The current prices/yields in this issue are based upon closing prices from Bloomberg as of the day preceding publication. Please note that neither the German Federal Financial Supervisory Agency (BaFin), nor any other supervisory authority exercises any control over the content of this report.

Hong Kong: This report is prepared for and distributed in Hong Kong by CGS-CIMB Securities (Hong Kong) Limited ("CHK") which is licensed in Hong Kong by the Securities and Futures Commission for Type 1 (dealing in securities) and Type 4 (advising on securities) activities. Any investors wishing to purchase or otherwise deal in the securities covered in this report should contact the Head of Sales at CHK. The views and opinions in this report are our own as of the date hereof and are subject to change. If the Financial Services and Markets Act of the United Kingdom or the rules of the Financial Conduct Authority apply to a recipient, our obligations owed to such recipient therein are unaffected. CHK has no obligation to

update its opinion or the information in this report.

This publication is strictly confidential and is for private circulation only to clients of CHK.

India: This report is prepared by EIPfor and distributed in India by EIP or CGS-CIMB Securities (India) Private Limited ("CGS-CIMB India"), as the case may be. CGS-CIMB India is a subsidiary of CGS-CIMB Securities International Pte. Ltd. which is in turn is a 50:50 joint venture company of CGIFHL and CIMBG. The details of the members of the group of companies of CGS-CIMB can be found at www.cgs-cimb.com, CGIFHL at www.chinastock.com.hk/en/ACG/ContactUs/index.aspx and CIMBG at www.cimb.com/en/who-we-are.html. CGS-CIMB India is registered with the National Stock Exchange of India Limited and BSE Limited as a trading and clearing member (under the Securities and Exchange Board of India (Stock Brokers and Sub-Brokers) Regulations, 1992. . CGS-CIMB India is registered with SEBI (SEBI Registration Number: INZ000209135) as a Research Analyst (INH000000669) pursuant to the SEBI (Research Analysts) Regulations, 2014 ("Regulations").

By EIP producing this report for CGS-CIMB, EIP has confirmed to CGS-CIMB that the research analysts, strategists or economists principally responsible for the preparation of this report are segregated from the other activities of EIP and they have received compensation based upon various factors, including quality, accuracy and value of research, firm profitability or revenues, client feedback and competitive factors. Research analysts', strategists' or economists' compensation is not linked to investment banking or capital markets transactions performed or proposed to be performed by EIP, CGS-CIMB India or its affiliates.

This report does not take into account the particular investment objectives, financial situations, or needs of the recipients. It is not intended for and does not deal with prohibitions on investment due to law/jurisdiction issues etc. which may exist for certain persons/entities. Recipients should rely on their own investigations and take their own professional advice before investment.

CGS-CIMB India does not have actual / beneficial ownership of 1% or more securities of the subject company in this report, at the end of the month immediately preceding the date of publication of this report. However, since affiliates of CGS-CIMB India are engaged in the financial services business, they might have in their normal course of business financial interests or actual / beneficial ownership of one per cent or more in various companies including the subject company in this report.

CGS-CIMB India or its associates, may: (a) from time to time, have long or short position in, and buy or sell the securities of the subject company in this report; or (b) be engaged in any other transaction involving such securities and earn brokerage or other compensation or act as a market maker in the financial instruments of the subject company in this report or act as an advisor or lender/borrower to such company or may have any other potential conflict of interests with respect to any recommendation and other related information and opinions.

CGS-CIMB India, and their respective associates have not received any compensation for investment banking, merchant banking or brokerage services from the subject company mentioned in the report in the past 12 months.

CGS-CIMB India, and their respective associates have not managed or co-managed public offering of securities for the subject company mentioned in the report in the past 12 months.

Indonesia: This report is prepared for and distributed in Indonesia by PT CGS-CIMB Sekuritas Indonesia ("CGS-CIMB Indonesia"). The views and opinions in this report is prepared from data believed to be correct and reliable at the time of issue of this report and are subject to change. CGS-CIMB Indonesia has no obligation to update the opinion or the information in this report. This report is for private circulation only to clients of CGS-CIMB Indonesia. Neither this report nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable Indonesian capital market laws and regulations.

This report is not an offer of securities in Indonesia. The securities referred to in this report have not been registered with the Financial Services Authority (Otoritas Jasa Keuangan) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market law and regulations.

Ireland: CGS-CIMB is not an investment firm authorised in the Republic of Ireland and no part of this document should be construed as CGS-CIMB acting as, or otherwise claiming or representing to be, an investment firm authorised in the Republic of Ireland.

Malaysia: This report is prepared for and distributed in Malaysia by CGS-CIMB Securities Sdn. Bhd. ("CGS-CIMB Malaysia") solely for the benefit of and for the exclusive use of our clients. Recipients of this report are to contact CGS-CIMB Malaysia, at 29th Floor Menara CIMB No. 1 Jalan Stesen Sentral 2, Kuala Lumpur Sentral 50470 Kuala Lumpur, Malaysia, in respect of any matters arising from or in connection with this report. CGS-CIMB Malaysia has no obligation to update, revise or reaffirm the opinion or the information in this report after the date of this report.

New Zealand: In New Zealand, this report is for distribution only to persons who are wholesale clients pursuant to section 5C of the Financial Advisers Act 2008.

Singapore: This report is prepared for and distributed in Singapore by CGS-CIMB Research Pte Ltd ("CGS-CIMBR"). CGS-CIMBR is a financial adviser licensed under the Financial Advisers Act, Cap 110 ("FAA") for advising on investment products, by issuing or promulgating research analyses or reports, whether in electronic, print or other form. Accordingly, CGS-CIMBR is subject to the applicable rules under the FAA unless it is able to avail itself to any prescribed exemptions.

Recipients of this report are to contact CGS-CIMB Research Pte Ltd, 50 Raffles Place, #16-02 Singapore Land Tower, Singapore in respect of any matters arising from, or in connection with this report. CGS-CIMBR has no obligation to update the opinion or the information in this report. This publication is strictly confidential and is for private circulation only. If you have not been sent this report by CGS-CIMBR directly, you may not rely, use or disclose to anyone else this report or its contents.

If the recipient of this report is not an accredited investor, expert investor or institutional investor, CGS-CIMBR accepts legal responsibility for the contents of the report without any disclaimer limiting or otherwise curtailing such legal responsibility. If the recipient is an accredited investor, expert investor or institutional investor, the recipient is deemed to acknowledge that CGS-CIMBR is exempt from certain requirements under the FAA and its attendant regulations, and as such, is exempt from complying with the following:

- (a) Section 25 of the FAA (obligation to disclose product information);
- (b) Section 27 of the FAA (duty not to make recommendation with respect to any investment product without having a reasonable basis where you may be reasonably expected to rely on the recommendation);
- (c) MAS Notice on Information to Clients and Product Information Disclosure [Notice No. FAA-N03];

- (d) MAS Notice on Recommendation on Investment Products [Notice No. FAA-N16];
 (e) Section 36 of the FAA (obligation on disclosure of interest in specified products); and
 (f) any other laws, regulations, notices, directive, guidelines, circulars and practice notes which relates to the above, to the extent permitted by applicable laws, as may be amended from time to time, and any other laws, regulations, notices, directive, guidelines, circulars, and practice notes as we may notify you from time to time. In addition, the recipient who is an accredited investor, expert investor or institutional investor acknowledges that as CGS-CIMBR is exempt from Section 27 of the FAA, the recipient will also not be able to file a civil claim against CGS-CIMBR for any loss or damage arising from the recipient's reliance on any recommendation made by CGS-CIMBR which would otherwise be a right that is available to the recipient under Section 27 of the FAA.

CGS-CIMBR, its affiliates and related corporations, their directors, associates, connected parties and/or employees may own or have positions in specified products of the company(ies) covered in this report or any specified products related thereto and may from time to time add to or dispose of, or may be materially interested in, any such specified products. Further, CGS-CIMBR, its affiliates and its related corporations do and seek to do business with the company(ies) covered in this report and may from time to time act as market maker or have assumed an underwriting commitment in specified products of such company(ies), may sell them to or buy them from customers on a principal basis and may also perform or seek to perform significant investment banking, advisory, underwriting or placement services for or relating to such company(ies) as well as solicit such investment, advisory or other services from any entity mentioned in this report.

As of CGS-CIMBR does not have a proprietary position in the recommended specified products in this report.

CGS-CIMBR makes a market on the specified products.

CGS-CIMBR does not make a market on other specified products mentioned in the report.

South Korea: This report is prepared for and distributed in South Korea by CGS-CIMB Securities (Hong Kong) Limited, Korea Branch ("CGS-CIMB Korea") which is licensed as a cash equity broker, and regulated by the Financial Services Commission and Financial Supervisory Service of Korea. In South Korea, this report is for distribution only to professional investors under Article 9(5) of the Financial Investment Services and Capital Market Act of Korea ("FSCMA").

Spain: This document is a research report and it is addressed to institutional investors only. The research report is of a general nature and not personalised and does not constitute investment advice so, as the case may be, the recipient must seek proper advice before adopting any investment decision. This document does not constitute a public offering of securities.

CGS-CIMB is not registered with the Spanish Comision Nacional del Mercado de Valores to provide investment services.

Sweden: This report contains only marketing information and has not been approved by the Swedish Financial Supervisory Authority. The distribution of this report is not an offer to sell to any person in Sweden or a solicitation to any person in Sweden to buy any instruments described herein and may not be forwarded to the public in Sweden.

Switzerland: This report has not been prepared in accordance with the recognized self-regulatory minimal standards for research reports of banks issued by the Swiss Bankers' Association (Directives on the Independence of Financial Research).

Thailand: This report is prepared for and distributed in Thailand by CGS-CIMB Securities (Thailand) Co. Ltd. ("CGS-CIMB Thailand") based upon sources believed to be reliable (but their accuracy, completeness or correctness is not guaranteed). The statements or expressions of opinion herein were arrived at after due and careful consideration for use as information for investment. Such opinions are subject to change without notice and CGS-CIMB Thailand has no obligation to update its opinion or the information in this report.

CGS-CIMB Thailand may act or acts as Market Maker, and issuer and offerer of Derivative Warrants and Structured Note which may have the following securities as its underlying securities. Investors should carefully read and study the details of the derivative warrants in the prospectus before making investment decisions.

AAV, ADVANC, AEONTS, AMATA, AOT, AWC, BANPU, BBL, BCH, BCP, BCPG, BDMS, BEC, BEM, BGC, BGRIM, BH, BJC, BPP, BTS, CBG, CENTEL, CHG, CK, CKP, COM7, CPALL, CPF, CPN, DELTA, DTAC, EA, EGO, EPG, ERW, ESSO, GFPT, GLOBAL, GPSC, GULF, GUNKUL, HANA, HMPRO, INTUCH, IRPC, IVL, JAS, JMT, KBANK, KCE, KKP, KTB, KTC, LH, MAJOR, MBK, MEGA, MINT, MTC, ORI, OSP, PLANB, PRM, PSH, PSL, PTG, PTT, PTTEP, PTTGC, QH, RATCH, RS, SAWAD, SCB, SCC, SGP, SPALI, SPRC, STA, STEC, STPI, SUPER, TASCOS, TCAP, THAI, THANI, THG, TISCO, TKN, TMB, TOA, TOP, TPIPP, TQM, TRUE, TTW, TU, VGI, WHA, BEAUTY, JMART, LPN, SISB, WORK.

Corporate Governance Report:

The disclosure of the survey result of the Thai Institute of Directors Association ("IOD") regarding corporate governance is made pursuant to the policy of the Office of the Securities and Exchange Commission. The survey of the IOD is based on the information of a company listed on the Stock Exchange of Thailand and the Market for Alternative Investment disclosed to the public and able to be accessed by a general public investor. The result, therefore, is from the perspective of a third party. It is not an evaluation of operation and is not based on inside information.

The survey result is as of the date appearing in the Corporate Governance Report of Thai Listed Companies. As a result, the survey result may be changed after that date. CGS-CIMB Thailand does not confirm nor certify the accuracy of such survey result.

Score Range:	90 - 100	80 – 89	70 - 79	Below 70 or	No Survey Result
Description:	Excellent	Very Good	Good	N/A	

United Arab Emirates: The distributor of this report has not been approved or licensed by the UAE Central Bank or any other relevant licensing authorities or governmental agencies in the United Arab Emirates. This report is strictly private and confidential and has not been reviewed by, deposited or registered with UAE Central Bank or any other licensing authority or governmental agencies in the United Arab Emirates. This report is being issued outside the United Arab Emirates to a limited number of institutional investors and must not be provided to any person other than the original recipient and may not be reproduced or used for any other purpose. Further, the information contained in this report is not intended to lead to the sale of investments under any subscription agreement or the conclusion of any other contract of whatsoever nature within the territory of the United Arab Emirates.

United Kingdom and European Economic Area (EEA): In the United Kingdom and European Economic Area, this material is prepared for and being distributed by CGS-CIMB Securities (UK) Limited ("CGS-CIMB UK"). CGS-CIMB UK is authorized and regulated by the Financial Conduct Authority and its registered office is at 27 Knightsbridge, London, SW1X7YB. The material distributed by CGS-CIMB UK has been prepared in accordance with CGS-CIMB's policies for managing conflicts of interest arising as a result of publication and distribution of this material. This material is for distribution only to, and is solely directed at, selected persons on the basis that those persons: (a) are eligible counterparties and professional clients of CGS-CIMB UK; (b) have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Order"), (c) fall within Article 49(2)(a) to (d) ("high net worth companies, unincorporated associations etc") of the Order; (d) are outside the United Kingdom subject to relevant regulation in each jurisdiction, material (all such persons together being referred to as "relevant persons"). This material is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this material relates is available only to relevant persons and will be engaged in only with relevant persons.

This material is categorised as non-independent for the purposes of CGS-CIMB UK and therefore does not provide an impartial or objective assessment of the subject matter and does not constitute independent research. Consequently, this material has not been prepared in accordance with legal requirements designed to promote the independence of research and will not be subject to any prohibition on dealing ahead of the dissemination of research. Therefore, this material is considered a marketing communication.

United States: This report is prepared for and distributed in the United States of America by CGS-CIMB Securities (USA) Inc, a U.S. registered broker-dealer and an affiliate of CGS-CIMB Securities Sdn. Bhd., CGS-CIMB Research Pte Ltd, PT CGS-CIMB Sekuritas Indonesia, CGS-CIMB Securities (Thailand) Co. Ltd, CGS-CIMB Securities (Hong Kong) Limited and CGS-CIMB Securities (India) Private Limited, and is distributed solely to persons who qualify as "U.S. Institutional Investors" as defined in Rule 15a-6 under the Securities and Exchange Act of 1934. This communication is only for Institutional Investors whose ordinary business activities involve investing in shares, bonds, and associated securities and/or derivative securities and who have professional experience in such investments. Any person who is not a U.S. Institutional Investor or Major Institutional Investor must not rely on this communication. The delivery of this report to any person in the United States of America is not a recommendation to effect any transactions in the securities discussed herein, or an endorsement of any opinion expressed herein. CGS-CIMB Securities (USA) Inc, is a FINRA/SIPC member and takes responsibility for the content of this report. For further information or to place an order in any of the above-mentioned securities please contact a registered representative of CGS-CIMB Securities (USA) Inc.

CGS-CIMB Securities (USA) Inc. has managed or co-managed a public offering of securities in the past 12 months.

CGS-CIMB Securities (USA) Inc. has not managed or co-managed a public offering of any of the securities mentioned in the past 12 months.

CGS-CIMB Securities (USA) Inc. has received compensation for investment banking services in the past 12 months.

CGS-CIMB Securities (USA) Inc. has not received compensation for investment banking services from any of the company mentioned in the past 12 months.

CGS-CIMB Securities (USA) Inc. expects to receive or intend to seek compensation for investment banking services within the next 3 months.

CGS-CIMB Securities (USA) Inc. neither expects to receive nor intends to seek compensation for investment banking services from any of the company mentioned within the next 3 months.

As of the end of the month immediately preceding the date of publication of this report, CGS-CIMB Securities (USA) Inc. beneficially owns 1% or more of any class of common equity securities.

United States Third-Party Disclaimer: If this report is distributed in the United States of America by Raymond James & Associates, Inc ("RJA"), this report is third-party research prepared for and distributed in the United States of America by RJA pursuant to an arrangement between RJA and CGS-CIMB Securities International Pte. Ltd. ("CGS-CIMB"). CGS-CIMB is not an affiliate of RJA. This report is distributed solely to persons who qualify as "U.S. Institutional Investors" or as "Major U.S. Institutional Investors" as defined in Rule 15a-6 under the Securities and Exchange Act of 1934, as amended. This communication is only for U.S. Institutional Investors or Major U.S. Institutional Investor whose ordinary business activities involve investing in shares, bonds, and associated securities and/or derivative securities and who have professional experience in such investments. Any person who is not a U.S. Institutional Investor or Major U.S. Institutional Investor must not rely on this communication. The delivery of this report to any person in the U.S. is not a recommendation to effect any transactions in the securities discussed herein, or an endorsement of any opinion expressed herein. If you are receiving this report in the U.S from RJA, a FINRA/SIPC member, it takes responsibility for the content of this report. For further information or to place an order in any of the above-mentioned securities please contact a registered representative of CGS-CIMB Securities (USA) Inc. or RJA.

Other jurisdictions: In any other jurisdictions, except if otherwise restricted by laws or regulations, this report is only for distribution to professional, institutional, or sophisticated investors as defined in the laws and regulations of such jurisdictions.

Corporate Governance Report of Thai Listed Companies (CGR). CG Rating by the Thai Institute of Directors Association (Thai IOD) in 2019, Anti-Corruption 2019

ADVANC – Excellent, Certified, **AEONTS** – Good, n/a, **AH** – Very Good, n/a, **AMATA** – Excellent, Declared, **ANAN** – Excellent, Declared, **AOT** – Excellent, n/a, **AP** – Excellent, Certified, **ASP** – Very Good, Certified, **BAM** – not available, n/a, **BANPU** – Excellent, Certified, **BAY** – Excellent, Certified, **BBL** – Very Good, Certified, **BCH** – Good, Certified, **BGP** – Excellent, Certified, **BPCG** – Excellent, Certified, **BDMS** – Very Good, n/a, **BEAUTY** – Good, n/a, **BEC** – Very Good, n/a, **BGRIM** – Very Good, Declared, **BH** - Good, n/a, **BJC** – Very Good, n/a, **BJCHI** – Very Good, Certified, **BLA** – Very Good, Certified, **BPP** – Very Good, Declared, **BR** - Good, n/a, **BTS** - Excellent, Certified, **CBG** – Very Good, n/a, **CCET** – Good, n/a, **CENDEL** – Very Good, Certified, **CHAYO** - Good, n/a, **CHG** – Very Good, Declared, **CK** – Excellent, n/a, **COL** – Excellent, Declared, **CPALL** – Excellent, Certified, **CPF** – Excellent, Certified, **CPN** - Excellent, Certified, **CPNREIT** – not available, n/a, **CRC** – not available, n/a, **DELTA** – Excellent, Declared, **DEMCO** – Excellent, Certified, **DDD** – Very Good, n/a, **DIF** – not available, n/a, **DREIT** – not available, n/a, **DTAC** – Excellent, Certified, **EA** – Excellent, n/a, **ECL** – Very Good, Certified, **EGCO** - Excellent, Certified, **EPG** – Very Good, n/a, **ERW** – Very Good, n/a, **GFPT** – Excellent, Certified, **GGC** – Excellent, Certified, **GLOBAL** – Very Good, n/a, **GLOW** – Very Good, Certified, **GPSC** – Excellent, Certified, **GULF** – Very Good, n/a, **GUNKUL** – Excellent, Certified, **HANA** - Excellent, Certified, **HMPRO** - Excellent, Certified, **HUMAN** – Good, n/a, **ICHI** – Excellent, Declared, **III** – Excellent, n/a, **INTUCH** - Excellent, Certified, **IRPC** – Excellent, Certified, **ITD** – Very Good, n/a, **IVL** - Excellent, Certified, **JASIF** – not available, n/a, **BJC** – Very Good, n/a, **JMT** – Very Good, n/a, **KBANK** - Excellent, Certified, **KCE** - Excellent, Certified, **KKP** – Excellent, Certified, **KSL** – Excellent, Certified, **KTB** - Excellent, Certified, **KTC** – Excellent, Certified, **LH** - Excellent, n/a, **LPN** – Excellent, Certified, **M** – Very Good, Certified, **MACO** – Very Good, n/a, **MAJOR** – Very Good, n/a, **MAKRO** – Excellent, Certified, **MALEE** – Excellent, Certified, **MC** – Excellent, Certified, **MCOT** – Excellent, Certified, **MEGA** – Very Good, n/a, **MINT** - Excellent, Certified, **MK** – Very Good, n/a, **MTC** – Excellent, n/a, **NETBAY** – Very Good, n/a, **OSP** – Very Good, n/a, **PLANB** – Excellent, Certified, **PLAT** – Very Good, Certified, **PR9** – Excellent, n/a, **PSH** – Excellent, Certified, **PSTC** – Very Good, Certified, **PTT** - Excellent, Certified, **PTTEP** - Excellent, Certified, **PTTGC** - Excellent, Certified, **QH** – Excellent, Certified, **RATCH** – Excellent, Certified, **ROBINS** – Excellent, Certified, **RS** – Excellent, n/a, **RSP** – not available, n/a, **S** – Excellent, n/a, **SAPPE** – Very Good, Declared, **SAT** – Excellent, Certified, **SAWAD** – Very Good, n/a, **SC** – Excellent, Certified, **SCB** - Excellent, Certified, **SCC** – Excellent, Certified, **SCN** – Excellent, Certified, **SF** – Good, n/a, **SHR** – not available, n/a, **SIRI** – Very Good, Certified, **SPA** - Good, n/a, **SPALI** - Excellent, n/a, **SPRC** – Excellent, Certified, **STA** – Very Good, Certified, **STEC** – Excellent, n/a, **SVI** – Excellent, Certified, **SYNEX** – Excellent, Certified, **TASCO** – Excellent, Certified, **TCAP** – Excellent, Certified, **THANI** – Excellent, Certified, **TIPCO** – Very Good, Certified, **TISCO** - Excellent, Certified, **TKN** – Very Good, n/a, **TMB** - Excellent, Certified, **TNR** – Very Good, Certified, **TOP** - Excellent, Certified, **TPCH** – Good, n/a, **TIPIP** – Good, n/a, **TRUE** – Excellent, Certified, **TU** – Excellent, Certified, **TVO** – Excellent, Declared, **UNIQ** – not available, n/a, **VGI** – Excellent, Certified, **WHA** – Excellent, Certified, **WHART** – not available, n/a, **WICE** – Excellent, Certified, **WORK** – Good, n/a.

1 CG Score 2019 from Thai Institute of Directors Association (IOD)

2 AGM Level 2018 from Thai Investors Association

3 Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of November 30, 2018) are categorised into:

companies that have declared their intention to join CAC, and companies certified by CAC.

4 The Stock Exchange of Thailand : the record of listed companies with corporate sustainable development "Thai sustainability Investment 2018" included:

SET and mai listed companies passed the assessment conducted by the Stock Exchange of Thailand: THSI (SET) and THSI (mai)

SET listed companies passed the assessment conducted by the Dow Jones Sustainability Indices (DJSI)

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.

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.

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.