

9 DECEMBER 2021

THAILAND / PETROCHEM &amp; CHEMICALS

## INDORAMA VENTURES IVL TB

BUY

UNCHANGED

TARGET PRICE	THB62.00
CLOSE	THB40.00
UP/DOWNSIDE	+55.0%
PRIOR TP	THB62.00
CHANGE IN TP	UNCHANGED
TP vs CONSENSUS	+14.2%

## โตดีบนระดับการประเมินมูลค่าที่อยู่ในระดับต่ำ

## 3 ผู้บริหารให้ 3 ปัจจัยบวกสำหรับปีทองในปี 2022

เราออกจากการประชุมทางโทรศัพท์กับ 3 ผู้บริหารสำคัญของ IVL พร้อม 3 ปัจจัยบวกเกี่ยวกับแนวโน้มการเติบโตของกำไรสุทธิของบริษัทฯ ในปี 2022-23 ข้อแรก EBITDA ของธุรกิจ Integrated Oxide and Derivatives (IOD) อาจเพิ่มเป็น USD0.7 พันล้านในปี 2022 จาก Oxiteno ที่ซื้อมา อัตรากำไรที่สูงขึ้น และปริมาณที่เพิ่มขึ้น ข้อสองกลุ่ม cPET น่าจะสร้าง EBITDA ในระดับที่ดีโดยอยู่ที่กว่า USD1.3 พันล้านในปี 2022 จาก PET-PTA margins รวมที่อยู่ในระดับสูงอย่างยั่งยืนในอเมริกาและยุโรป ข้อสาม IVL ยังอยู่ระหว่างรอรับประโยชน์จากธุรกิจ Recycling PET (rPET) ตามแผนจากอำนาจในการตั้งราคาที่สูงกว่าและความต้องการผลิตภัณฑ์ rPET ที่เพิ่มขึ้นหลังการประชุม COP26

## Oxiteno จะช่วยเสริมสร้างพอร์ต IOD และ HVA

จากสินทรัพย์ IOD ของ Oxiteno ในบราซิลและการเริ่มดำเนินงานของ Ethane Cracker ของบริษัทฯ เราคาดว่า EBITDA ของกลุ่ม IOD จะโตขึ้น 2x y-y จาก USD0.3 พันล้านในปี 2021 เป็น USD0.7 พันล้านในปี 2022 ซึ่งคิดเป็น 25-30% ของ EBITDA รวมในปี 2022E ที่กว่า USD2.8-3.0 พันล้าน จากข้อมูลของ IVL กำลังการผลิต Surfactants รวมในสินทรัพย์ IOD (IVL+Oxiteno) น่าจะช่วยให้ IVL ไม่เพียงแต่จับการเติบโตของความต้องการที่คาดว่าจะกว่า USD40 พันล้านในตลาด Surfactants โลกได้ แต่ยังคงรวมถึงในตลาดสหรัฐฯ (ซึ่งคิดเป็น 35% ของตลาด Surfactants โลกในปี 2020) เราคาดว่า Surfactants เพียงอย่างเดียวอาจสร้าง EBITDA รายปีได้ USD0.2-0.3 พันล้านนับตั้งแต่ปี 2022 เป็นต้นไป ในปี 2022 เราคาดว่าผลิตภัณฑ์มูลค่าเพิ่มสูง (HVA) จะคิดเป็นกว่า 60% ของ EBITDA รวมและ 50% ของรายได้

## อะไรทำให้ PET-PTA margin ของ IVL ทรงตัวสูงกว่าอย่างยั่งยืน?

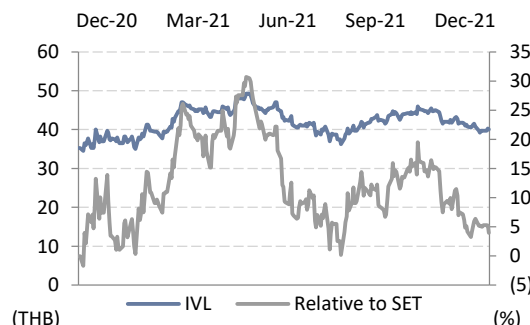
cPET (บรรจุภัณฑ์ PX PTA PET และเคมีพิเศษ) เป็นกลุ่มสินค้าที่ใหญ่ที่สุดของ IVL ด้วยกำลังการผลิตรวม 12mtpa (67% ของกำลังการผลิตรวมใน 3Q21) เราคาดว่า PET-PTA margin รวมที่อยู่ในระดับสูงจะอยู่ต่อเนื่องไปในปี 2022 จากข้อได้เปรียบ 4 ประการ ประกอบด้วย ความสามารถในการรีไซเคิลที่สูงกว่า โครงสร้างตลาดที่เกือหนุน กำแพงขาเข้า รวมถึงราคาและอัตรากำไรตามสัญญาที่อยู่ในระดับสูง ซึ่งทำให้ IVL เรียก Premium ได้ USD500/t จาก PET-PTA margin รวมในเอเชีย (USD820/t เทียบกับ USD300/t ในเดือน ต.ค. 21)

## หุ้นเด่นในกลุ่มวัฏจักรไทย

เราคงคำแนะนำซื้อที่ราคาเป้าหมาย 62 บาท (7.4x ของค่า 2022E EV/EBITDA) IVL ยังเป็นหุ้นเด่นของเราในกลุ่มปิโตรเคมีของไทยจากแนวโน้มการเติบโตของกำไรสุทธิที่มีความชัดเจนและอยู่ในระดับสูงจากการเติบโตทั้งจากภายใน (ปริมาณและอัตรากำไรที่สูงขึ้น) และจากการควบรวมและซื้อกิจการ

## KEY STOCK DATA

YE Dec (THB m)	2020	2021E	2022E	2023E
Revenue	331,513	362,740	361,292	367,431
Net profit	1,656	24,731	28,041	34,366
EPS (THB)	0.30	4.40	4.99	6.12
vs Consensus (%)	-	2.2	30.1	49.3
EBITDA	31,473	61,577	64,899	78,026
Core net profit	6,430	22,909	26,019	32,344
Core EPS (THB)	1.15	4.08	4.63	5.76
Chg. In EPS est. (%)	-	-	-	-
EPS growth (%)	(46.4)	256.3	13.6	24.3
Core P/E (x)	34.9	9.8	8.6	6.9
Dividend yield (%)	0.5	5.1	5.8	7.1
EV/EBITDA (x)	13.0	6.2	5.5	4.2
Price/book (x)	1.8	1.5	1.3	1.2
Net debt/Equity (%)	128.9	74.9	53.2	31.5
ROE (%)	5.0	16.5	16.4	18.2



Share price performance	1 Month	3 Month	12 Month
Absolute (%)	(7.0)	(4.2)	14.3
Relative to country (%)	(6.5)	(2.9)	4.4
Mkt cap (USD m)	6,710		
3m avg. daily turnover (USD m)	25.2		
Free float (%)	33		
Major shareholder	Indorama Resources (63%)		
12m high/low (THB)	50.00/33.75		
Issued shares (m)	5,614.55		

Sources: Bloomberg consensus; FSSIA estimates



Suwat Sinsadok

suwat.sin@fssia.com  
+66 2611 3558

Siriluck Pinthusoonthorn

siriluck.pin@fssia.com  
+66 2611 3562

PREPARED BY FSS INTERNATIONAL INVESTMENT ADVISORY SECURITIES CO LTD (FSSIA). ANALYST CERTIFICATION AND IMPORTANT DISCLOSURES CAN BE FOUND AT THE END OF THIS REPORT

บทวิเคราะห์ฉบับนี้แปลมาจากบทวิเคราะห์ของ FSSIA ฉบับวันที่ 9 ธันวาคม 2021

## Investment thesis

We believe IVL is now at an inflection point for its third growth phase, transforming from a high value-added (HVA)-driven, polyethylene terephthalate (PET)/purified terephthalic acid (PTA)-focused product company into a packaging, olefin-integrated company in 2019-23.

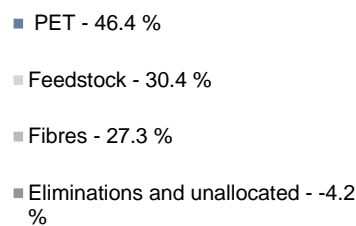
Unlike its last two growth cycles when IVL funded its capacity growth through debt and capital increases using warrants (IVL-W1 and IVL-W2), key growth strategies in IVL's third growth cycle could be driven by 1) M&A in the global packaging business, non-PET packaging in frontier markets and specialty chemicals for polyester chain products; and 2) backward integration into the olefins business, including an ethane cracker, propylene production, and downstream polyethylene (PE) and polypropylene (PP), as these are key feedstock materials for IVL's growing packaging segment. The integration focus should only be on self-sufficient, non-merchant applications.

## Company profile

Indorama Ventures (IVL) was incorporated in 2003 to start up a petrochemical business in Thailand. Initially focusing on wool fibre, the company expanded into the polyester chain, including polyester fibre, PET, and PTA.

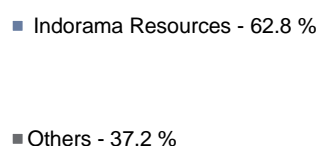
[www.indoramaventures.com](http://www.indoramaventures.com)

## Principal activities (revenue, 2020)



Source: Indorama Ventures

## Major shareholders



Source: Indorama Ventures

## Catalysts

Potential catalysts for IVL include 1) higher PET and PTA margins; 2) a 10% y-y rising sales volume due to multiple acquired assets in 2018; and 3) an EBITDA margin recovery for HVA products, given the re-pricing of HVA products to reflect higher feedstock costs.

## Risks to our call

The key downside risks to our EV/EBITDA-based TP are weaker-than-expected margins for PX-PTA and PET-PTA, lower demand for polyester, and delays in IVL's projects.

## Event calendar

Date	Event
Feb 2022	4Q21/2021 results announcement

## Key assumptions

	2021E	2022E	2023E
	(USD/tonne)	(USD/tonne)	(USD/tonne)
Utilisation rate (%)	87	88	89
PET margin	249	261	357
PTA-PX margin	142	147	122
MEG-(0.58) ethylene margin	250	230	230
IOD EBITDA	340	360	440

Source: FSSIA estimates

## Earnings sensitivity

- For every 1% change in the THB/USD exchange rate, we estimate a 1.4% change in 2021 EPS, all else being equal.
- For every 1% increase in latex price, we estimate 2021 EPS would fall 0.7%, and vice versa, all else being equal.
- For every 1% increase in utilisation rate, we estimate 2021 EPS would rise 1.5%, and vice versa, all else being equal.
- For every 1% increase in ASP, we estimate 2021 EPS would rise by 0.8%, and vice versa, all else being equal.

Source: FSSIA estimates

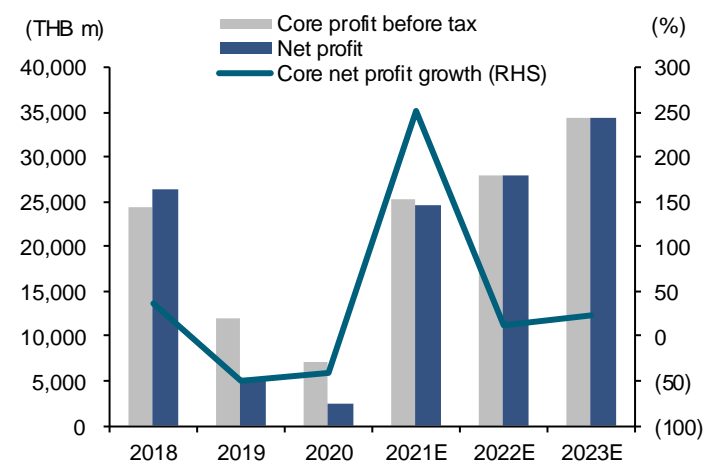


## Greener growth in IOD and cPET

We have come away from our conference call with three of IVL's key executives – Mr. Dillip Kumar Agarwa, CEO, Mr. Alastair Port, President and COO of the IOD group, and Mr. Muthukumar Paramasivam, COO of the integrated PET group, Americas – with three major points that confirm our positive view on the company's net profit growth outlook in 2022-23.

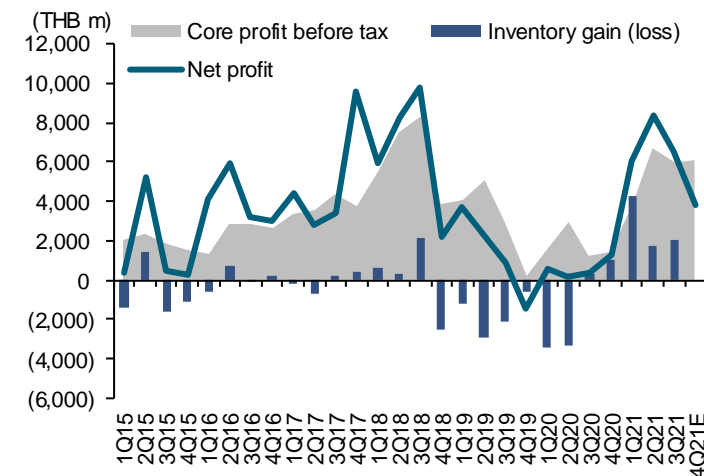
First, IVL's IOD EBITDA could grow markedly to USD0.7b in 2022, driven by the acquired Oxiteno, higher margins, and rising volumes. Second, the cPET group should generate strong EBITDA of over USD1.3b in 2022, driven by the sustainably high margins of integrated PET-PTA in the Americas and Europe. Third, IVL is on track to realise the benefits of its rPET business in the wake of the higher pricing power and rising demand for rPET products after the COP26 meeting.

**Exhibit 1: Core net profit before tax, net profit, and core net profit growth**



Sources: IVL; FSSIA estimates

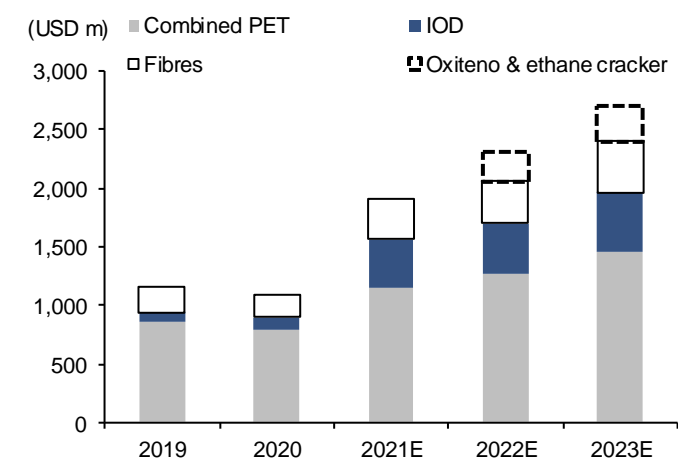
**Exhibit 2: Quarterly core net profit before tax, inventory gain (loss), and net profit**



Sources: IVL; FSSIA estimates

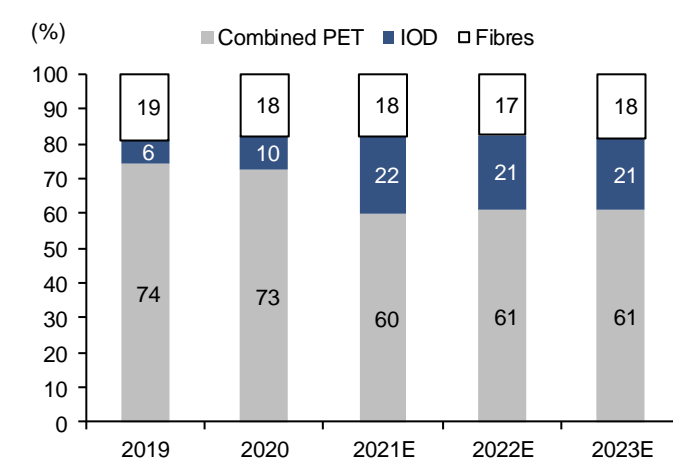
In 2Q-3Q21, IVL saw strong earnings of over THB0.5b per quarter in both its core operating net profit and reported net profit (including inventory gains (losses)), thanks to rising sales volumes on higher utilisation rates, its lower-than-peers' cost structure as a result of IVL's continued effort to streamline in order to maintain its cost competitiveness, and the high industry margins of PET-PTA, particularly in the Western markets (North America and Europe), and downstream IOD products (surfactants, ethanolamine, propylene oxide (PO), propylene glycol (PG), and ethylene oxide (EO)).

**Exhibit 3: EBITDA breakdown by product group**



Sources: IVL; FSSIA estimates

**Exhibit 4: EBITDA breakdown by product group (%)**



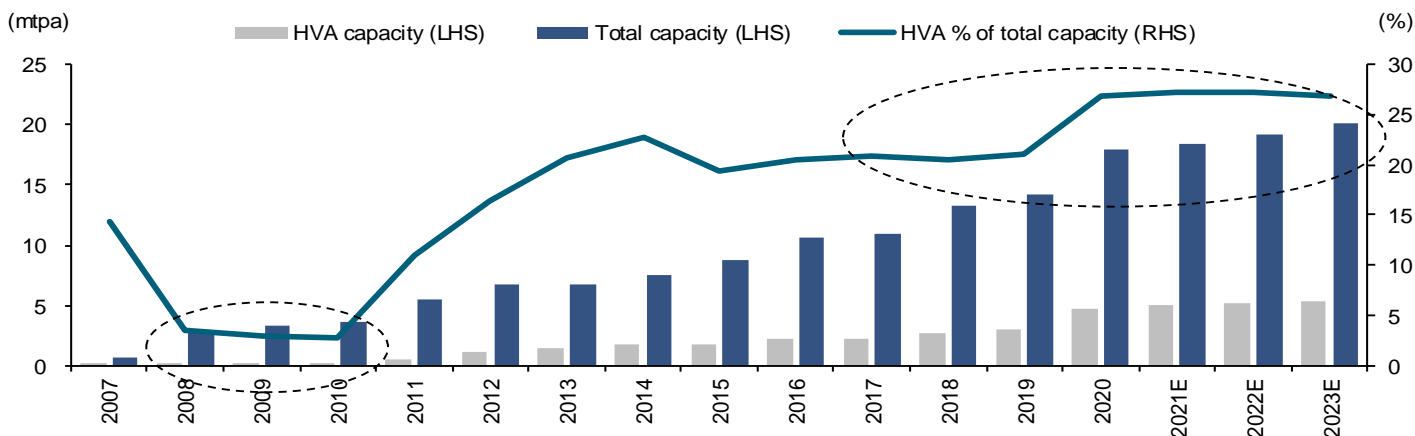
Sources: IVL; FSSIA estimates

After posting a strong 9M21 net profit of THB21b, we remain confident that IVL should see a series of strong net profits in 2021-23, rising from THB24.7b in 2021, to THB28b in 2022, and THB34.4b in 2023, growing by 256% y-y in 2021 up to 14% y-y in 2022, and 24% y-y in 2023. We project IVL's EBITDA to rise from USD1.1b in 2020 to USD1.9b in 2021, jumping to USD2.1b in 2022 and USD2.4b in 2023. However, if we include the EBITDA from the ethane cracker and Oxiteno, we expect IVL's EBITDA to jump to USD2.3b in 2022 and USD2.7b in 2023.

**4Q21/2022/2023 net profits could beat our forecast and Bloomberg's consensus estimate by a large margin.** We think one of the potential catalysts to drive up IVL's share price in the next six months would be if Bloomberg consensus upgrades its net profit forecasts on IVL in 2022-23 by 30-50%. We think IVL's strong EBITDA from the IOD and cPET groups could positively surprise the market's expectations.

Note that although our net profit forecasts of THB28b in 2022 and THB34.4b in 2023 are already 30% and 50% higher than Bloomberg's consensus estimates, respectively, we still believe that IVL could post strong net profits in 2022-23 that could beat both our forecasts and Bloomberg's consensus estimates. The key drivers for the potentially surprising upsides could come from strong EBITDA of over USD150m-200m from Oxiteno and USD100m EBITDA from the ethane cracker, which already started its commercial operation date (COD) in Nov-21.

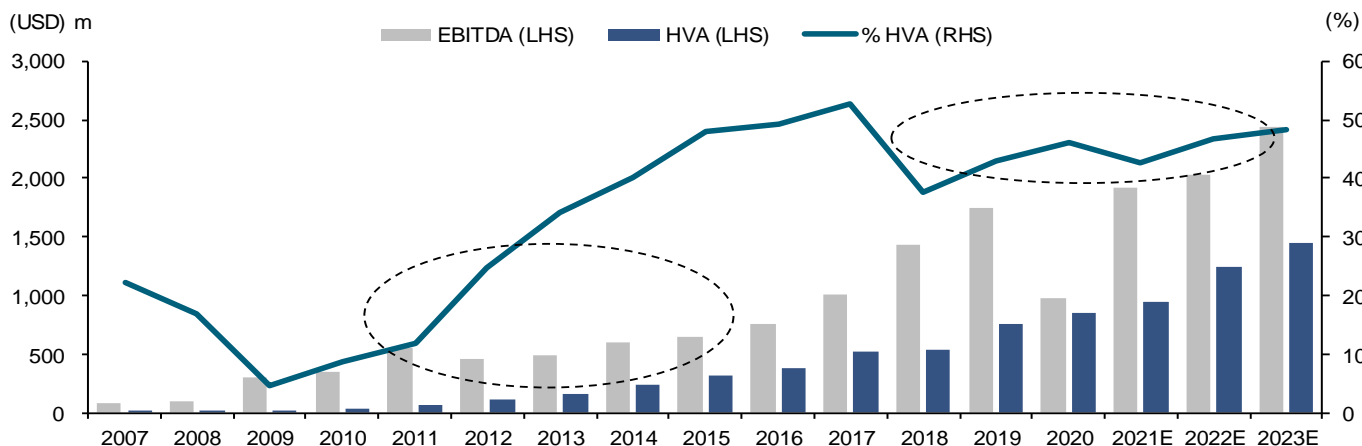
**Exhibit 5: Total capacity, HVA capacity, and HVA capacity as % of total capacity**



Sources: IVL; FSSIA estimates

**HVA portfolio is strengthened further after the acquisition of IOD assets (Huntsman and Oxiteno).** IVL acquired 4.1mtpa of IOD assets from Huntsman in 2020. However, IVL has seen its EBITDA from HVA products (defined as highly sustainable and lucrative products with an EBITDA margin of over 10% vs IVL's 2021E average of 17%) decline from the 54% of total EBITDA peak in 2017 down to 43% in 2021, based on our estimate.

**Exhibit 6: EBITDA, HVA EBITDA, and HVA EBITDA as % of total EBITDA**



Sources: IVL; FSSIA estimates

The main reason for the downtrend in HVA EBITDA as a percent of total EBITDA is due to the increase in non-HVA, commodity product capacity, mainly for PET, resulting in the HVA capacity as a percent of total capacity dropping from 25% in 2014 down to 21% during 2015-2019.

However, after the acquisition of the 4.1mtpa IOD assets from Huntsman in 2020, IVL has seen its HVA portfolio rise from 21% of total capacity in 2019 to 25% in 2020, which has been maintained in 2021. With the acquisition of around 1mtpa of IOD capacity from Oxiteno by 1Q22, we estimate that IVL's HVA capacity as a percent of total capacity will rise to 27% in 2022 onward.

**IOD emerges as IVL's next growth driver.** After having successfully transitioned its production portfolio from commodity-driven to HVA-driven during its two growth cycles (2000-18), we estimate that IVL is now in the next growth phase to increase its EBITDA by 2.3x during 2019-23 to USD2.7b in 2023. It should be backed by the EBITDA from its IOD group that we project at USD0.6b-1.0b, and the remaining EBITDA growth should come from IVL's capacity expansion into new markets and the capacity growth of its rPET globally, which we project to reach 750ktpa by 2025.

**Exhibit 7: IVL's and Oxiteno's IOD product portfolios**

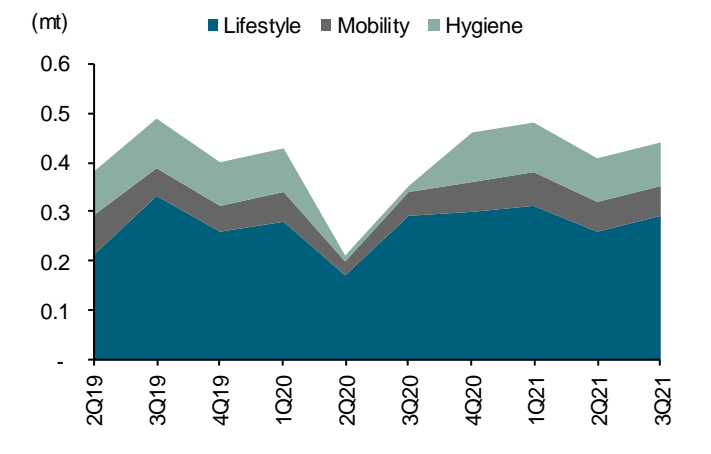
IVL's capacity post acquisition of Huntsman's assets	Huntsman	Ethane cracker	Texas plant	Oxiteno	Total
	(ktpa)	(ktpa)	(ktpa)	(ktpa)	(ktpa)
Ethylene	218	420			638
Propylene	64	20			84
EG	532		300	/	832
EO	635		250	440	1,325
Surfactants	360			/	360
PO	238			/	238
MTBE	731			/	731
Ethanolamine (EOA, MEA, DEA, TEA)	181			/	181
Natural fatty alcohol				/	
Others	188			/	188
<b>Total</b>	<b>3,147</b>	<b>440</b>	<b>550</b>	<b>440</b>	<b>4,577</b>

Source: IVL

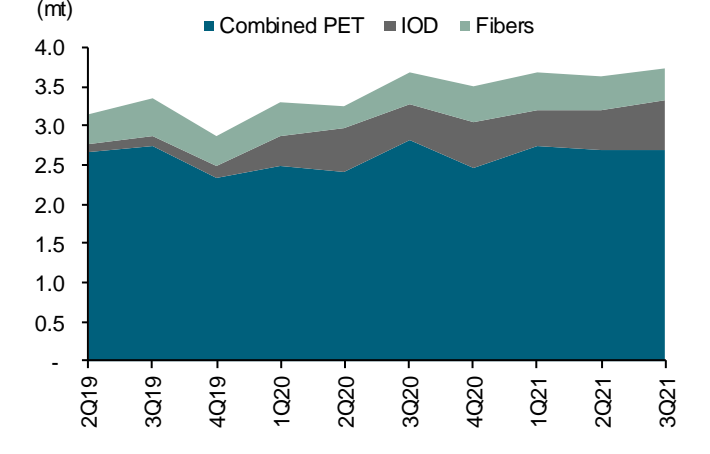
**HVA vs commodity product portfolio.** Of IVL's total capacity of 18mtpa, HVA currently accounts for 25% of total capacity, including 1) most of the fibre capacity of 2mtpa; 2) one-third of PET capacity; 3) dimethyl 2,6-naphthalene dicarboxylate (NDC) and purified isophthalic acid (PIA; 0.44mtpa capacity); and 4) all downstream IOD products (surfactants, ethanolamine, PO, PG, purified EO/linear alkyl benzene (LAB)).

**Exhibit 8: Quarterly HVA production breakdown by product group**

**Exhibit 9: Quarterly production breakdown by product group**



Source: IVL



Source: IVL

We estimate that IVL has a total HVA capacity of 4.5mtpa, around 25% of its total capacity of 18mtpa. According to IVL, its HVA is classified into three segments:

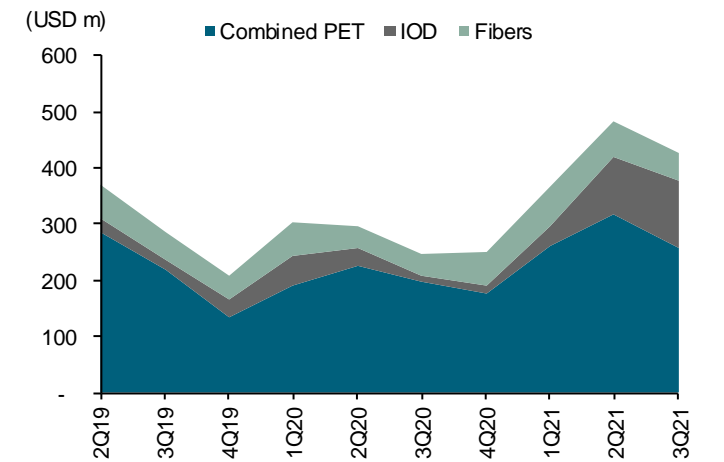
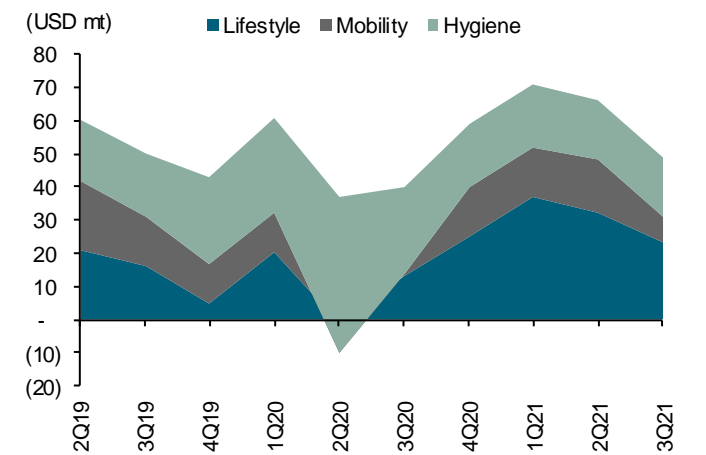
**HVA #1: Lifestyle HVA for the polyester fibres** for clothes, furniture, and personal wares. This lifestyle product has seen demand weaken in the past two years during the pandemic as a result of the global lockdowns that hindered the sales of clothes in stores.

**HVA #2: Mobility HVA for the products** used in the automotive industry. Demand was also impacted by the global lockdowns due to the supply disruptions that led to the chip and auto part shortages worldwide, as well as the temporary shutdowns of plants.

**HVA #3: Hygiene HVA is the largest and most resilient HVA product segment in IVL's HVA portfolio**, given its lower demand elasticity to the lockdowns. Hygiene HVA products include fibres for pampers, sanitary, and personal care cleaning products.

Exhibit 10: Quarterly HVA EBITDA breakdown by segment

Exhibit 11: Quarterly EBITDA breakdown by product group



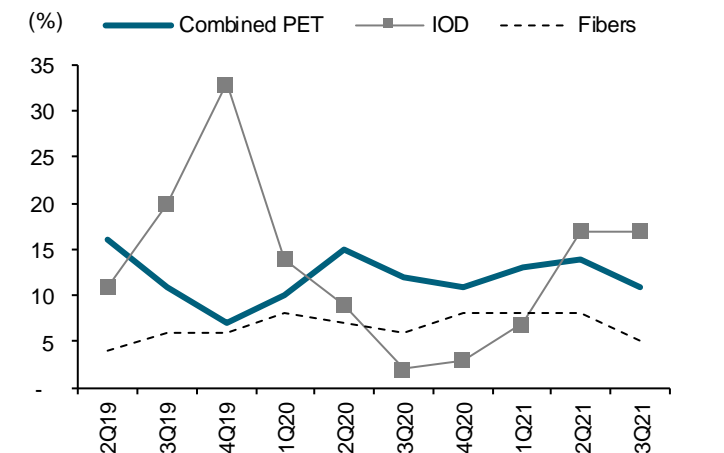
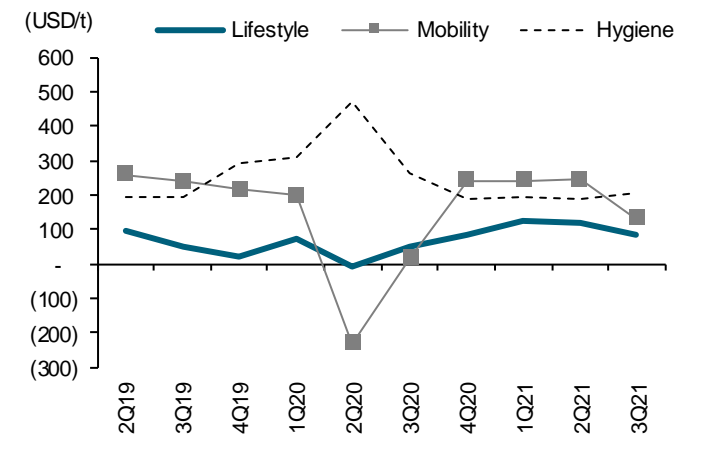
Source: IVL

Source: IVL

**HVA vs commodity EBITDA margin.** Among three HVA product segments, the EBITDA per tonne for the hygiene segment is the not only the highest but also the most sustainable, thanks to its lower demand elasticity than those of the mobility and lifestyle segments, whose EBITDA per tonne and sales volumes have been highly volatile during the pandemic in 2020-3Q21.

Exhibit 12: HVA EBITDA per tonne by segment

Exhibit 13: EBITDA margin by product group (includes stock gain (loss))



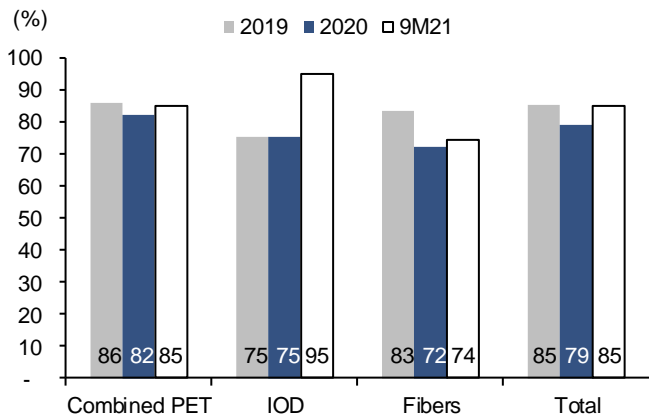
Source: IVL

Source: IVL

However, compared to IVL’s other non-HVA products – mostly in the cPET group (paraxylene (PX), PTA, PET), upstream IOD products (ethylene, propylene), intermediate IOD products (MTBE, MEG) – HVA EBITDA margins are more sustainable than those of the commodity products as there is less competition from China and a more consolidated market structure.

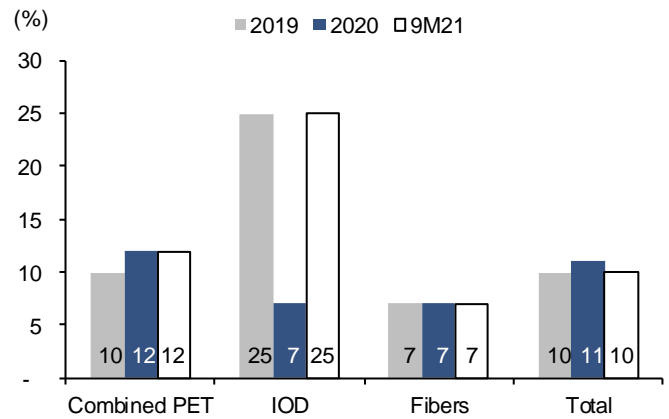
In 2020, IVL witnessed a significant drop in the IOD utilisation rate due to planned and unplanned shutdowns, the polar vortex, and hurricane impacts, which led to the weak EBITDA margin in 2020. However, since 2Q21, the IOD utilisation rates and EBITDA margins have since recovered steadily and have now returned to normality at a 25% core EBITDA margin in 3Q21.

**Exhibit 14: Quarterly utilisation rates by product group**



Source: IVL

**Exhibit 15: Core EBITDA margin by product group**



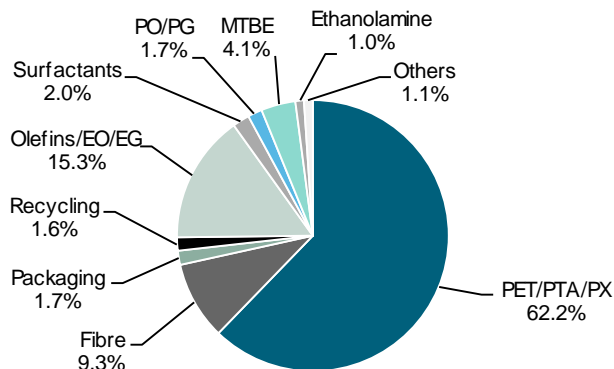
Source: IVL



### IOD is emerging as IVL’s crown jewel

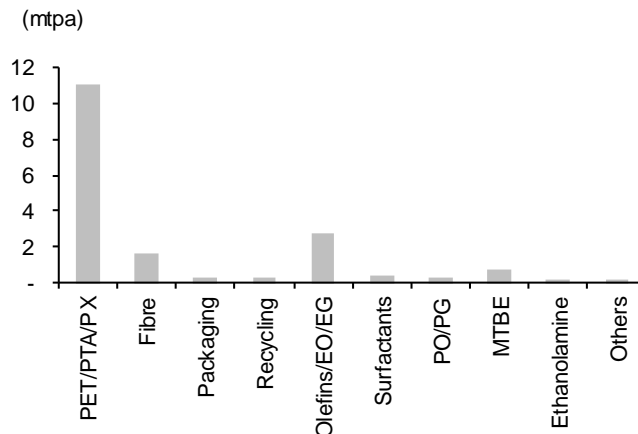
With the soon-to-be-completed acquisition of Oxiteno’s IOD assets in Brazil and the recent COD commencement of its ethane cracker after over a year’s delay, we project IVL’s EBITDA from the IOD group to grow by 2x y-y from USD0.3b in 2021 to USD0.7b in 2022, accounting for 25-30% of IVL’s total 2022E EBITDA of over USD2.8b-3.0b.

**Exhibit 16: Capacity breakdown by product (%)**



Sources: IVL; FSSIA estimates

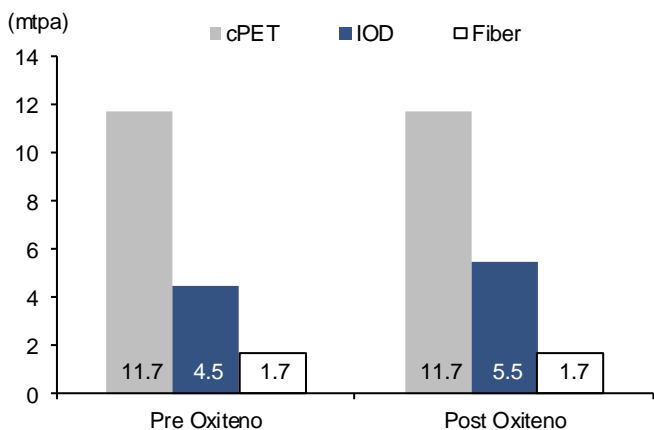
**Exhibit 17: Capacity breakdown by product (18mtpa as of 3Q21)**



Sources: IVL; FSSIA estimates

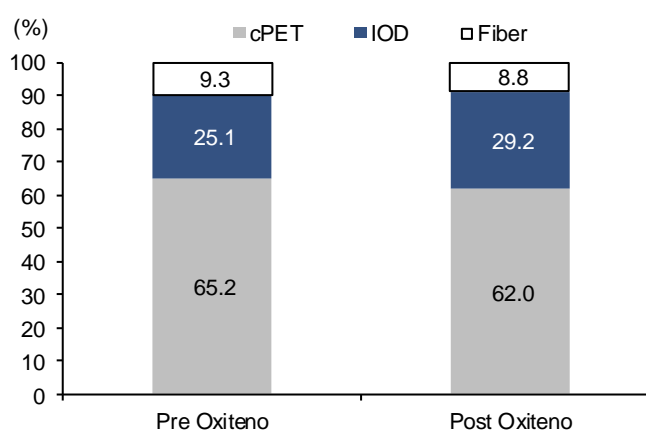
Currently, IVL has a total IOD group capacity of 4.5mtpa, representing 25% of its total 18mtpa capacity as of 3Q21. Most of the IOD group’s capacity comes from 4.1mtpa of IOD capacity acquired from Huntsman in 2020. In the next two quarters, IVL is set to increase its IOD capacity from 4.5mtpa in 3Q21 to 5mtpa in 4Q21 and 6mtpa by 1Q22, adding 0.44mtpa from its ethane cracker in Nov-21 after its successful COD in Nov-21 and 1mtpa of Oxiteno’s IOD diversified product portfolio in 1Q22.

**Exhibit 18: Estimated IOD group capacity breakdown pre- and post-Oxiteno acquisition in 1Q22**



Sources: IVL; FSSIA estimates

**Exhibit 19: Estimated IOD group capacity breakdown pre- and post-Oxiteno acquisition in 1Q22 (%)**

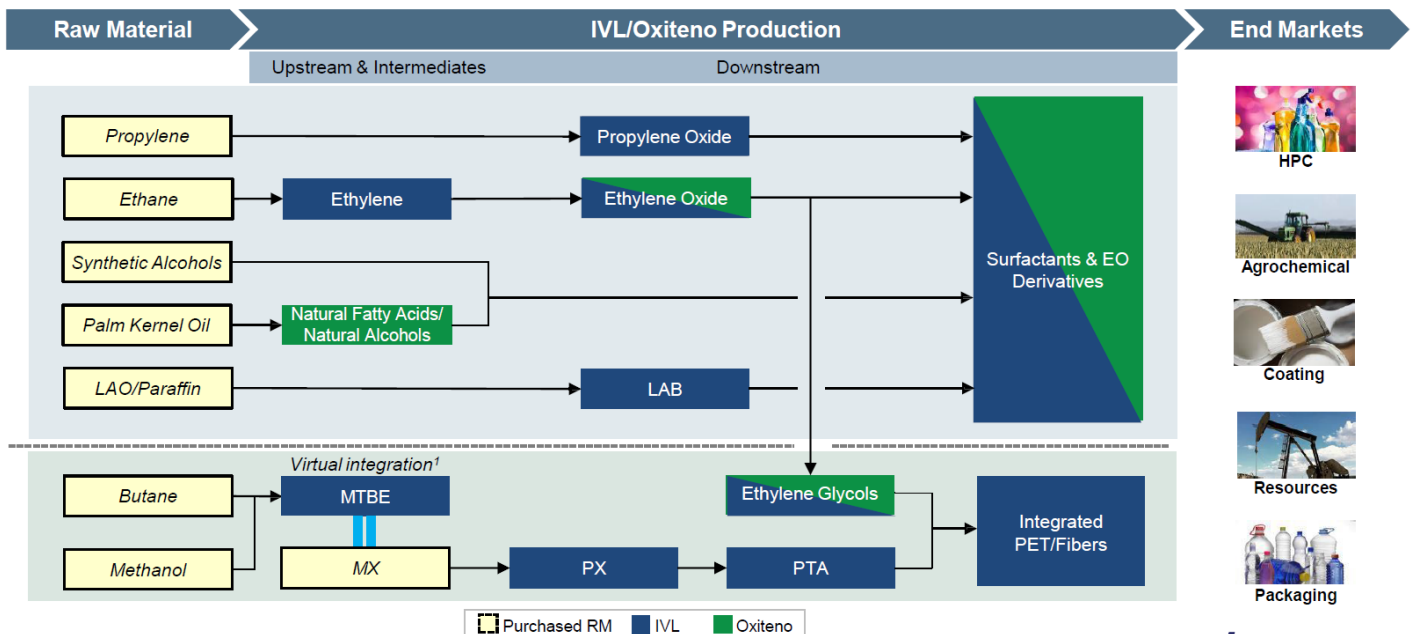


Sources: IVL; FSSIA estimates

With the acquisition of 1mtpa of Oxiteno's IOD product portfolio and the start-up of its 0.44mtpa ethane cracker, we expect IVL's upstream and downstream IOD product portfolio to be further strengthened.

Upstream-wise, the additional 0.44mtpa production of ethylene and propylene from the ethane cracker should reduce IVL's dependence on the outside supply of olefins for its IOD product group and allow it to capture the high gas-based ethylene margin in the US market.

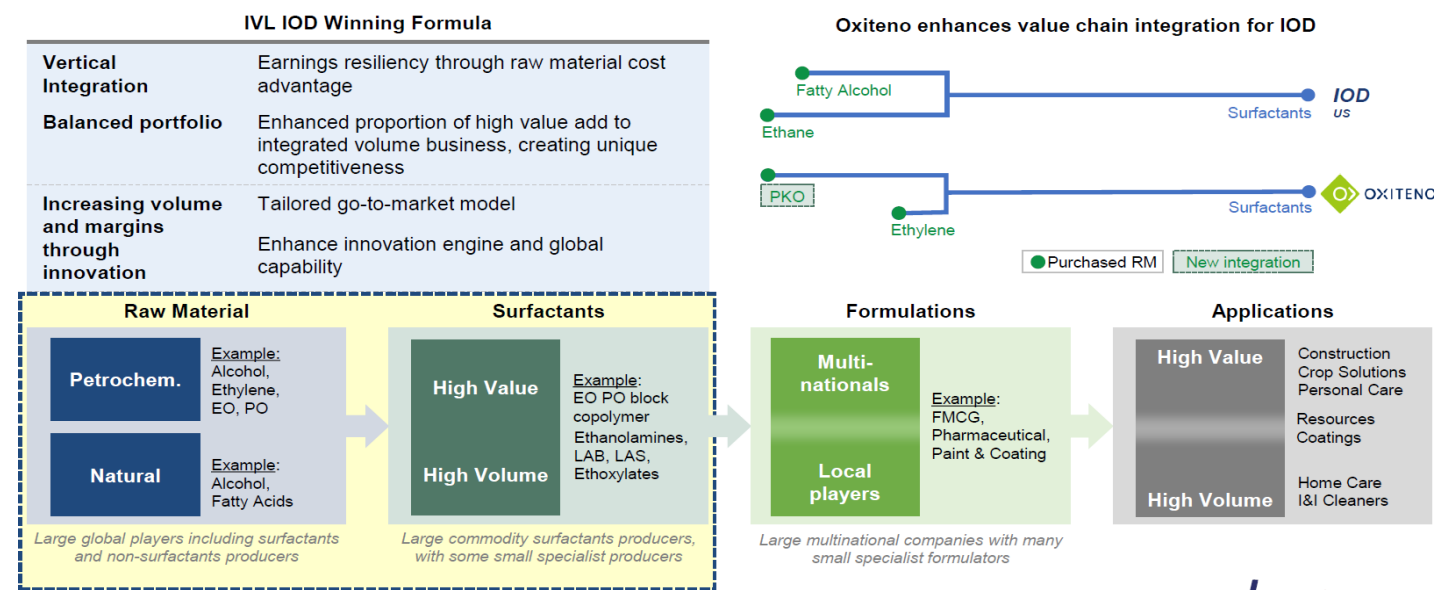
**Exhibit 20: IVL's product portfolio value chain: IOD with Oxiteno, cPET and Fibres**



Source: IVL

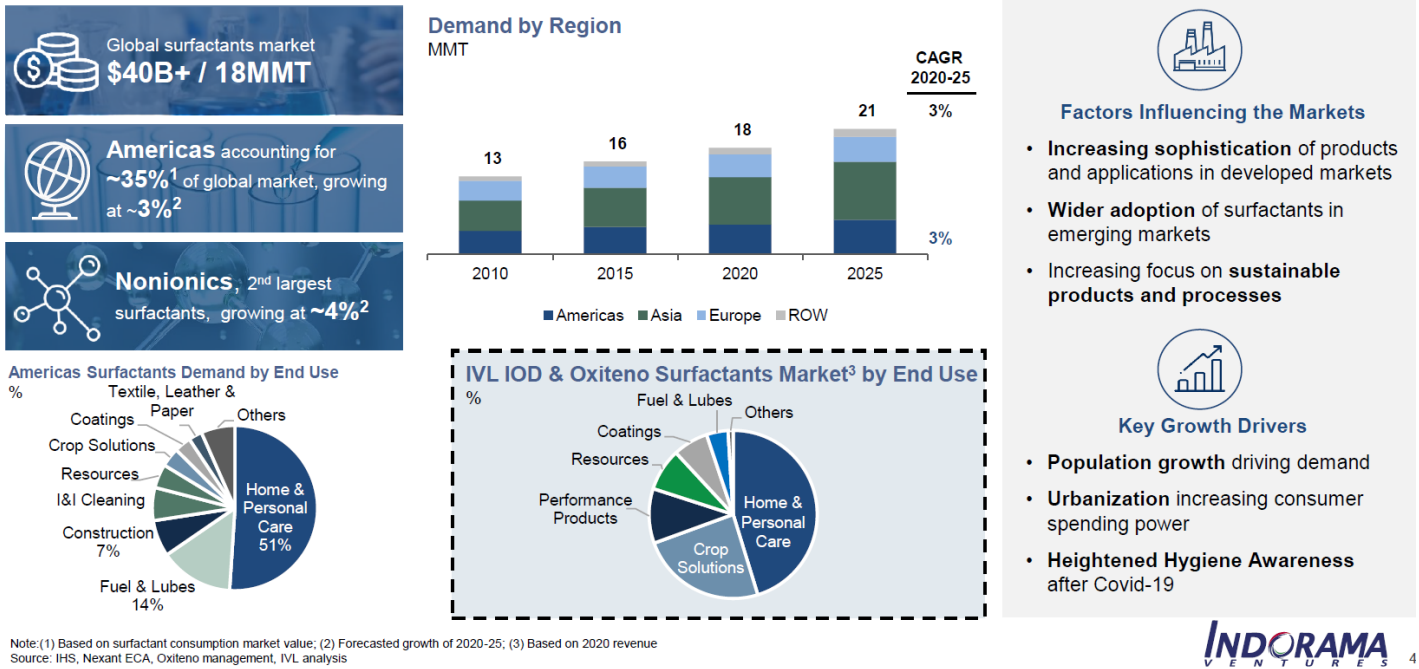
Downstream-wise, the acquisition of Oxiteno will add not only the upstream olefins of intermediate EO/EG and PO/PG and the downstream surfactant ethanolamine, but also the green, oleo chemical products of fatty alcohol, all being products to serve the high-growth markets in the pharmaceutical, paint & coating, and fast-moving consumer goods (FMCG) or consumer packaged goods segments.

**Exhibit 21: A more integrated IOD portfolio will allow IVL to serve the higher demand in the high-margin surfactants market**



Source: IVL

**Exhibit 22: Surfactants are one of the most lucrative downstream IOD products in IVL's portfolio**

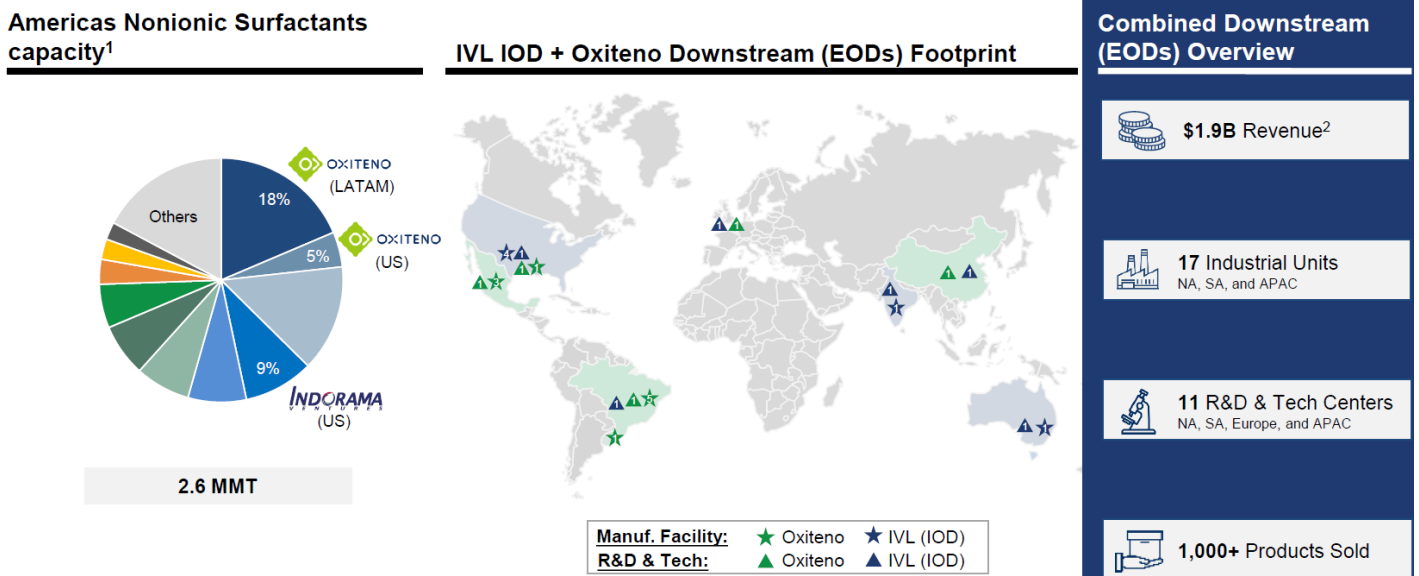


Source: IVL

With a combined 2.6mtpa capacity of surfactants in IOD assets (IVL+Oxiteno) should allow IVL to capture not only the projected demand growth of over USD40b in the global surfactants market, but also from the US market (35% of global surfactants market in 2020), according to IVL.

We estimate that IVL's surfactants alone could generate up to USD0.2b-0.3b in annual EBITDA in 2022 onward following the acquisition of Oxiteno's assets and the start-up of its ethane cracker.

**Exhibit 23: Non-ionic surfactants capacity in the Americas and IVL's plant locations**

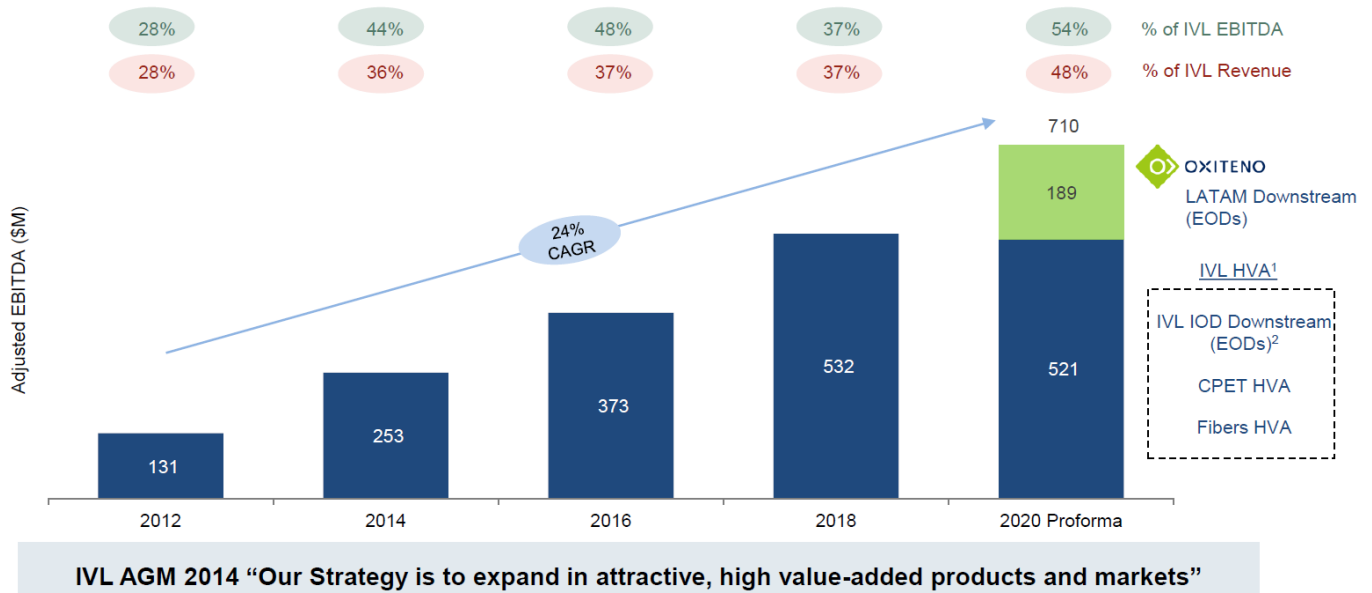


Source: IVL

**Surfactants and IOD in IVL’s HVA portfolio.** With the capacity growth of over 5mtpa from its two IOD asset acquisitions (Huntsman in 2020 and Oxiteno in 2022), we expect IVL’s HVA portfolio to significantly grow from 21% to 27% in 2022 onward.

According to IVL, HVA would have contributed 54% of EBITDA (USD1b in 2020) and 48% of revenue (USD10b in 2020) if Oxiteno’s IOD asset was added in 2020. In 2022, when Oxiteno’s asset is set to be fully added in 1Q22, we estimate that HVA will account for over 60% of total EBITDA and 50% of revenue.

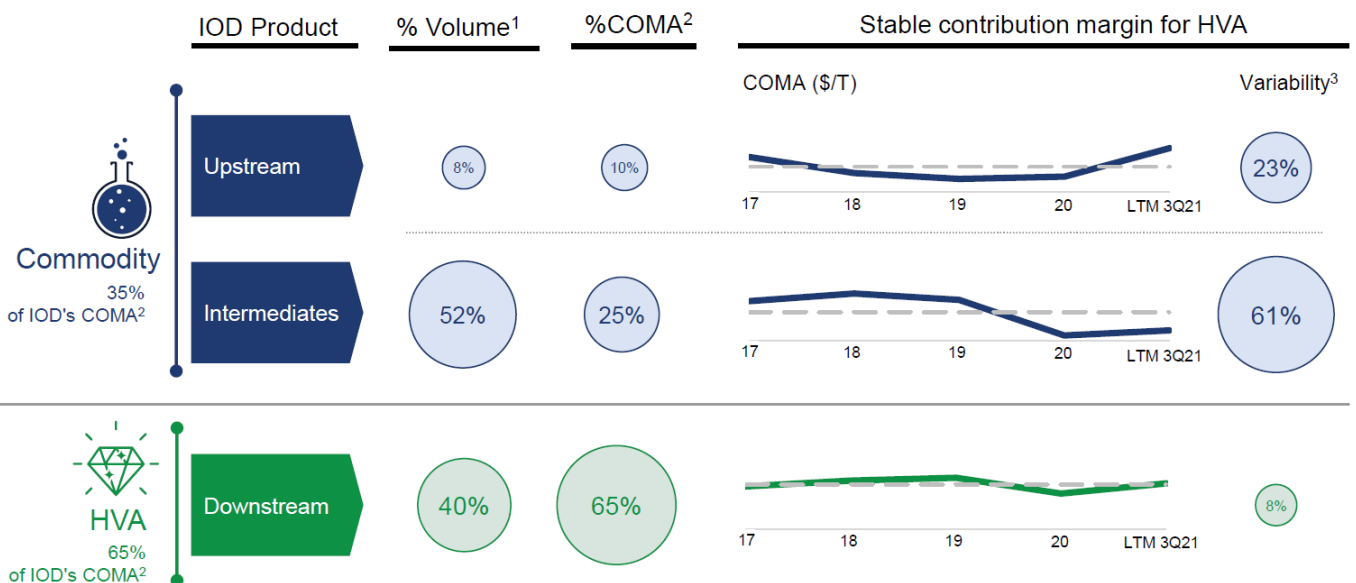
**Exhibit 24: IVL’s HVA portfolio to be strengthened by the capacity growth of IOD products**



Source: IVL

**Margin volatility of IOD products.** Within the three IOD segments, downstream IOD products have the most sustainable contribution margin (COMA), followed by upstream IOD products. Intermediate IOD products (MTBE, MEG) are the most volatile COMA product group, given its more fragmented market structure.

**Exhibit 25: IVL’s strong HVA product portfolio**

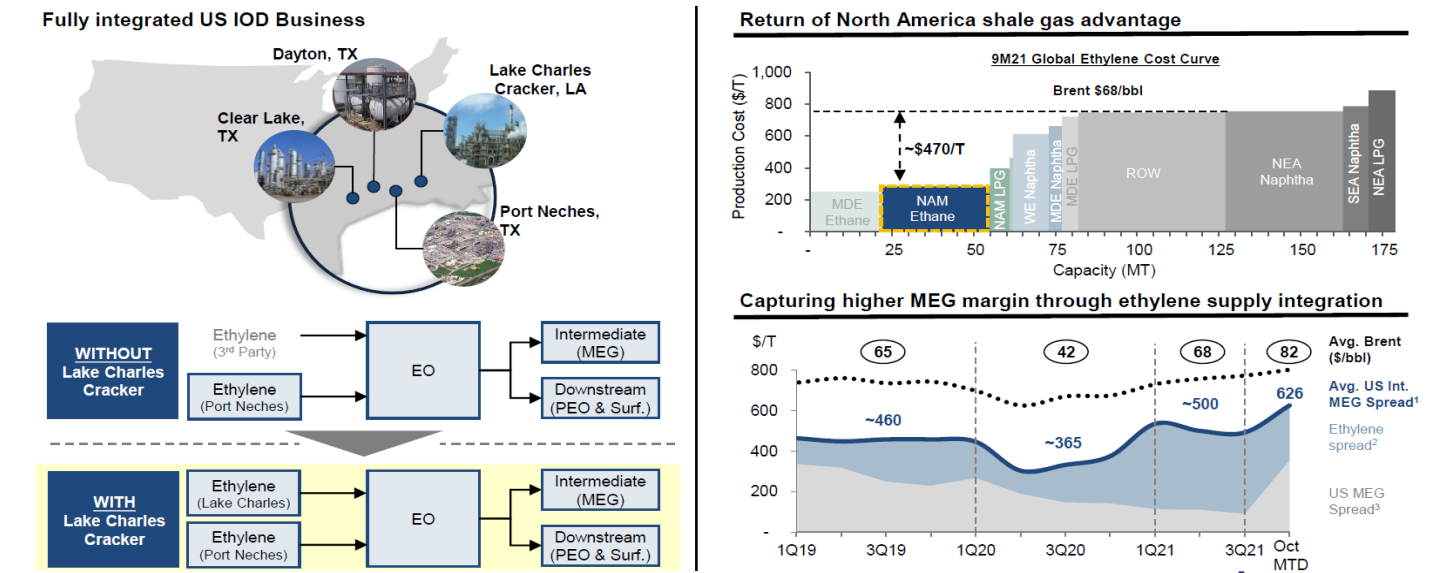


Source: IVL

**Upstream IOD product margin outlook in 2022.** With a fully integrated IOD production value chain in the US Gulf of Mexico, we believe the start-up of IVL's ethane cracker in Nov-21 will 1) add USD100m in annual EBITDA to IVL; 2) reduce the ethylene supply risk; and 3) enhance the EBITDA margin of the downstream IOD products by using the ethylene produced at the ethane cracker plant in Lake Charles, Louisiana, USA.

As the global oil price has remained high at above USD70/bbl, we think IVL's shale gas-based ethane cracker will result in a much higher margin of MEG-ethylene, which we estimate to have up to a USD470/t cost advantage over the naphtha-based ethylene producers in Asia.

**Exhibit 26: The start-up of IVL's ethane cracker should timely capture the high ethylene margin in the US market**

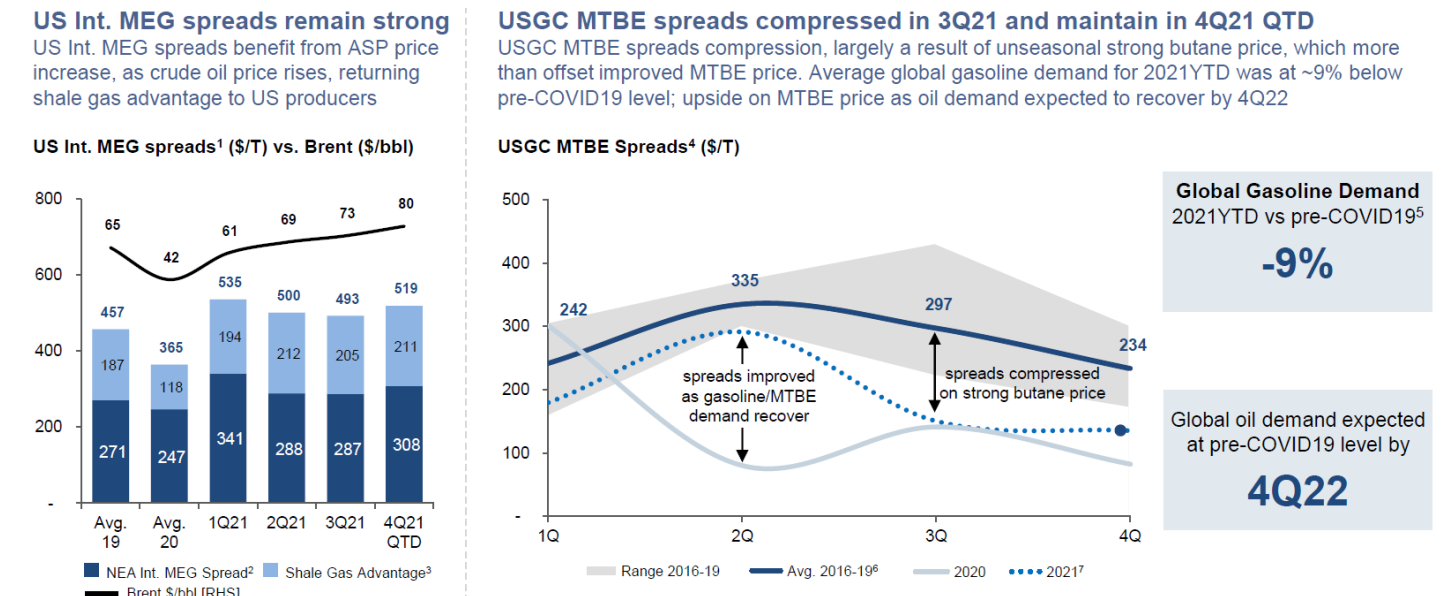


Source: IVL

**Margin outlook for the intermediate IOD products MTBE and MEG in 2022.**

Meanwhile, the most vulnerable IOD products in IVL's portfolio are the intermediate products of MTBE and MEG. MTBE, a key gasoline blending agent to improve the octane of the gasoline sold at oil stations, has seen its margin over butane and methanol, the two key feedstocks, sharply decline in 2020-21 as a result of the LPG price hikes, given that butane is a key component of LPG.

**Exhibit 27: Margins of the intermediate IOD products MTBE and MEG in the US market**

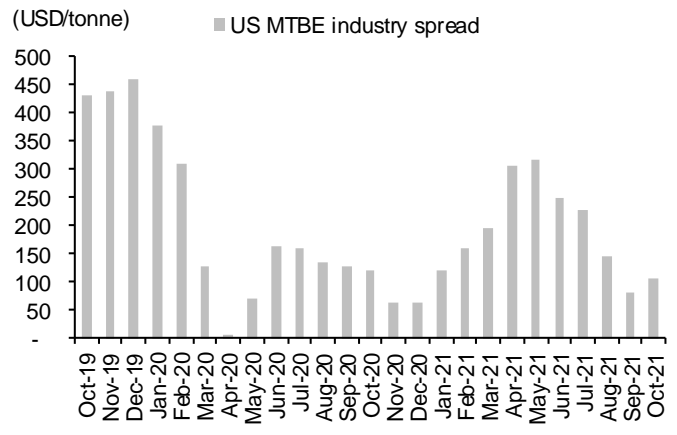
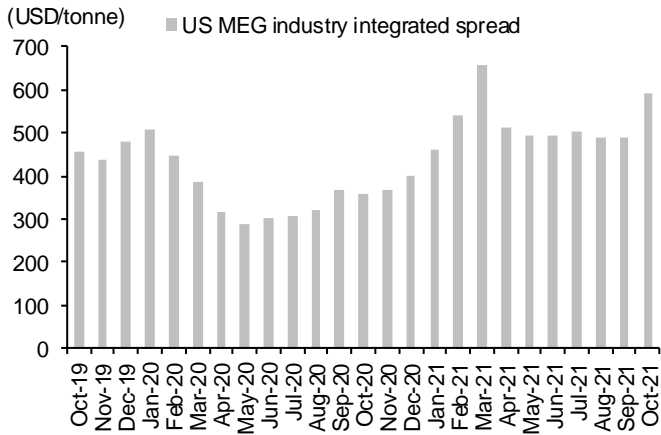


Source: IVL

We think the MTBE-butane margin will remain weak in 2022 below the USD200/t level, but should average above USD100/t, close to the breakeven level of USD130/t, based on our estimate. Hence, we project that MTBE will continue to generate negative EBITDA for IVL in the range of USD50m-150m in 2022.

**Exhibit 28: US MEG industry integrated spread**

**Exhibit 29: US MTBE industry spread**



Source: IVL

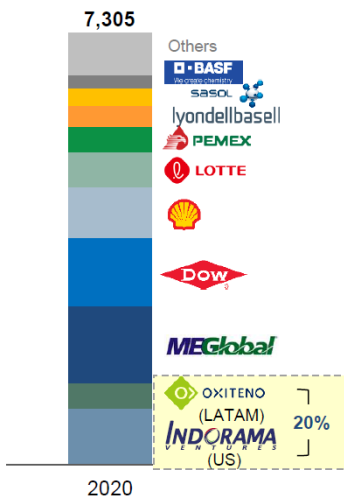
Source: IVL

**MEG margin should remain healthy in 2022.** Unlike MTBE, we think the margin of MEG-ethylene will remain strong in 2022, driven by the high demand for MEG as a key intermediate feedstock to produce ethylene oxide derivatives (EOD). EOD command a 3x higher EBITDA margin than the normal ethylene glycol (EG) used in the production of polyester fibres and PET plastics.

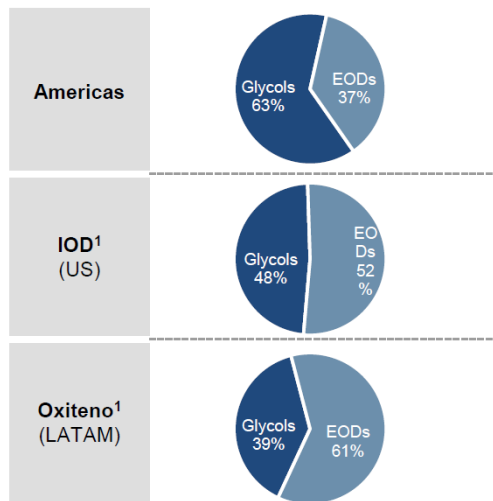
Given the strong demand for MEG for EOD in the US, we believe IVL should continue to enjoy a high margin of MEG at over USD450/t, the 3-year average level. The MEG margin spiked to over USD600/t in Oct-21, driven by the high demand and tight supply caused by import disruptions.

**Exhibit 30: MEG margin remains strong for EOD**

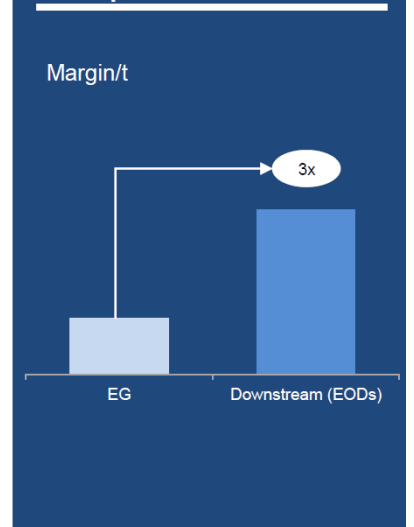
**Americas EO Capacities**  
KT



**EO Consumption and Derivatives**  
%



**IVL & Oxiteno focus on high value products<sup>2</sup>**



Source: IVL

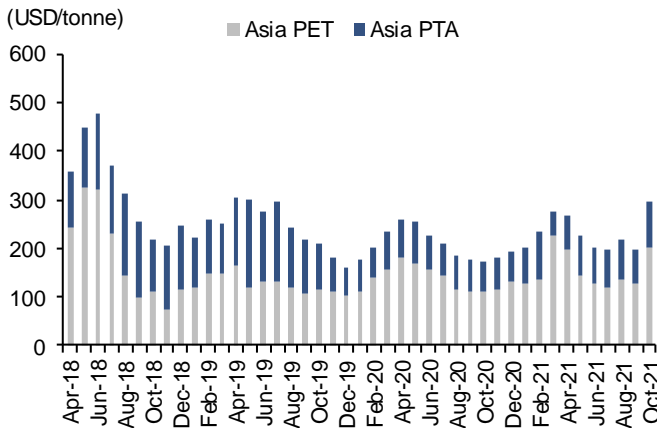


### Combined PET remains IVL's sacred cash cow

cPET is IVL's largest product group with a total capacity of 12mtpa (67% of total capacity in 3Q21), including packaging, PX, PTA, PET, and special chemicals.

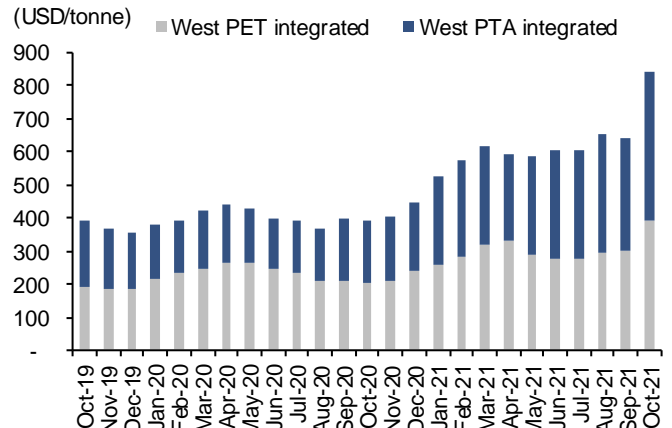
**What makes IVL's PET-PTA margin sustainably higher than those of other packaging materials and IVL's competitors?** Thanks to its superior characteristics, quality, and recyclability, the integrated PET-PTA margin has continued to strengthen, particularly in Western markets. Four advantages for PET and PTA – superior recyclability, favourable market structure, import barriers, and high contract prices and margins – have contributed to the highly sustainable and strong integrated PET-PTA margin in Western markets, commanding a USD500/t premium over the integrated PET-PTA margin in Asia (USD820/t vs USD300/t in Oct-21).

Exhibit 31: Asia industry PET and PTA spread



Source: IVL

Exhibit 32: West industry PET and PTA spread



Source: IVL

**Advantage #1: Superior recyclability and quality.** Unlike other plastics and packaging materials such as aluminium, paper, and glass, PET has some unique advantages over its substitutable materials, including 1) its lowest price per bottle compared to aluminium and glass bottles; 2) its lowest greenhouse gas emission ratio; 3) its highest recyclability of up to 100%; and 4) its lightest weight for cost savings. According to IVL, the demand growth for PET is projected to grow at a 4-5% CAGR from 2021-30, slightly higher than the 4% CAGR in 2010-20.

Exhibit 33: PET is one of the most environmentally friendly plastics and packaging materials due to its light weight, low carbon emissions, and high level of recyclability

**IVL advantaged CPET platform**

- Significant integration**  
80% PTA Integration & 100% MEG Integration in North America
- Geographical distribution**  
Global-local producer in 22 countries
- Superior scale**  
1<sup>st</sup> quartile cost position in Americas and EMEA
- Recycling leadership**  
750 KTA by 2025

**PET to remain material of choice, with Lower cost, lower GHG emissions, and 100% recyclable<sup>1</sup>**

**Price ratio (cents per bottle, PET = 1X)**

<span style="font-size: 2em;">1X</span>	<span style="font-size: 2em;">1.6X</span>	<span style="font-size: 2em;">1.7X</span>
PET bottle	Aluminum can	Glass bottle

**GHG ratio (GHG per 100 Koz liquid, PET = 1X)**

<span style="font-size: 2em;">1X</span>	<span style="font-size: 2em;">1.5X</span>	<span style="font-size: 2em;">2.3X</span>
PET bottle	Aluminum can	Glass bottle

**Demand growth (2010-2020 CAGR)**

<span style="font-size: 2em;">4%</span>	<span style="font-size: 2em;">2%</span>	<span style="font-size: 2em;">0%</span>
PET bottle	Aluminum can	Glass bottle

**Continue to invest in growth to maximize stakeholder value**

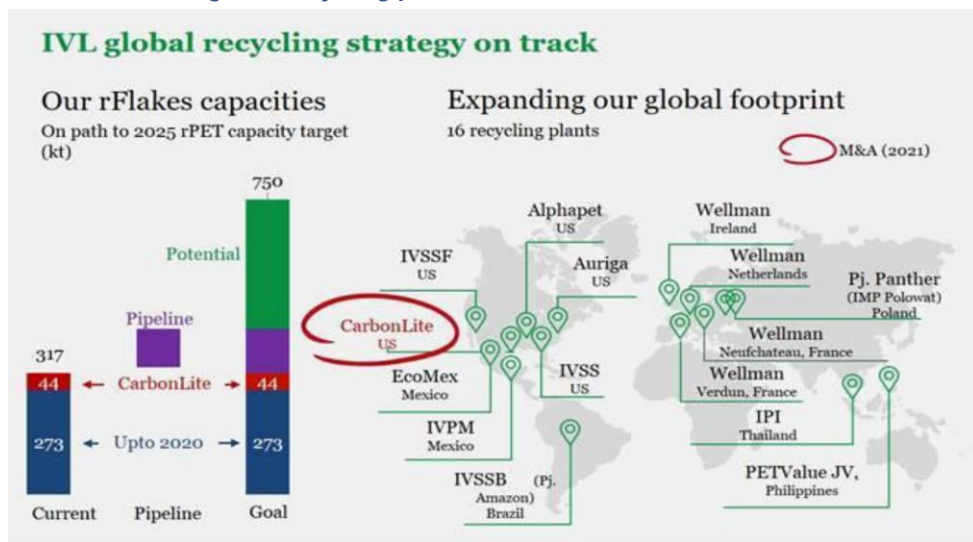
- Strengthen & solidify rPET leadership position
- Expand into high growth, high value market for packaging and specialty polymer
- Maintain and improve cost competitiveness through project Olympus

Source: IVL

**IVL's ESG policy.** As a major global producer of PET plastics and polyester fibres, IVL has a clear vision and goal to raise its footprint in green plastic products by expanding its PET recycling capacity. With its recent 100% acquisition of CarbonLite Holdings LLC (CHL), located in Dallas, Texas in the US in May-21, we project that IVL is now on track to achieve its 750ktpa recycling capacity target by 2024.

As of 3Q21, IVL's total recycling capacity stands at 319ktpa, covering three continents (2% of total capacity), comprising 1) 134ktpa in the EU (62ktpa in France, 50ktpa in the Netherlands, 22ktpa in Poland); 2) 104ktpa in the US (44ktpa in Texas, 30ktpa in New Orleans, and 30ktpa in California); 3) 42ktpa in Mexico; 4) 30ktpa in Thailand; and 5) 9ktpa in Brazil.

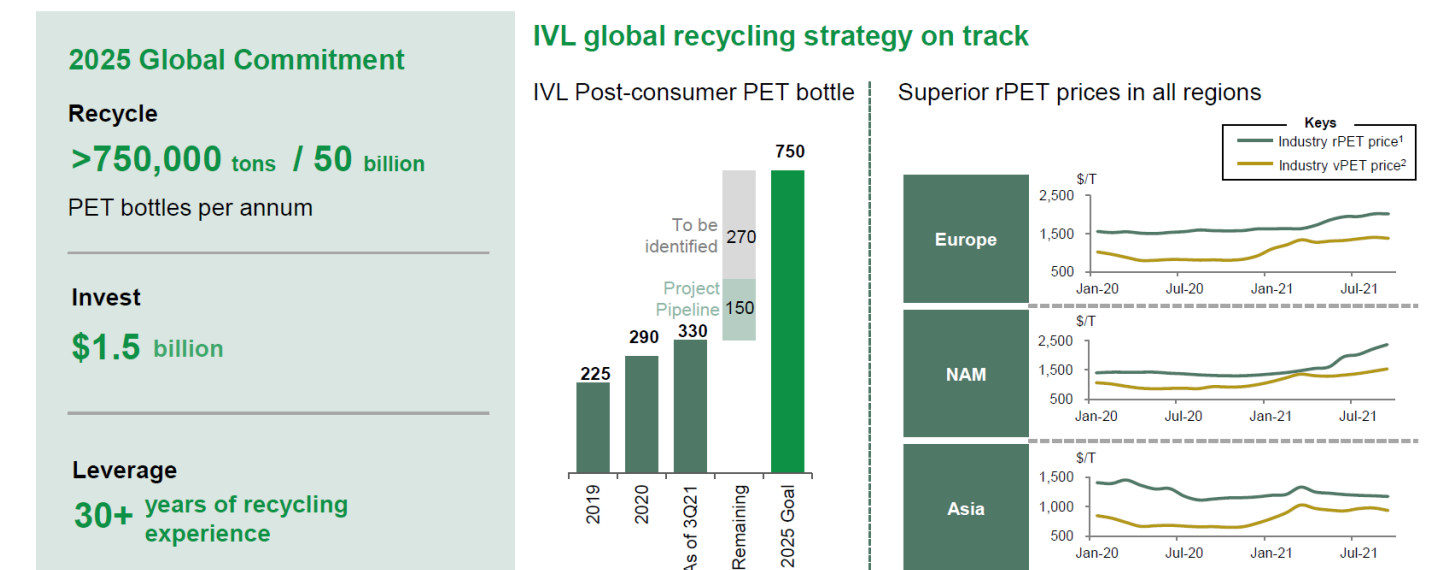
**Exhibit 34: IVL's global recycling plant locations**



Source: IVL

**Greener and recycling plastics are the global megatrend.** On 15 Nov-21, during the summit meeting of the UN Climate Change Conference (COP26), aimed at reducing the worst impacts of climate change, a new global agreement – the Glasgow Climate Pact – was reached by 197 countries. The COP26 pact sets the global agenda on climate change for the next decade to limit global warming to within 1.5C, and one of the key actions is to enhance the level of plastics recyclability to reduce the production of virgin PET plastics, according to the Energy Information Administration.

**Exhibit 35: IVL's recycling target and plan**



Source: IVL



Many of IVL's clients, mostly in the food & beverage and FMCG industries, have already mandated a number of requirements, including 1) at least 50% recycled material in bottles by 2030; and 2) 35% rPET in water bottles by 2025. Hence, we think IVL is ahead of the industry curve by not only complying with greener megatrends but also by benefitting from the rising premiums of recycled PET.

**Exhibit 36: Recycling is now embedded in many global corporates' policies under the COP26 pact and ESG**



**Global PET Recycling Rate<sup>1</sup>**

Source: IVL

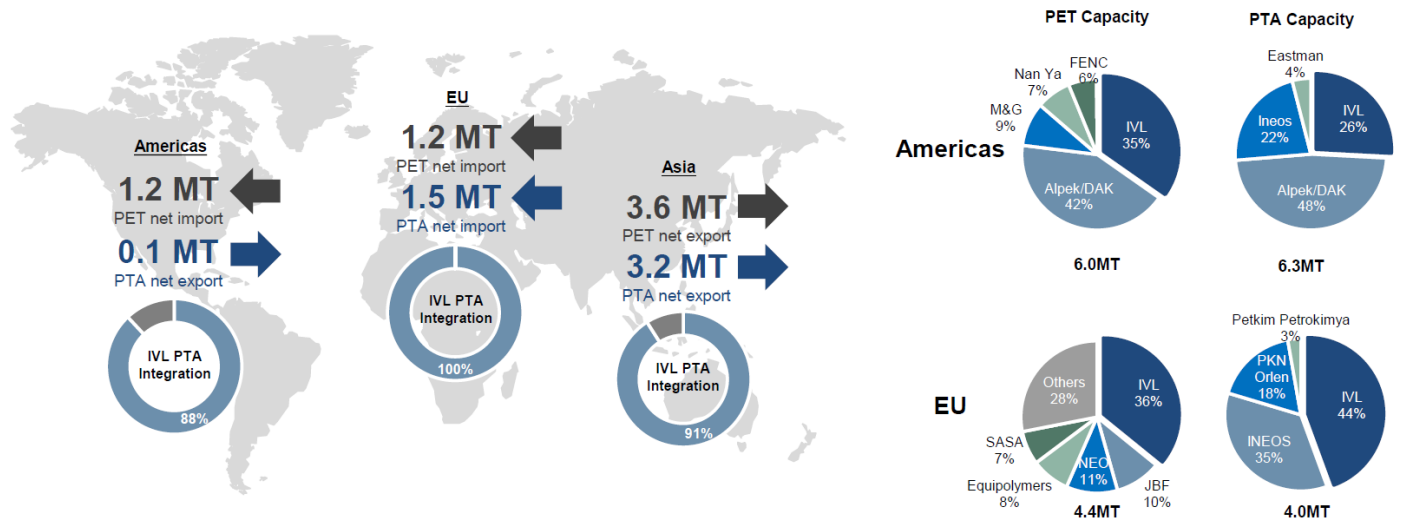
**Advantage #2: More favourable market structure.** Unlike the PET market in Asia with a number of suppliers in China, India, and other North and Southeast Asian countries, the number of PET producers in North America and Europe is much more limited and concentrated, with only three major producers (IVL, Alpek, and M&G for a combined market share of 86%) in the Americas (North and South American continents) and five major players in the EU (five players for a combined 72% market share).

For the PTA upstream market, there is a similar picture, with only three major producers in the Americas (IVL, Alpek, and Ineos for 96%) and Europe (IVL, Ineos, and PKN Orlen for 97%). This is probably the most compelling reason why the margins of PET-PTA and PTA-PX in the Americas and Europe are much higher than the margins in Asia, in our view.

**Exhibit 37: Favourable market structures in North America and Europe resulting in higher PET margins**

**Advantaged integrated platforms in short Western markets**

**IVL hold leading positions in Western markets**



Source: IVL

**Advantage #3: Import market structure.** Both the Americas and Europe are net import markets for PET and PTA, with the Americas' net imports amounting to 1.2mtpa of PET and net exports totalling 0.1mtpa of PTA and Europe's net imports at 1.2mtpa of PET and 1.5mtpa of PTA as of 3Q21. As a result, import parity costs, including the freight cost for shipping and land transportation will add meaningful costs to the prices of PET and PTA in Western markets.

**Advantage #4: Higher contract margin upside for PET and PTA in 2022.** We believe IVL will have a margin upside for its combined PET, its largest product group, in 2022, as it is now negotiating with global customers for new contract prices for PET in Western markets. This is possible due to the currently tight supply and high freight costs for intercontinental shipping, which we think are unlikely to subside anytime soon until at least mid-2022, due to the container shortage and the chronic Covid-19 pandemic.

Management indicated that the margins of PET and PTA sold to clients under one-year contracts – which we estimate at 5.2mtpa, accounting for 70% of the PET sales volume and part of the PTA sales volume in the Americas and Europe – will command 30% or a USD150-200/t higher margin y-y for the sales volumes to be delivered throughout 2022.

Within IVL's product portfolio, we estimate that around two-thirds of its EBITDA comes from fixed margin products: 1) the IOD group: pure EO (PEO), PO, ethanolamine, and surfactants (18% of 2021E contribution margin); 2) the fibre group: HVA products in polyester, nylon, polypropylene (PP), polyethylene (PE) and rayon; and 3) the combined PET group: PET and PTA with contract pricing (50% of sales volume) and specialty chemical products (PIA and NDC). We estimate that IVL's fixed products will generate EBITDA of USD0.8b-1.0b annually in 2021-23 thanks to their fixed margin natures.

#### Exhibit 38: IVL's product portfolio – breakdown by fixed and floating margins

Margin structure	Product group	Product	Contribution margin (%)
Fixed margin products	IOD	PEO/PO/Ethanolamine/surfactants	18
Fixed margin products	Fibres	HVA for polyester, nylon, PP/PE, and rayon	15
Fixed margin products	Combined PET	Contract cost-plus PET and PTA in North America and Europe	30
<b>Total fixed margin products</b>			<b>63</b>
Gas-based products	IOD	MTBE/MEG	12
Commodity products	Fibres	Lifestyle attire and clothes	5
Spot margin products	Combined PET	Spot price PET and PTA in Asia	20
<b>Total volatile margin products</b>			<b>37</b>

Sources: IVL; FSSIA estimates

### IVL's growth cycle history revisited: This time IOD is a growth hero

IVL's first growth cycle (2000-11) started with the acquisition of PET and PTA capacity in the 2000s to timely capture the PTA margin upcycle in 2010-11.

In the second growth cycle (2012-18), IVL shifted its strategic growth direction to acquire mostly HVA products, primarily for polyester fibres, in Europe and North America, to strengthen its earnings growth and sustainability. In 2017-18, when the margin upcycle for integrated PET-PTA and polyester fibres arrived, IVL had again successfully captured the strong margin of integrated PET-PTA, particularly in the Western markets where IVL has a much larger capacity via acquisitions and greenfield growth projects.

Exhibit 39: IVL's historical growth cycles

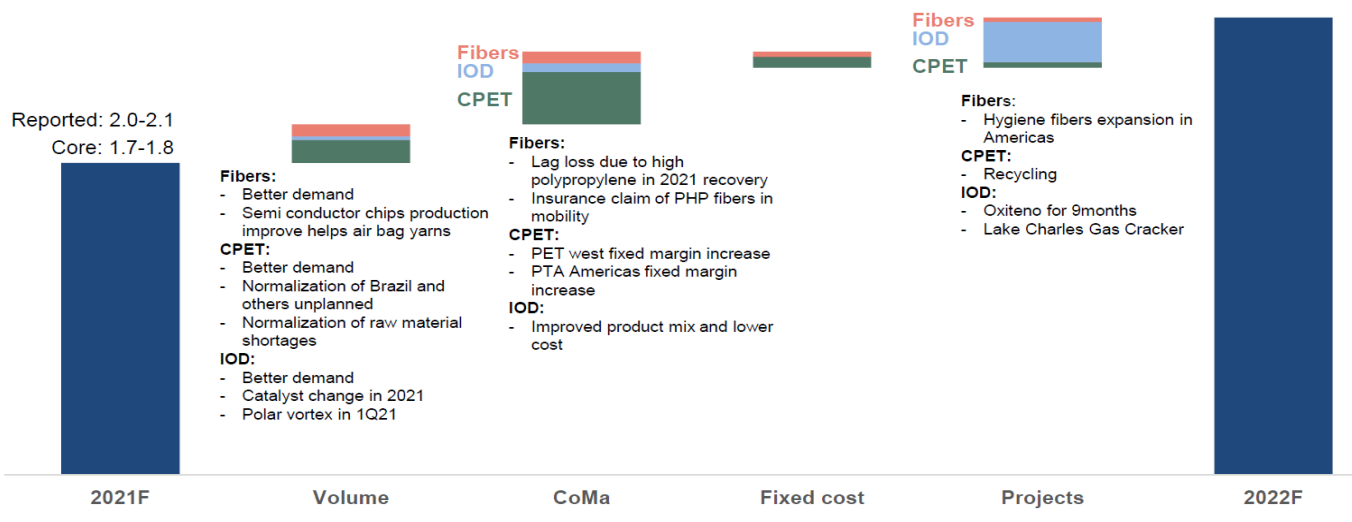
	Unit	1st growth cycle	2nd growth cycle	3rd growth cycle
Period (bottom to peak margin)	year	2000-11	2012-18	2019-23E
Capacity growth	%	20	25	22
% EBITDA	%	26	26	23
Key drivers		Tuntex	AlphaPET, HVA	Huntsman, Oxiteno, ethane cracker
Product added		PTA, PET	PET, HVA, polyester	Olefins and derivatives (IOD), recycling
PET-PTA integrated margin	USD/t	188-194	188-194	250
Estimated EBITDA contribution from new capacity	USD b	0.4	0.7	1.0
Peak EBITDA	USD b	0.6	1.4	2.7

Source: IVL

In the third growth cycle (which we estimate to last from 2019-23), we project that IVL's EBITDA will grow from USD1.2b in 2019-20 to USD2.8-3.0b in 2023, driven mostly by the capacity growth from the IOD group from the two key acquisitions of Huntsman (4.1mtpa) and Oxiteno (c1mtpa).

We, however, believe that our EBITDA forecasts for 2022-23 still have potential upsides based on the stronger-than-expected margins of IOD products and PET in Western markets. IVL's recently guided EBITDA for 2022 is in the range of USD2.9-3.0b, which is on par with our USD2.8-3.0b estimate.

Exhibit 40: Core EBITDA growth roadmap – 2021-22



Sources: IVL; FSSIA estimates

## Financial Statements

### Indorama Ventures

Profit and Loss (THB m) Year Ending Dec	2019	2020	2021E	2022E	2023E
Revenue	352,692	331,513	362,740	361,292	367,431
Cost of goods sold	(285,554)	(267,316)	(279,399)	(274,715)	(267,360)
<b>Gross profit</b>	<b>67,138</b>	<b>64,197</b>	<b>83,342</b>	<b>86,577</b>	<b>100,072</b>
Other operating income	-	-	-	-	-
Operating costs	(32,129)	(32,724)	(21,764)	(21,677)	(22,046)
<b>Operating EBITDA</b>	<b>35,010</b>	<b>31,473</b>	<b>61,577</b>	<b>64,899</b>	<b>78,026</b>
Depreciation	(17,040)	(20,487)	(18,241)	(18,870)	(19,498)
Goodwill amortisation	0	0	0	0	0
<b>Operating EBIT</b>	<b>17,969</b>	<b>10,986</b>	<b>43,336</b>	<b>46,030</b>	<b>58,528</b>
Net financing costs	(5,728)	(7,362)	(6,751)	(4,543)	(7,278)
Associates	5	143	633	633	633
Recurring non-operating income	407	1,949	633	633	633
Non-recurring items	(6,750)	(4,774)	1,822	2,022	2,022
<b>Profit before tax</b>	<b>5,898</b>	<b>799</b>	<b>39,040</b>	<b>44,142</b>	<b>53,905</b>
Tax	(1,534)	1,243	(13,664)	(15,450)	(18,867)
<b>Profit after tax</b>	<b>4,364</b>	<b>2,042</b>	<b>25,376</b>	<b>28,692</b>	<b>35,038</b>
Minority interests	888	(386)	(645)	(651)	(672)
Preferred dividends	0	0	0	0	0
Other items	-	-	-	-	-
<b>Reported net profit</b>	<b>5,252</b>	<b>1,656</b>	<b>24,731</b>	<b>28,041</b>	<b>34,366</b>
<b>Non-recurring items &amp; goodwill (net)</b>	<b>6,750</b>	<b>4,774</b>	<b>(1,822)</b>	<b>(2,022)</b>	<b>(2,022)</b>
<b>Recurring net profit</b>	<b>12,002</b>	<b>6,430</b>	<b>22,909</b>	<b>26,019</b>	<b>32,344</b>
<b>Per share (THB)</b>					
Recurring EPS *	2.14	1.15	4.08	4.63	5.76
Reported EPS	0.94	0.30	4.40	4.99	6.12
DPS	0.35	0.20	2.05	2.32	2.85
Diluted shares (used to calculate per share data)	5,615	5,615	5,615	5,615	5,615
<b>Growth</b>					
Revenue (%)	1.6	(6.0)	9.4	(0.4)	1.7
Operating EBITDA (%)	(15.7)	(10.1)	95.6	5.4	20.2
Operating EBIT (%)	(38.8)	(38.9)	294.5	6.2	27.2
Recurring EPS (%)	(52.4)	(46.4)	256.3	13.6	24.3
Reported EPS (%)	(80.2)	(68.5)	1,393.0	13.4	22.6
<b>Operating performance</b>					
Gross margin inc. depreciation (%)	14.2	13.2	17.9	18.7	21.9
Gross margin of key business (%)	12.3	13.2	17.9	18.7	21.9
Operating EBITDA margin (%)	9.9	9.5	17.0	18.0	21.2
Operating EBIT margin (%)	5.1	3.3	11.9	12.7	15.9
Net margin (%)	3.4	1.9	6.3	7.2	8.8
Effective tax rate (%)	26.0	-79.8	35.0	35.0	35.0
Dividend payout on recurring profit (%)	16.4	17.5	50.2	50.1	49.4
Interest cover (X)	3.2	1.8	6.5	10.3	8.1
Inventory days	84.5	79.3	73.8	78.3	80.9
Debtor days	37.2	37.3	35.2	36.9	36.5
Creditor days	76.0	86.5	89.4	94.8	98.1
Operating ROIC (%)	8.0	4.6	1.1	1.2	1.6
ROIC (%)	6.8	4.4	0.9	1.1	1.4
ROE (%)	8.7	5.0	16.5	16.4	18.2
ROA (%)	4.5	3.5	5.2	5.5	6.5
* Pre-exceptional, pre-goodwill and fully diluted					
<b>Revenue by Division (THB m)</b>					
PET	196,047	153,889	153,332	153,804	155,117
Feedstock	132,911	100,905	117,776	117,110	121,937
Fibres	107,059	90,601	110,868	109,613	109,613
Eliminations and unallocated	(83,325)	(13,882)	(19,236)	(19,236)	(19,236)

Sources: Indorama Ventures; FSSIA estimates

## Financial Statements

### Indorama Ventures

Cash Flow (THB m) Year Ending Dec	2019	2020	2021E	2022E	2023E
Recurring net profit	12,002	6,430	22,909	26,019	32,344
Depreciation	17,040	20,487	18,241	18,870	19,498
Associates & minorities	-	-	-	-	-
Other non-cash items	(978)	(1,002)	(1,001)	(1,001)	(1,001)
Change in working capital	19,446	19,603	30,180	20,903	21,722
<b>Cash flow from operations</b>	<b>47,510</b>	<b>45,518</b>	<b>70,329</b>	<b>64,790</b>	<b>72,564</b>
Capex - maintenance	-	-	-	-	-
Capex - new investment	(16,233)	(16,231)	(13,200)	(13,200)	(13,200)
Net acquisitions & disposals	0	0	0	0	0
Other investments (net)	(9,065)	(9,059)	(9,059)	(9,059)	(9,059)
<b>Cash flow from investing</b>	<b>(25,298)</b>	<b>(25,290)</b>	<b>(22,259)</b>	<b>(22,259)</b>	<b>(22,259)</b>
Dividends paid	(6,878)	(6,878)	(1,123)	(11,503)	(13,042)
Equity finance	0	0	0	0	0
Debt finance	8,881	51,695	(9,654)	(9,654)	(9,654)
Other financing cash flows	(19,347)	(56,543)	5,896	6,102	6,122
<b>Cash flow from financing</b>	<b>(17,344)</b>	<b>(11,726)</b>	<b>(4,881)</b>	<b>(15,055)</b>	<b>(16,574)</b>
Non-recurring cash flows	-	-	-	-	-
Other adjustments	0	0	0	0	0
<b>Net other adjustments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Movement in cash</b>	<b>4,868</b>	<b>8,502</b>	<b>43,188</b>	<b>27,476</b>	<b>33,730</b>
Free cash flow to firm (FCFF)	27,827.25	27,901.55	55,452.34	49,914.18	57,687.50
Free cash flow to equity (FCFE)	11,745.85	15,379.42	44,310.98	38,978.82	46,772.14
<b>Per share (THB)</b>					
FCFF per share	4.96	4.97	9.88	8.89	10.27
FCFE per share	2.09	2.74	7.89	6.94	8.33
Recurring cash flow per share	5.00	4.62	7.15	7.82	9.06
<b>Balance Sheet (THB m) Year Ending Dec</b>					
Tangible fixed assets (gross)	304,108	376,464	389,664	402,864	416,064
Less: Accumulated depreciation	(91,686)	(112,173)	(130,414)	(149,284)	(168,782)
<b>Tangible fixed assets (net)</b>	<b>212,423</b>	<b>264,291</b>	<b>259,250</b>	<b>253,580</b>	<b>247,282</b>
<b>Intangible fixed assets (net)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Long-term financial assets	-	-	-	-	-
Invest. in associates & subsidiaries	0	0	0	0	0
Cash & equivalents	10,447	18,949	62,136	89,612	123,342
A/C receivable	34,305	33,422	36,570	36,424	37,043
Inventories	62,165	53,938	59,019	58,784	59,783
Other current assets	11,840	13,526	13,526	13,526	13,526
<b>Current assets</b>	<b>118,757</b>	<b>119,835</b>	<b>171,251</b>	<b>198,346</b>	<b>233,694</b>
Other assets	49,388	69,046	46,416	46,416	46,416
<b>Total assets</b>	<b>380,568</b>	<b>453,172</b>	<b>476,917</b>	<b>498,342</b>	<b>527,392</b>
Common equity	129,712	126,655	150,263	166,801	188,125
Minorities etc.	8,455	8,953	25,473	28,882	35,397
<b>Total shareholders' equity</b>	<b>138,167</b>	<b>135,608</b>	<b>175,735</b>	<b>195,683</b>	<b>223,522</b>
Long term debt	105,611	164,073	164,073	164,073	164,073
Other long-term liabilities	11,828	39,552	10,135	11,897	11,897
<b>Long-term liabilities</b>	<b>117,439</b>	<b>203,625</b>	<b>174,208</b>	<b>175,971</b>	<b>175,971</b>
A/C payable	61,281	65,366	71,523	71,238	72,448
Short term debt	36,413	29,645	29,645	29,645	29,645
Other current liabilities	27,268	18,927	25,805	25,805	25,805
<b>Current liabilities</b>	<b>124,962</b>	<b>113,938</b>	<b>126,974</b>	<b>126,688</b>	<b>127,899</b>
<b>Total liabilities and shareholders' equity</b>	<b>380,568</b>	<b>453,172</b>	<b>476,917</b>	<b>498,342</b>	<b>527,391</b>
Net working capital	19,762	16,593	11,787	11,691	12,098
Invested capital	281,573	349,930	317,453	311,687	305,796
* Includes convertibles and preferred stock which is being treated as debt					
<b>Per share (THB)</b>					
Book value per share	23.10	22.56	26.76	29.71	33.51
Tangible book value per share	23.10	22.56	26.76	29.71	33.51
<b>Financial strength</b>					
Net debt/equity (%)	95.2	128.9	74.9	53.2	31.5
Net debt/total assets (%)	34.6	38.6	27.6	20.9	13.3
Current ratio (x)	1.0	1.1	1.3	1.6	1.8
CF interest cover (x)	5.9	5.3	9.5	12.5	9.2
<b>Valuation</b>					
<b>Recurring P/E (x) *</b>	<b>18.7</b>	<b>34.9</b>	<b>9.8</b>	<b>8.6</b>	<b>6.9</b>
<b>Recurring P/E @ target price (x) *</b>	<b>29.0</b>	<b>54.1</b>	<b>15.2</b>	<b>13.4</b>	<b>10.8</b>
Reported P/E (x)	42.8	135.6	9.1	8.0	6.5
Dividend yield (%)	0.9	0.5	5.1	5.8	7.1
Price/book (x)	1.7	1.8	1.5	1.3	1.2
Price/tangible book (x)	1.7	1.8	1.5	1.3	1.2
EV/EBITDA (x) **	10.4	13.0	6.2	5.5	4.2
EV/EBITDA @ target price (x) **	13.9	16.9	8.2	7.4	5.8
EV/invested capital (x)	1.3	1.2	1.2	1.1	1.1
* Pre-exceptional, pre-goodwill and fully diluted ** EBITDA includes associate income and recurring non-operating income					

Sources: Indorama Ventures; FSSIA estimates

## Corporate Governance report of Thai listed companies 2020

EXCELLENT LEVEL										
AAV	ADVANC	AF	AIRA	AKP	AKR	ALT	AMA	AMATA	AMATAV	ANAN
AOT	AP	ARIP	ARROW	ASP	BAFS	BANPU	BAY	BCP	BCPG	BDMS
BEC	BEM	BGRIM	BIZ	BKI	BLA	BOL	BPP	BRR	BTS	BWG
CENTEL	CFRESH	CHEWA	CHO	CIMBT	CK	CKP	CM	CNT	COL	COMAN
COTTO	CPALL	CPF	CPI	CPN	CSS	DELTA	DEMCO	DRT	DTAC	DTC
DV8	EA	EASTW	ECF	ECL	EGCO	EPG	ETE	FNS	FPI	FPT
FSMART	GBX	GC	GCAP	GEL	GFPT	GGC	GPSC	GRAMMY	GUNKUL	HANA
HARN	HMPRO	ICC	ICI	III	ILINK	INTUCH	IRPC	IVL	JKN	JSP
JWD	K	KBANK	KCE	KKP	KSL	KTB	KTC	LANNA	LH	LHFG
LIT	LPN	MAKRO	MALEE	MBK	MBKET	MC	MCOT	METCO	MFEC	MINT
MONO	MOONG	MSC	MTC	NCH	NCL	NEP	NKI	NOBLE	NSI	NVD
NYT	OISHI	ORI	OTO	PAP	PCSGH	PDJ	PG	PHOL	PLANB	PLANET
PLAT	PORT	PPS	PR9	PREB	PRG	PRM	PSH	PSL	PTG	PTT
PTTEP	PTTGC	PYLON	Q-CON	QH	QTC	RATCH	RS	S	S & J	SAAM
SABINA	SAMART	SAMTEL	SAT	SC	SCB	SCC	SCCC	SCG	SCN	SDC
SEAFCO	SEAOIL	SE-ED	SELIC	SENA	SIRI	SIS	SITHAI	SMK	SMPC	SNC
SONIC	SORKON	SEDI	SPI	SPRC	SPVI	SSSC	SST	STA	SUSCO	SUTHA
SVI	SYMC	SYNTEC	TACC	TASCO	TCAP	TFMAMA	THANA	THANI	THCOM	THG
THIP	THRE	THREL	TIP	TIPCO	TISCO	TK	TKT	TTB	TMILL	TNDT
TNL	TOA	TOP	TPBI	TQM	TRC	TSC	TSR	TSTE	TSTH	TTA
TTCL	TTW	TU	TVD	TVI	TVO	TWPC	U	UAC	UBIS	UV
VGI	VIH	WACOAL	WAVE	WHA	WHAUP	WICE	WINNER	TRUE		

VERY GOOD LEVEL										
2S	ABM	ACE	ACG	ADB	AEC	AEONTS	AGE	AH	AHC	AIT
ALLA	AMANAHA	AMARIN	APCO	APCS	APURE	AQUA	ASAP	ASEFA	ASIA	ASIAN
ASIMAR	ASK	ASN	ATP30	AUCT	AWC	AYUD	B	BA	BAM	BBL
BFIT	BGC	BJC	BJCHI	BROOK	BTW	CBG	CEN	CGH	CHARAN	CHAYO
CHG	CHOTI	CHOW	CI	CIG	CMC	COLOR	COM7	CPL	CRC	CRD
CSC	CSP	CWT	DCC	DCON	DDD	DOD	DOHOME	EASON	EE	ERW
ESTAR	FE	FLOYD	FN	FORTH	FSS	FTE	FVC	GENCO	GJS	GL
GLAND	GLOBAL	GLOCON	GPI	GULF	GYT	HPT	HTC	ICN	IFS	ILM
IMH	INET	INSURE	IRC	IRCP	IT	ITD	ITEL	J	JAS	JCK
JCKH	JMART	JMT	KBS	KCAR	KGI	KIAT	KOOL	KTIS	KWC	KWM
L&E	LALIN	LDC	LHK	LOXLEY	LPH	LRH	LST	M	MACO	MAJOR
MBAX	MEGA	META	MFC	MGT	MILL	MITSIB	MK	MODERN	MTI	MVP
NETBAY	NEX	NINE	NTV	NWR	OCC	OGC	OSP	PATO	PB	PDG
PDI	PICO	PIMO	PJW	PL	PM	PPP	PRIN	PRINC	PSTC	PT
QLT	RCL	RICHY	RML	RPC	RWI	S11	SALEE	SAMCO	SANKO	SAPPE
SAWAD	SCI	SCP	SE	SEG	SFP	SGF	SHR	SIAM	SINGER	SKE
SKR	SKY	SMIT	SMT	SNP	SPA	SPC	SPCG	SR	SRICHA	SSC
SSF	STANLY	STI	STPI	SUC	SUN	SYNEX	T	TAE	TAKUNI	TBSP
TCC	TCMC	TEAM	TEAMG	TFG	TIGER	TITLE	TKN	TKS	TM	TMC
TMD	TMI	TMT	TNITY	TNP	TNR	TOG	TPA	TPAC	TPCORP	TPOLY
TPS	TRITN	TRT	TRU	TSE	TVT	TWP	UEC	UMI	UOBKH	UP
UPF	UPOIC	UT	UTP	UWC	VL	VNT	VPO	WIJK	WP	XO
YUASA	ZEN	ZIGA	ZMICO							

GOOD LEVEL										
7UP	A	ABICO	AJ	ALL	ALUCON	AMC	APP	ARIN	AS	AU
B52	BC	BCH	BEAUTY	BGT	BH	BIG	BKD	BLAND	BM	BR
BROCK	BSBM	BSM	BTNC	CAZ	CCP	CGD	CITY	CMAN	CMO	CMR
CPT	CPW	CRANE	CSR	D	EKH	EP	ESSO	FMT	GIFT	GREEN
GSC	GTB	HTECH	HUMAN	IHL	INOX	INSET	IP	JTS	JUBILE	KASET
KCM	KKC	KUMWEL	KUN	KWG	KYE	LEE	MATCH	MATI	M-CHAI	MCS
MDX	MJD	MM	MORE	NC	NDR	NER	NFC	NNCL	NPK	NUSA
OCEAN	PAF	PF	PK	PLE	PMTA	POST	PPM	PRAKIT	PRECHA	PRIME
PROUD	PTL	RBF	RCI	RJH	ROJNA	RP	RPH	RSP	SF	SFLEX
SGP	SISB	SKN	SLP	SMART	SOLAR	SPG	SQ	SSP	STARK	STC
SUPER	SVOA	TC	TCCC	THMUI	TIW	TNH	TOPP	TPCH	TIPIP	TPLAS
TTI	TYCN	UKEM	UMS	VCOM	VRANDA	WIN	WORK	WPH		

## Description

## Score Range

Excellent

90-100

Very Good

80-89

Good

70-79

## Disclaimer:

The disclosure of the survey results 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 results may be changed after that date. FSS International Investment Advisory Company Limited does not confirm nor certify the accuracy of such survey results.

\* CGR scoring should be considered with news regarding wrong doing of the company or director or executive of the company such unfair practice on securities trading, fraud, and corruption SEC imposed a civil sanction against insider trading of director and executive; \*\* delisted

Source: Thai Institute of Directors Association (IOD); FSSIA's compilation

## Anti-corruption Progress Indicator 2020

CERTIFIED										
2S	ADVANC	AI	AIE	AIRA	AKP	AMA	AMANAH	AP	AQUA	ARROW
ASK	ASP	AYUD	B	BAFS	BANPU	BAY	BBL	BCH	BCP	BCPG
BGC	BGRIM	BJCHI	BKI	BLA	BPP	BROOK	BRR	BSBM	BTS	BWG
CEN	CENTEL	CFRESH	CGH	CHEWA	CHOTI	CHOW	CIG	CIMBT	CM	CMC
COL	COM7	CPALL	CPF	CPI	CPN	CSC	DCC	DELTA	DEMCO	DIMET
DRT	DTAC	DTC	EASTW	ECL	EGCO	FE	FNS	FPI	FPT	FSS
FTE	GBX	GC	GCAP	GEL	GFPT	GGC	GJS	GPSC	GSTEEL	GUNKUL
HANA	HARN	HMPRO	HTC	ICC	ICHI	IFS	INET	INSURE	INTUCH	IRPC
ITEL	IVL	K	KASET	KBANK	KBS	KCAR	KCE	KGI	KKP	KSL
KTB	KTC	KWC	L&E	LANNA	LHFG	LHK	LPN	LRH	M	MAKRO
MALEE	MBAX	MBK	MBKET	MC	MCOT	MFC	MFEC	MINT	MONO	MOONG
MPG	MSC	MTC	MTI	NBC	NEP	NINE	NKI	NMG	NNCL	NSI
NWR	OCC	OCEAN	OGC	ORI	PAP	PATO	PB	PCSGH	PDG	PDI
PDJ	PE	PG	PHOL	PL	PLANB	PLANET	PLAT	PM	PPP	PPPM
PPS	PREB	PRG	PRINC	PRM	PSH	PSL	PSTC	PT	PTG	PTT
PTTEP	PTTGC	PYLON	Q-CON	QH	QLT	QTC	RATCH	RML	RWI	S & J
SABINA	SAT	SC	SCB	SCC	SCCC	SCG	SCN	SEAOIL	SE-ED	SELIC
SENA	SGP	SIRI	SITHAI	SMIT	SMK	SMPC	SNC	SNP	SORKON	SPACK
SPC	SPI	SPRC	SRICHA	SSF	SSSC	SST	STA	SUSCO	SVI	SYNTEC
TAE	TAKUNI	TASCO	TBSP	TCAP	TCMC	TFG	TFI	TFMAMA	THANI	THCOM
THIP	THRE	THREL	TIP	TIPCO	TISCO	TKT	TTB	TMD	TMILL	TMT
TNITY	TNL	TNP	TNR	TOG	TOP	TPA	TPCORP	TPP	TRU	TSC
TSTH	TTCL	TU	TVD	TVI	TVO	TWPC	U	UBIS	UEC	UKEM
UOBKH	UWC	VGI	VIH	VNT	WACOAL	WHA	WHAUP	WICE	WIJK	XO
ZEN	TRUE									

DECLARED										
7UP	ABICO	AF	ALT	AMARIN	AMATA	AMATAV	ANAN	APURE	B52	BKD
BM	BROCK	BUI	CHO	CI	COTTO	DDD	EA	EFORL	EP	ERW
ESTAR	ETE	EVER	FSMART	GPI	ILINK	IRC	J	JKN	JMART	JMT
JSP	JTS	KWG	LDC	MAJOR	META	NCL	NOBLE	NOK	PK	PLE
ROJNA	SAAM	SAPPE	SCI	SE	SHANG	SINGER	SKR	SPALI	SSP	STANLY
SUPER	SYNEX	THAI	TKS	TOPP	TRITN	TTA	UPF	UV	WIN	ZIGA

Level	
Certified	This level indicates practical participation with thoroughly examination in relation to the recommended procedures from the audit committee or the SEC's certified auditor, being a certified member of Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) or already passed examination to ensure independence from external parties.
Declared	This level indicates determination to participate in the Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC)

### Disclaimer:

The disclosure of the Anti-Corruption Progress Indicators of a listed company on the Stock Exchange of Thailand, which is assessed by Thaipat Institute, is made in order to comply with the policy and sustainable development plan for the listed companies of the Office of the Securities and Exchange Commission. Thaipat Institute made this assessment based on the information received from the listed company, as stipulated in the form for the assessment of Anti-corruption which refers to the Annual Registration Statement (Form 56-1), Annual Report (Form 56-2), or other relevant documents or reports of such listed company. The assessment result is therefore made from the perspective of Thaipat Institute that is a third party. It is not an assessment of operation and is not based on any inside information. Since this assessment is only the assessment result as of the date appearing in the assessment result, it may be changed after that date or when there is any change to the relevant information. Nevertheless, FSS International Investment Advisory Company Limited does not confirm, verify, or certify the accuracy and completeness of the assessment results.

Note: Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of June 24, 2019) are categorised into: 1) companies that have declared their intention to join CAC, and; 2) companies certified by CAC.

Source: The Securities and Exchange Commission, Thailand; \* FSSIA's compilation



## GENERAL DISCLAIMER

### ANALYST(S) CERTIFICATION

#### Suwat Sinsadok FSS International Investment Advisory Securities Co., Ltd

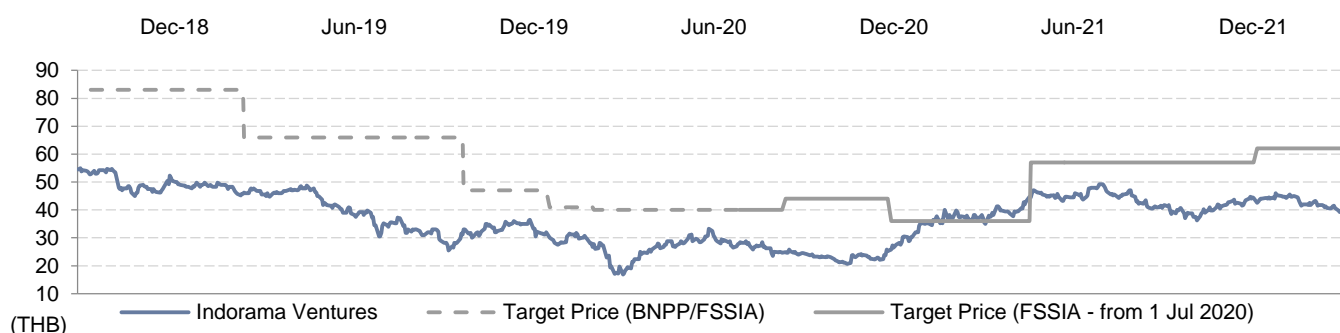
The individual(s) identified above certify(ies) that (i) all views expressed in this report accurately reflect the personal view of the analyst(s) with regard to any and all of the subject securities, companies or issuers mentioned in this report; and (ii) no part of the compensation of the analyst(s) was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed herein.

This report has been prepared by FSS International Investment Advisory Company Limited (FSSIA). The information herein has been obtained from sources believed to be reliable and accurate; however FSS makes no representation as to the accuracy and completeness of such information. Information and opinions expressed herein are subject to change without notice. FSS has no intention to solicit investors to buy or sell any security in this report. In addition, FSS does not guarantee returns nor price of the securities described in the report nor accept any liability for any loss or damage of any kind arising out of the use of such information or opinions in this report. Investors should study this report carefully in making investment decisions. All rights are reserved.

This report may not be reproduced, distributed or published by any person in any manner for any purpose without permission of FSSIA. Investment in securities has risks. Investors are advised to consider carefully before making investment decisions.

### History of change in investment rating and/or target price

#### Indorama Ventures (IVL TB)



Date	Rating	Target price	Date	Rating	Target price	Date	Rating	Target price
21-Dec-2018	BUY	83.00	09-Jun-2020	BUY	40.00	09-Jun-2021	BUY	57.00
02-May-2019	BUY	66.00	07-Aug-2020	BUY	44.00	20-Jul-2021	BUY	57.00
07-Nov-2019	BUY	47.00	06-Nov-2020	BUY	36.00	18-Aug-2021	BUY	57.00
20-Jan-2020	BUY	41.00	08-Mar-2021	BUY	57.00	17-Sep-2021	BUY	62.00
27-Feb-2020	BUY	40.00	02-Apr-2021	BUY	57.00			

Suwat Sinsadok started covering this stock from 09-Oct-2018

Price and TP are in local currency

Source: FSSIA estimates

Company	Ticker	Price	Rating	Valuation & Risks
Indorama Ventures	IVL TB	THB 40.00	BUY	The key downside risks to our EV/EBITDA-based TP are weaker-than-expected margins for PX-PTA and PET-PTA, lower demand for polyester, and delays in IVL's projects.

Source: FSSIA estimates

### Additional Disclosures

Target price history, stock price charts, valuation and risk details, and equity rating histories applicable to each company rated in this report is available in our most recently published reports. You can contact the analyst named on the front of this note or your representative at Finansia Syrus Securities Public Company Limited

FSSIA may incorporate the recommendations and target prices of companies currently covered by FSS Research into equity research reports, denoted by an 'FSS' before the recommendation. FSS Research is part of Finansia Syrus Securities Public Company Limited, which is the parent company of FSSIA.

All share prices are as at market close on 08-Dec-2021 unless otherwise stated.



## RECOMMENDATION STRUCTURE

### Stock ratings

Stock ratings are based on absolute upside or downside, which we define as  $(\text{target price}^* - \text{current price}) / \text{current price}$ .

**BUY (B).** The upside is 10% or more.

**HOLD (H).** The upside or downside is less than 10%.

**REDUCE (R).** The downside is 10% or more.

Unless otherwise specified, these recommendations are set with a 12-month horizon. Thus, it is possible that future price volatility may cause a temporary mismatch between upside/downside for a stock based on market price and the formal recommendation.

\* In most cases, the target price will equal the analyst's assessment of the current fair value of the stock. However, if the analyst doesn't think the market will reassess the stock over the specified time horizon due to a lack of events or catalysts, then the target price may differ from fair value. In most cases, therefore, our recommendation is an assessment of the mismatch between current market price and our assessment of current fair value.

### Industry Recommendations

**Overweight.** The analyst expects the fundamental conditions of the sector to be positive over the next 12 months.

**Neutral.** The analyst expects the fundamental conditions of the sector to be maintained over the next 12 months.

**Underweight.** The analyst expects the fundamental conditions of the sector to be negative over the next 12 months.

### Country (Strategy) Recommendations

**Overweight (O).** Over the next 12 months, the analyst expects the market to score positively on two or more of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

**Neutral (N).** Over the next 12 months, the analyst expects the market to score positively on one of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

**Underweight (U).** Over the next 12 months, the analyst does not expect the market to score positively on any of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.