

IVL's Sustainable Value Creation for Stakeholders

IVL was established in 1994. From our early days as Thailand's first worsted wool yarn producer, we have grown significantly becoming the world's largest PET producer. We represent a significant share of the global PTA market and remain Thailand's largest polyester fiber producer with operations in 33 countries across six continents.


Overview of IVL

Underpinned by a clear strategy and visionary leadership, we deliver strong profits year-on-year, continue to improve our production efficiency and demonstrate our commitment to our workforce and the environment. The diversity of our end-use markets and our strong supply chains enables us to remain versatile and robust in difficult times.

In addition to the leading management, and the delivery and sustainability of our own operations, we continue to promote and support sustainability initiatives across our value chain. This means increasing our use of renewable energy, managing our environmental impacts, adhering to the principles of World-Class Manufacturing and meeting ambitious targets in PET recycling.

Value Chain/Business Units

At the end of 2020, we had 123 operating sites in six continents to serve our customers in various applications and end markets in three key business segments: Integrated Oxides and Derivatives (IOD), Combined PET and Fibers. Additionally, with a total of 15 recycling facilities worldwide, we are a global leader in recycling and Europe's largest PET recycler. PET offers important advantages to the circular economy due to its energy-efficiency, 100% recyclability and high degree of raw material dependence can be reduced through recycling.

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IVL Operations

As of 31 December 2020

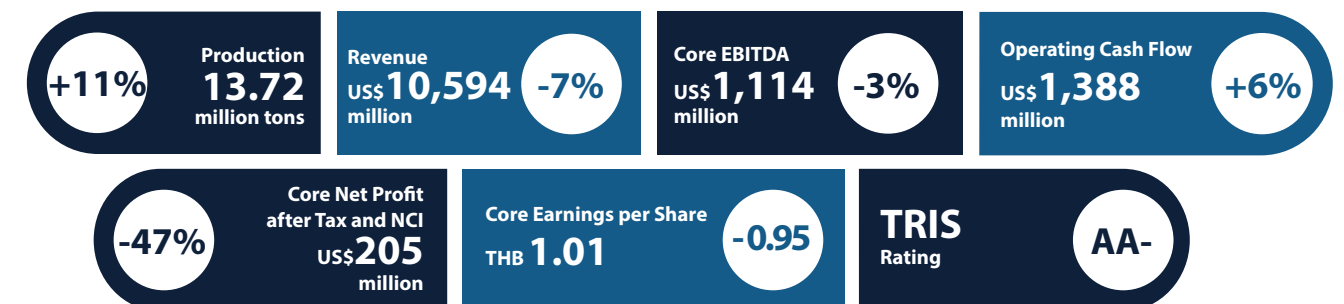


Financial Performance

IVL recorded organic volume growth of 5% and total volume growth of 18% despite the COVID-19 pandemic. This success was driven in part by our effective leadership team and focus on sustainability. 2020 presented a challenging year for IVL on account of the COVID pandemic, as well as the crude oil price collapse. Combined with a chain of natural disasters, the major impacts were the following:

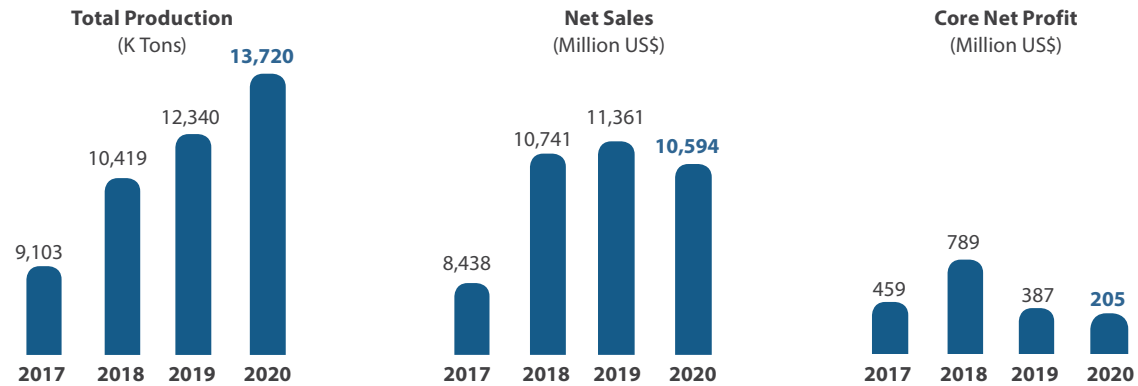
- COVID related reduction in polyester fiber demand of 9% from 2019, resulting in 47% drop in PX/PTA spreads across the industry and 20% drop in MEG spreads
- Drop in crude oil price to US\$42/bbl resulted in a 37% decline of the shale gas advantage from 2019, having a material impact on our MTBE and MEG businesses
- COVID lock down and uncertainty caused less light vehicle sales globally, impacting our Mobility fibers group by 10% lower sales volumes compared with 2019

Our full financial performance is disclosed in our [Annual Report 2020](#) and key financial figures are summarized as follows:

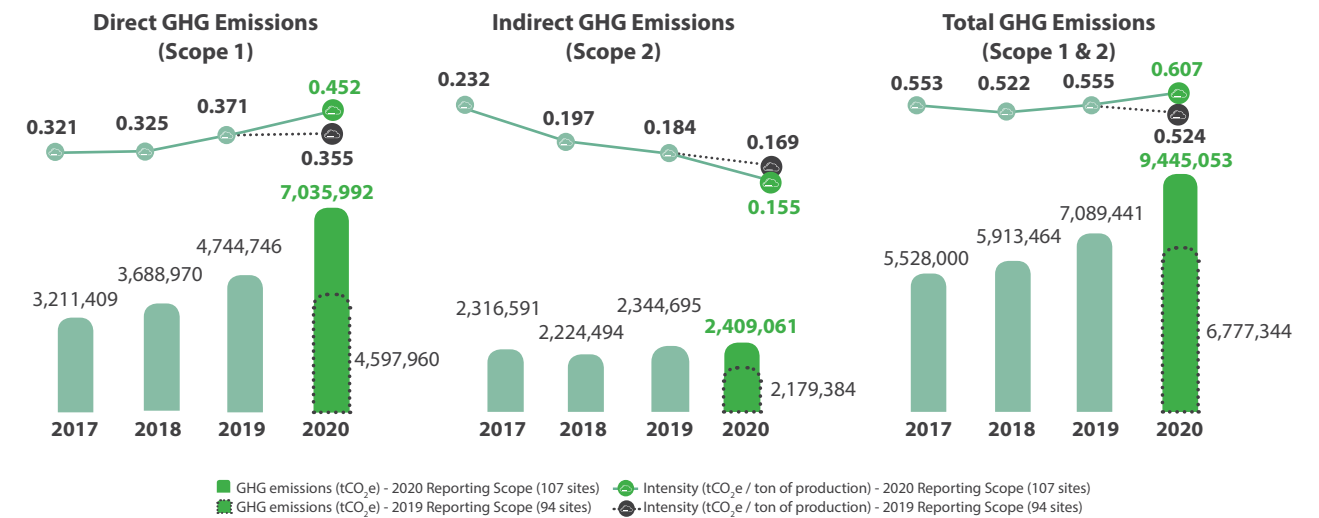
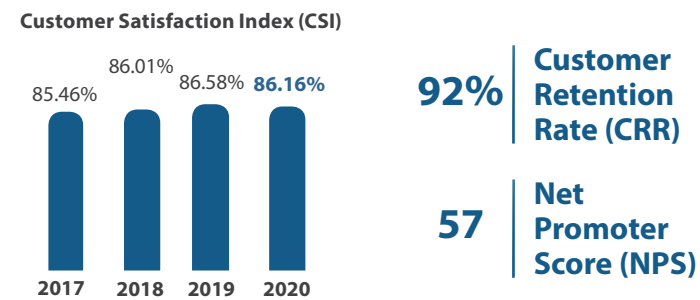
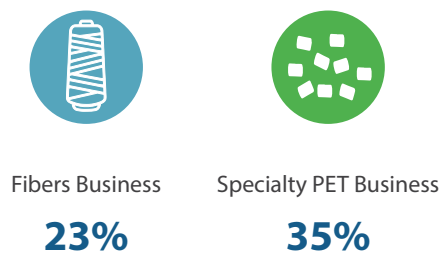
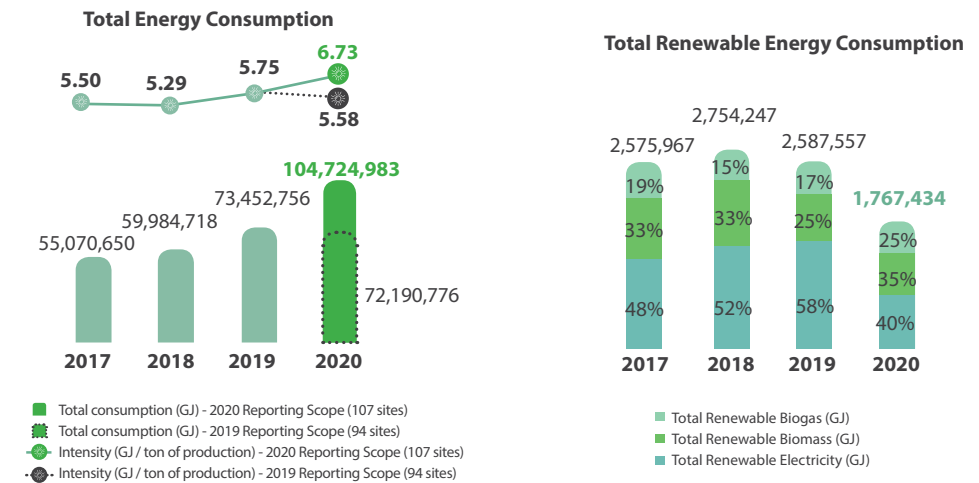


Key Highlights 2020

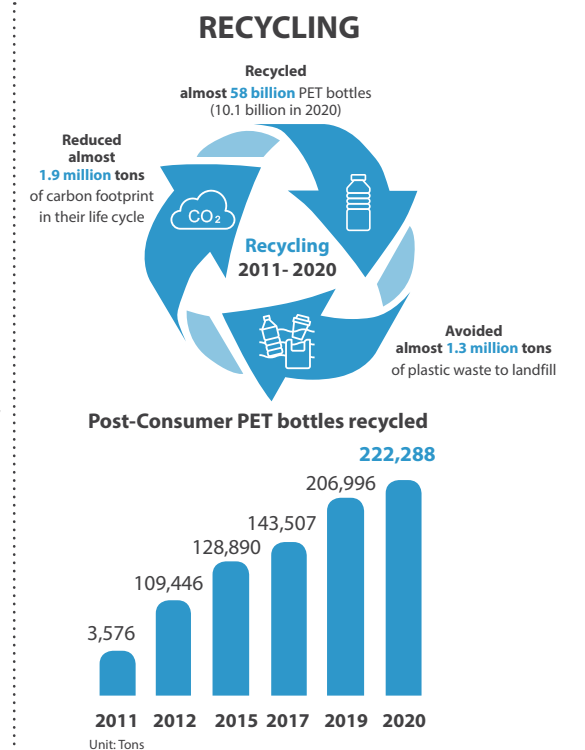
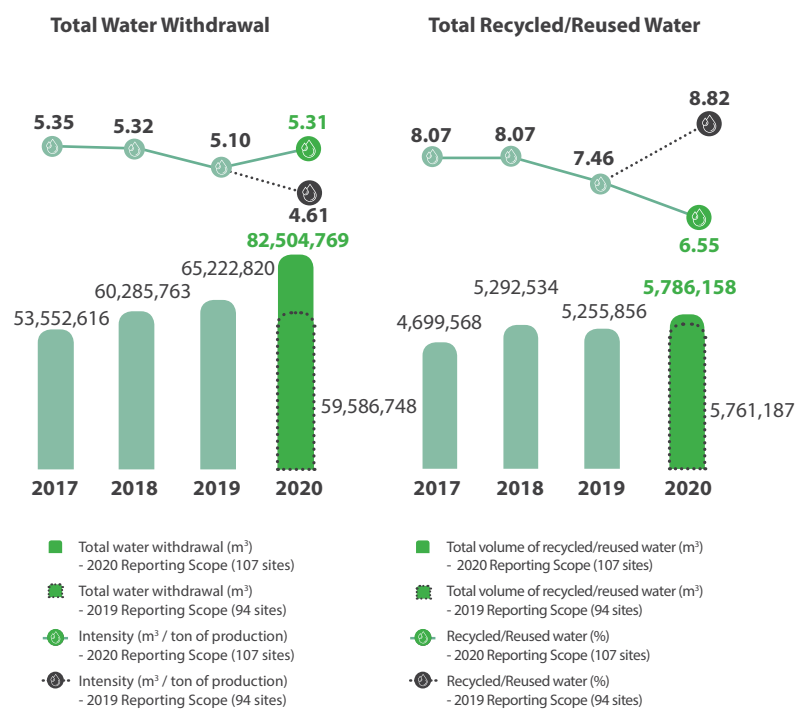
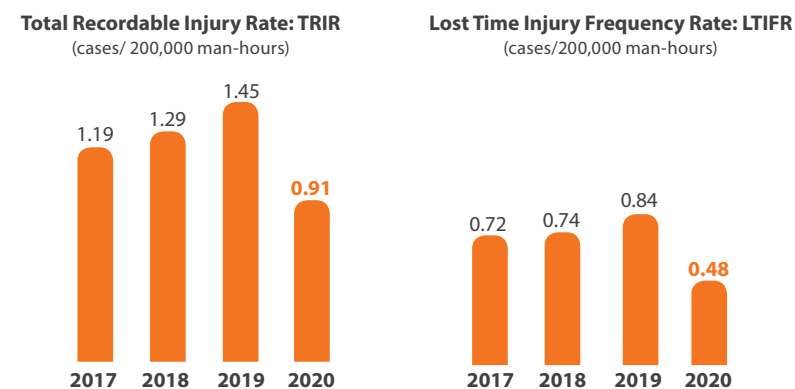
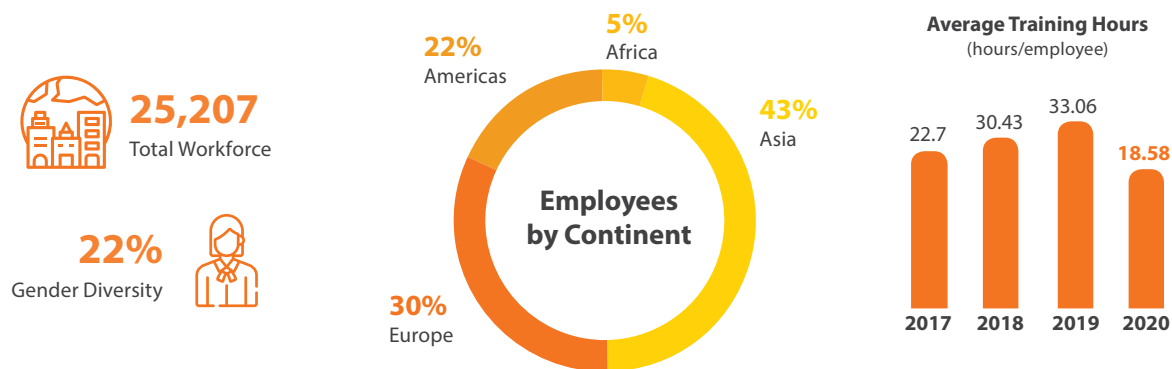
ECONOMIC PERFORMANCE



ENVIRONMENTAL PERFORMANCE



SOCIAL PERFORMANCE



Our Approach to Sustainability

Our overall business strategy is underpinned by a commitment to sustainability. This means integrating long-term environmental and social perspectives into our decision-making, and leveraging economic, environmental and social risks, obligations, and opportunities.

Understanding the sustainability needs of our stakeholders is integral to our success. This is reflected in our rigorous and best-in-class approach that we take to stakeholder dialogues and in defining material issues. In doing so, we can continue to innovate, anticipate

and respond, create new products for our customers while pursuing our vision for a circular economy and greener planet.

In 2020, in light of our ongoing growth and our determination to place sustainability at the heart of our business decisions, we restructured our business portfolios and aligned our processes to achieve greater impacts. The introduction and integration of the enabling functions, such as the Sustainability and EHS functions, will further drive our mid-term and long-term sustainability ambitions.

Sustainability Strategy

Our Sustainability Strategy focuses on the three core elements necessary to meet our 2025 targets – protecting the environment through responsible operations, empowering our people and transferring value to our stakeholders and driving economic prosperity ethically and innovatively.

Environment - Responsible Operations

Our operations and products are focused on being environmentally-friendly, contributing to the circular economy, minimizing resource consumption and reducing emissions to fight climate change, and contributing to the circular economy.

Social - Empowerment Culture

Our respect for human rights, engagement and investments in capacity building, and creating shared value for our stakeholders demonstrates our commitment to achieving long-term success.

Governance - Business Potential

Our business is based on our integrity and ethical principles, driving customer experiences through our innovative products and moving forward in meeting societal needs for sustainable growth and leadership.



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Sustainability Framework

Vision	To be a world-class sustainable chemical company making great products for society				
Values	"Always evidence-based"	"Honesty in everything"	"Collaborative & Innovative"	"Visionary leadership"	"Adaptive mind-set"
Aspirations	Carbon Neutrality to sustain our world and business		Improving Lives through sustainable and affordable products		Trusted Partner to the global community
Differentiators	Thought Leadership on sustainability and the circular economy	Global-Local close proximity to stakeholders	Circular Approach improving circularity in IVL's value chain	Early Adopter bringing innovation to our operations	ESG Best-in-Class investing in a sustainable business
Strategic priorities	Must do Stakeholder Engagement Aligning our actions responsibly and in a way that benefits society	Thrusters - Sustainable growth			Enabler Education Scaling our education programs while leveraging our extensive global footprint
Metrics	IVL goals shared and adopted by society	Recycling 750 kt (50 bn) PET bottles p.a. by 2025	Towards carbon neutrality	External validation	Educate 1,000,000 consumers by 2030

Sustainability Ambitions

Our business operations generate diverse and long-term value for our stakeholders. We remain committed to investing in the environment and the society where we operate and set clear and achievable targets. Our 2025/2030 sustainability ambitions focus on

finding efficiencies in our business operations, increasing our use of renewable energy, investing in recycling and lowering our carbon footprint. These initiatives will enable us to achieve our long-term ambition of carbon neutrality.



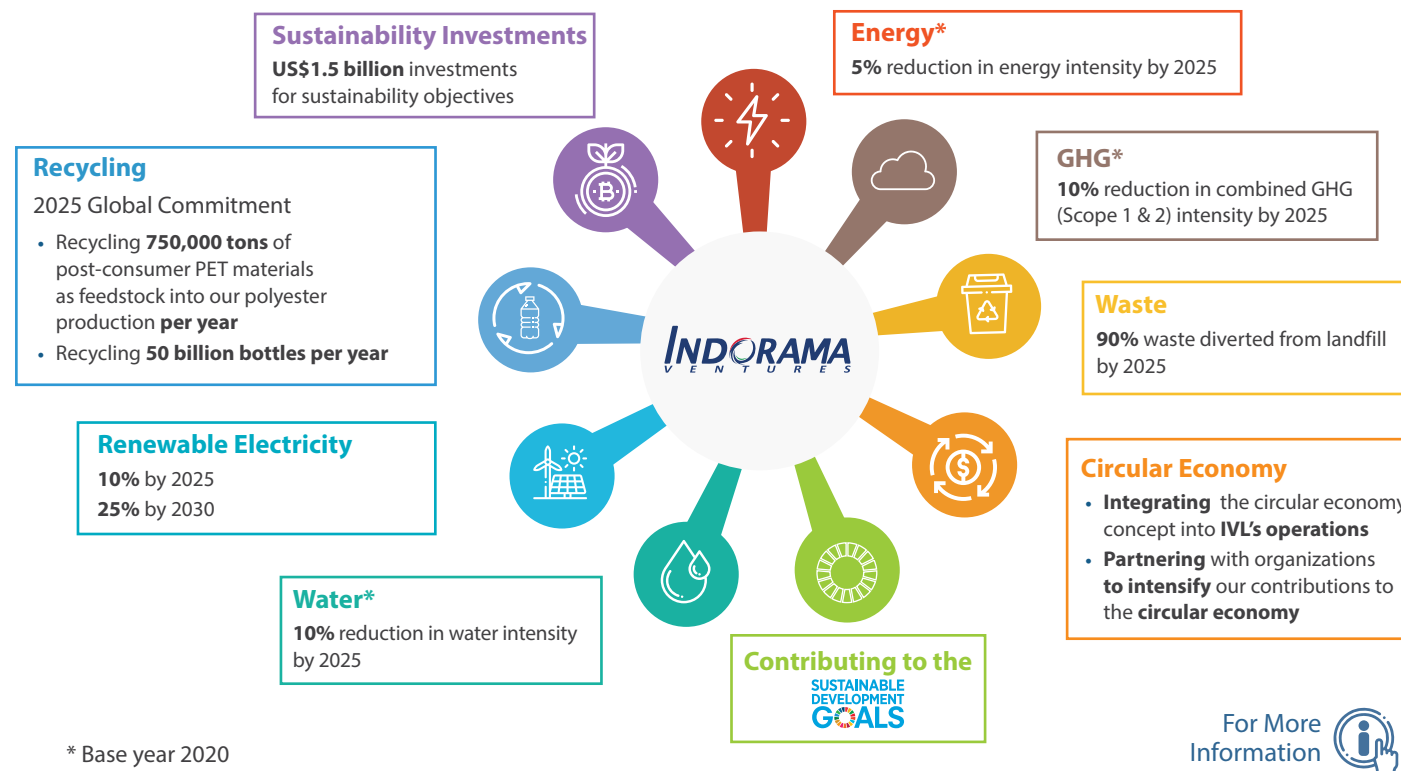
We acquired a number of energy-intensive plants in 2020, from which a significant percentage of our upstream chemicals are derived for PET production. As a result, our global operations now incur a different environmental footprint than in 2019. We reset the baseline to 2020 to clearly represent our current business scale and its impacts since these acquisitions, and to visibly set progress targets towards our 2025/2030 ambitions.

The change in baseline was also implemented to create a more holistic approach in setting up our Science-Based Targets (SBTs) which will account carbon footprint from our IOD business segment as well.

At the same time, we have achieved significant process improvements and implemented a number of green projects. Please refer to the Towards Carbon Neutrality Section on pg. 74.

Our Sustainability Ambitions Towards Carbon Neutrality

Focusing on short and medium-term targets



Recycling Global Commitments	
2025 Targets	2020 Performance
750,000 tons/year of post-consumer PET in polyester feedstock capacity by 2025	222,288 tons/year post - consumer PET bottles recycled in 2020
Recycling capacity of 50 billion bottles per year by 2025	10.1 billion bottles recycled in 2020 Approximately 58 billion bottles recycled as of 2020 since 2011

Operational and Environmental Targets		
KPIs	2025 Targets (Base year 2020)	2020 Baseline
Energy intensity	5% energy intensity reduction by 2025	6.73 GJ/ton of production
Water intensity	10% water intensity reduction by 2025	5.31 m ³ /ton of production
GHG intensity	10% GHG intensity reduction (Scope 1 and 2) by 2025	0.607 tCO ₂ e/ton of production
Renewable electricity	10% by 2025 25% by 2030	2.8%
Waste diverted from landfill	90% waste diverted from landfill by 2025	84% waste diverted from landfill

Climate Change Strategy 2025

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Our Climate Strategy 2025 incorporates four key focus pillars through process/product efficiency, natural resources, climate change resilience, and circular economy, which we actively support the transition to a low carbon economy. The strategy also clarifies in detail the climate-related output targets we intend to reach by 2025.

Pillars	Strategies	Outputs
Process/Product Efficiency	Upstream & Downstream Integration Climate Innovation	<ul style="list-style-type: none"> • Increase in the use of post-consumer recycled materials • 5% reduction in energy intensity by 2025*
Natural Resources	Recycled Raw Materials Renewable and Low Carbon Energy Low Carbon Products Water and Wastewater Management	<ul style="list-style-type: none"> • Reduction in the use of virgin raw materials • Renewable electricity consumption: 10% by 2025 and 25% by 2030 • 10% reduction in combined GHG (Scope 1&2) intensity by 2025* • 10% reduction in water intensity by 2025*
Climate Change Resilience	Shadow Carbon Pricing Water Risk Analysis TCFD Framework Scenario Analysis	<ul style="list-style-type: none"> • Address climate-related risks • Integrating ESG and carbon pricing into business decisions
Circular Economy	Waste Management Sustainable Supply Chain Responsible Consumption Engagement with Stakeholders	<ul style="list-style-type: none"> • Reduce, recycle, reuse • Reduction in the consumption of natural resources • Reduction in PET waste • Recycling education

* Base year 2020

We work to ensure that our business activities respect climate science and support global efforts to minimize rising global temperatures. **We are a signatory to the TCFD** and continually monitor and adapt our decisions to ensure our business is successful through an active focus on sustainability governance.



In October 2020, we joined the **World Economic Forum's Global Plastic Action Partnership (GPAP)**, an initiative to minimize plastic leakage into the environment and a key step in enabling us to meet our target of ending PET plastic waste. This multi-stakeholder initiative creates and drives solutions towards a circular economy and leverages our unique position as the global leader in recycled PET. It represents another example of IVL harnessing our integrated business model to expand the global recycling landscape and help alleviate climate change.

In addition, we participated in the **50 Climate Leaders campaign** in 2020, towards demonstrating our leadership and determination in taking effective action against climate change.


50 CLIMATE LEADERS
SUSTAINABILITY A RACE WE CAN WIN

Click here to
watch VDO



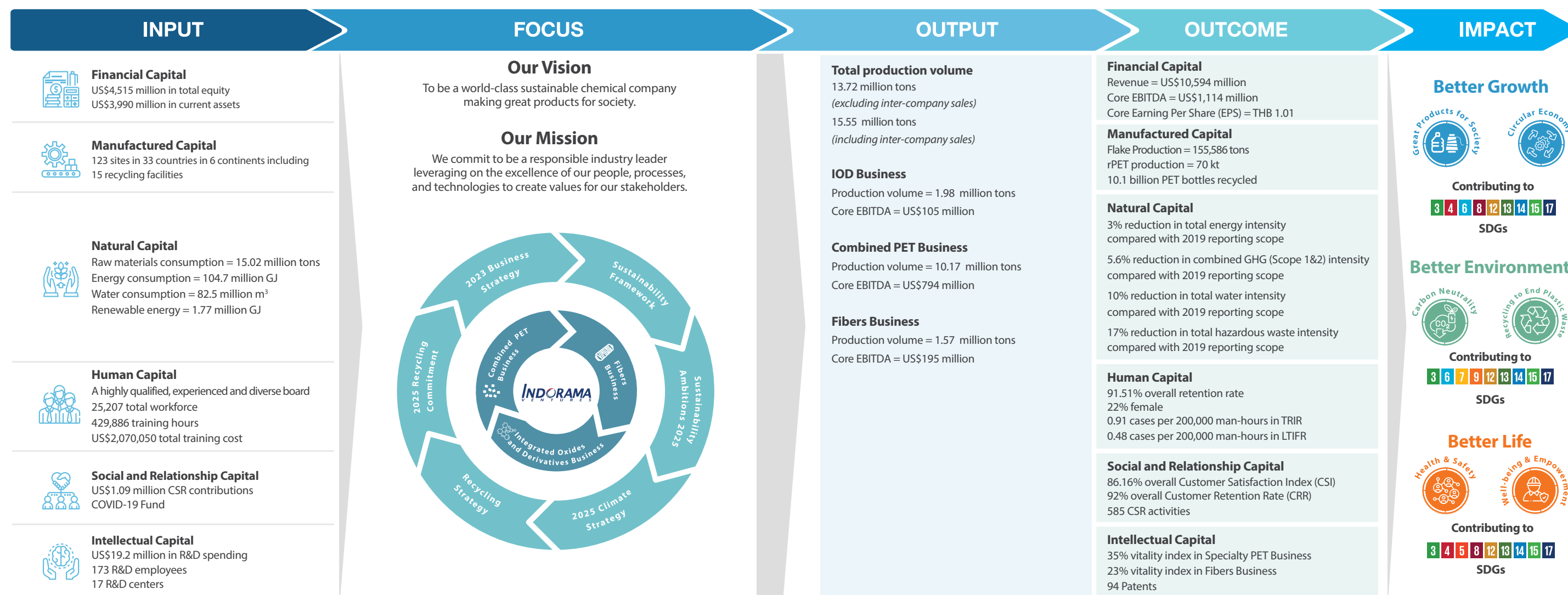
We have committed to set a science-based target through the Science Based Targets initiative and aim to set our SBTs by 2024.

Our Approach to Value Creation

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Value Creation Model

As we enter our tenth year of sustainability reporting, we adopted the International Integrated Reporting Council (IIRC)'s International Integrated Reporting <IR> Framework. By structuring our report based on this framework, we can demonstrate to our stakeholders how we are creating value through our short, medium and long-term strategies through six capital inputs.



Trade-Offs

Trade-Offs	Impacted Capital	IVL's Strategy
Increased production volume versus environmental footprint	<ul style="list-style-type: none"> Manufactured Capital Natural Capital 	We are maintaining our focus on growth and sustainably increasing production volumes while reducing environmental impacts by: <ul style="list-style-type: none"> Driving operational efficiencies in existing and newly acquired operations. Increasing our focus on renewable energy sources. In 2020, we achieved 5% organic growth while reducing our consumption intensity. Please refer to our environmental performance on pgs. 21, 25, 62-65, 76-89, 116-124 for more information.

Trade-Offs

Trade-Offs	Capitals Impacted	IVL's Strategy
Vertical integration versus dependency on suppliers	<ul style="list-style-type: none"> Financial Capital Social and Relationship Capital 	We continue to focus on vertical integration to mitigate supply chain risks and improve business growth. In 2020, we acquired Huntsman's world-class integrated oxides and derivatives business marking a transformational opportunity. <p>Despite vertical integration, we continue to develop strong relations with our suppliers, whom we view as key stakeholders in our value chain. We embed sustainable practices within our suppliers' operations by implementing supplier assessments ensuring adherence to sustainability policies and to safeguard human rights.</p> Please refer to the Supply Chain Management section on pg. 50 for more information.

External Environment and Outlook

Our continued long-term business growth and sustainability requires that we work dynamically in the local, national, regional and global environments where we operate. This means understanding and responding to micro and macro influences and supporting our strategic vision with strong governance, planning and implementation systems. Leveraging these systems means we can foresee and effectively respond to opportunities, manage risks in the short, medium and long-term and realize continuous improvements across all business spheres.

Global Economic Factors

Operating in 33 countries means working within diverse legal and regulatory frameworks. Our business functions in and is affected by local, national and global operating contexts and we remain closely attuned to these through our integrated risk-based approach.

The COVID-19 pandemic continues to have vast and wide-ranging economic impacts. It is significantly threatening supply chains, severely limiting customer choice and impacting global growth. While difficult to predict the full impact on the chemicals industry, the effects will likely be felt from practicalities at the operational level through to the health of credit markets.

Challenges

- Economic impacts of COVID-19
- US-China trade war tariffs
- Inconsistent or unexpected changes in foreign laws, currency controls, tax regulations
- Changes in international tax treaties
- Plastics tax in Europe

Opportunities

- Vertical integration of the business to prevent supply chain disruptions
- Developing cost-optimization strategies for improved revenue margins

Increased Market Competition

We recognize the shift that is occurring with production capacities geared more to the competitive advantages of global emerging markets. We are closely monitoring increased market competition in the development, production, and distribution of comparable products and prioritizing innovation initiatives throughout our business.

Challenges

- Competition from large multinational companies
- Competition from regional and/or specialized producers in markets
- Margin pressure from, for instance, limited demand growth and overcapacity in a market

Opportunities

- Investments in R&D to drive product stewardship
- Developing new products and portfolios for improved profit margins
- Developing new technologies to address unmet sustainability needs
- Innovating new products to unlock potential revenue streams in new markets

Climate Change and the Demand for Circularity

Climate change is driving shifts in regulations, access to capital and consumer expectations. We believe that business has a key role to play by implementing ethical, efficient and long-term responses to consumer demand that actively protect the environment and promote sustainability. We understand the value that is created by shifting to a circular economy and continue to invest significantly in new technologies, operational efficiencies and product stewardship initiatives.

Challenges

- Increase in carbon pricing regulations
- Increase in single use plastics due to the COVID-19 pandemic
- Lack of recycling awareness

Opportunities

- Increasing demand for environmentally friendly products
- Being a thought leader driving the circular economy agenda
- Empowering suppliers, manufacturers and retailers to adopt circularity in business models

Human Capital

A skilled, thriving workforce represents the foundation of any successful business. As organizations worldwide face a global skills gap, we are cognizant of the role we play as a leading chemicals company in developing a future-proof workforce. COVID-19 is forcing businesses to support workforces beyond traditional human resources frameworks. A greater focus is being placed on boosting employee resilience and well-being.

Challenges

- Shortage of global talent
- COVID-19 impact on employee development and well-being
- Hiring and firing cycles according to economic fluctuations and their implications on the talent pool and future workforce vitality

Opportunities

- Investing in robust talent development and reskilling programs to create a highly capable workforce
- Succession planning
- Implementing employee well-being programs to enhance the retention rate and productivity
- Developing the talent pipeline via collaborations with external institutions such as schools and universities

IVL's 2023 Strategy

Our 2023 Strategy is based on five strategic pillars focusing on Cost Transformation, Full Asset Potential, Adjacency Growth, Recycling Leadership, and Leadership Development. This strategy will contribute to double-digit ROCE, above average returns to shareholders and strong cash flow through the peaks and troughs of the chemicals cycle.

We pursue our vision - "To be a world-class sustainable chemical company making great products for society" every day across our business operations. Our values inform our day-to-day activities and encourage us to remain customer-focused, agile, proactive and with an ongoing duty of care for our workforce.

Project Olympus

Initiated in 2020, Project Olympus is our overarching cost transformation program introduced under Strategic Priority 1 of our 2023 Strategy. We are ahead of schedule for the plan's first year by 21%+ in terms of cost-savings. Encouraged by an internal assessment and outstanding performance, we increased our Project Olympus ambition to deliver US\$610 million in EBITDA on an annual basis by 2023 over 2019 (versus US\$352 million announced last year), comprising of over 2,400 Cost Transformation and Business Full Potential initiatives. The multiplier impact and organic growth will be tremendously positive for our three segments covering 16 verticals through coordinated efforts across functions, comprehensive changes to our operating model further leveraging our integrated operations and the pursuit of commercial opportunities in sales and procurement excellence.

Corporate

Three Priority Areas		
Enterprise Resource Planning (ERP)	Global Business Solutions	Digitalization
Implement an integrated SAP ERP system	Implement a Global Business Solution (GBS)	Scale-up our digital initiatives piloted in 2019

Business Segments

Combined PET	Integrated Oxides and Derivatives (IOD)	Fibers
Focus on manufacturing and functional excellence, and procurement efficiency	Focus on the integration of existing facilities to streamline costs	Focus on margin expansion, cost innovation and asset efficiency

We fully appreciate the challenges that lay ahead, as additional efforts are needed for the next three years of Olympus. Yet we remain highly confident with a clear and detailed plan developed through a bottom-up approach through several project management offices (PMOs), consisting of the IMC, CXOs and other senior leaders. Furthermore, we established a transformation management office (TMO) specifically designed for IVL but drawing on leading best practices. The TMO, comprising chiefs of staff to IMC members supporting the IMC and PMOs in their transformation journey, has adopted a world-class tracking tool called "KEY"

which has become a critical enabler and the backbone of Olympus. PMOs have further rolled out result delivery offices (RDOs) for specific sites implementing significant transformative initiatives. The TMO, PMO and RDO structure and their facilitation through leading consultants and resources are critical capabilities which the IMC put in place for the success of our comprehensive transformation journey. Our leadership team is ready to deliver on IVL's value creation ambitions by deploying world-class tools and practices, backed by a qualified team, and supported by long-term incentive structures.

For More Information 

Stakeholder Engagement

IVL's operations affect and are affected by a multitude of people, all of whom have a vested interest in how we run our business. We actively seek inputs from and dialogues with internal and external stakeholders and integrate the outputs of such discussions into our business planning and implementation on a routine basis. Stakeholder engagement means building our knowledge base, strengthening relationships and nurturing trust between people and groups with diverse needs.

Employees		
Topics of interest:	How we respond:	
<ul style="list-style-type: none">Occupational health and safetyHuman rightsHuman capital development and recognition	<ul style="list-style-type: none">Ensuring a Safe and Conducive Workplace, pg. 91-96Workplace Human Rights, pg. 98-99	
How we engage and maintain our relationships:	The value we create:	
<ul style="list-style-type: none">Our Global Employee Engagement Survey (GEE) seeks feedback from every employee regarding working at IVL.Our Employee Health and Safety Policy, training programs and our ISO 45000/ OHSAS 18001 certification.Our Human Rights Policy, training is provided and we implement a Workplace Human Rights Assessment Framework across our businesses.	<div><div>Better Lives<ul style="list-style-type: none">Human capital developmentSafe and conducive workplaceHealth and safety cultureFair compensationZero human rights violations</div><div>Better Growth<ul style="list-style-type: none">Talent attraction and retentionResponsible operationsBusiness potential</div></div>	

Customers		
Topics of interest:	How we respond:	
<ul style="list-style-type: none">Good business ethics, supply chain management and complianceRecycling plastic wasteProduct stewardship	<ul style="list-style-type: none">Responsible and Effective Governance, pg. 42-55Circular Economy Thought Leadership, pg. 57-59Safe and Sustainable Products, pg. 69-72	
How we engage and maintain our relationships:	The value we create:	
<ul style="list-style-type: none">We monitor and respond to our annual Customer Satisfaction Index (CSI) (which seeks qualitative customer feedback), Net Promoter Score (NPS) and Customer Retention Rate (CRR) by improving on any issues raised and opening dialogues as appropriate.We develop innovative and sustainable products to meet our customers' commitments and our ambitions and have joined with our customers to collect PET bottles for recycling helping increase PET circularity.	<div><div>Better Growth<ul style="list-style-type: none">Sustainable productsCost-effective offeringsNew and innovative alternativesStrong brand valueStrong relationshipsBusiness potential</div><div>Better Environment<ul style="list-style-type: none">Accelerating PET circularityCircular economy thought leaderReduce and end PET plastic waste</div></div>	

Communities		
Topics of interest:	How we respond:	
<ul style="list-style-type: none">Plastic waste and recyclingEnvironmental preservation surrounding our areas of operationCommunity engagement and human rights	<ul style="list-style-type: none">Driving Circularity Through Stakeholder Partnerships, pg. 60-61Towards Carbon Neutrality, pg. 74-81Empowering Our People and Communities, pg. 90-115	
How we engage and maintain our relationships:	The value we create:	
<ul style="list-style-type: none">As a PET manufacturer, we educate our communities to properly separate plastic waste for recycling.We comply with environmental laws and regulations and are ISO 14001 certified.We engage with our communities on an ongoing basis and work collaboratively to seek multi-beneficial solutions.We maintain a strong license to operate via proactive and vibrant community engagement, which is of fundamental importance to IVL.	<div><div>Better Environment<ul style="list-style-type: none">Safe and environmentally friendly productsImproved circularityCleaner and safer surrounding environment through green projects</div><div><div>Better Lives<ul style="list-style-type: none">CSR programs for communitiesRecycling educationHealth and well-being</div><div>Better Growth<ul style="list-style-type: none">License to operateResponsible operationsStrong relationshipsBusiness potential</div></div></div>	

Suppliers and partners	
Topics of interest:	How we respond:
<ul style="list-style-type: none">Good business ethics, supply chain management and corporate governanceRecycling and plastic wasteOccupational health and safety	<ul style="list-style-type: none">Responsible and Effective Governance, pg. 42-55Circularity Across Our Value Chain, pg. 58-59Ensuring a Safe and Conducive Workplace, pg. 94
How we engage and maintain our relationships:	The value we create:
<ul style="list-style-type: none">Many of our supplier relationships have endured over many years and we are proud of our partnerships.We seek formal assurances upon signing contracts and conduct regular supplier ESG assessments.Engaging with our suppliers and partners in developing new circular products, e.g. PPE suits.Ensuring a safe working environment for our suppliers and contractors.	<div><div>Better Growth<ul style="list-style-type: none">Fair and transparent partnership opportunitiesFair and timely compensationPromote sustainability via our Supplier Code of ConductResponsible operations</div><div><div>Better Lives<ul style="list-style-type: none">Health, safety and well-being</div><div>Better Environment<ul style="list-style-type: none">Improved circularityReduce and end PET plastic waste</div></div></div>

Government and regulators	
Topics of interest:	How we respond:
<ul style="list-style-type: none">Regulatory compliance, risk management, corporate governanceLegislation and policy advocacy	<ul style="list-style-type: none">Major Industry Associations & Memberships, pg. 39Risks & Opportunities, pg. 34-35Responsible and Effective Governance, pg. 42-55
<ul style="list-style-type: none">Circular economy	<ul style="list-style-type: none">Driving Sustainable Growth, pg. 58-61
<ul style="list-style-type: none">Energy intensity and emissionsCarbon neutrality	<ul style="list-style-type: none">Towards Carbon Neutrality, pg. 74-89
<ul style="list-style-type: none">Health & SafetyCommunity engagement	<ul style="list-style-type: none">Empowering Our People and Communities, pg. 91-96, 107-115
How we engage and maintain our relationships:	The value we create:
<ul style="list-style-type: none">Maintaining strong relations with regulators is essential as we operate in multiple regions with various types of legislation.We regularly participate in global forums and summits to support new policies towards a sustainable future.	<ul style="list-style-type: none">Thought leadershipInput for policy developmentPartnerships and collaborations to support sustainable regulatory policies

Bankers, Investors and Fund Providers	
Topics of interest:	How we respond:
<ul style="list-style-type: none">Regulatory compliance, risk management, good business ethics, customer relationship management and corporate governance	<ul style="list-style-type: none">Risks & Opportunities, pg. 34-35Responsible and Effective Governance, pg. 42-55
<ul style="list-style-type: none">Recycling and plastic waste	<ul style="list-style-type: none">Driving Sustainable Growth, pg. 56-73
How we engage and maintain our relationships:	The value we create:
Ongoing engagement through face-to-face, group sessions, participation in events, presentations, reporting and responding to information requests provides a diverse and continuous approach to ensuring strong relationships. This transparency also builds trust and provides a foundation for favorable loans and loan terms.	<ul style="list-style-type: none">Return on investmentStrong business performanceSustained and long-term profitabilityTransparency via regular and timely reporting

Consultants (In the areas of business, finance, sustainability, the environment, and IT)	
Topics of interest:	How we respond:
<ul style="list-style-type: none">Corporate governance and good business ethics	<ul style="list-style-type: none">Responsible and Effective Governance, pg. 42-55
<ul style="list-style-type: none">Recycling and plastic waste	<ul style="list-style-type: none">Driving Sustainable Growth, pg. 56-73
<ul style="list-style-type: none">Climate change	<ul style="list-style-type: none">Towards Carbon Neutrality, pg. 74-89
<ul style="list-style-type: none">Occupational health and safety	<ul style="list-style-type: none">Empowering Our People and Communities, pg. 91-96
How we engage and maintain our relationships:	The value we create:
We enlist the support of industry and subject leaders when developing policies, procedures and frameworks and share best practices within our industry groups.	<ul style="list-style-type: none">Strong communications and collaborationsShared growth in industry specific sustainability knowledge through engagementsAgile and resilient business

Please refer to [Our Stakeholders](#) for more information on stakeholder engagement process and a full list of engagement channels.

Materiality Assessment

We regularly and comprehensively identify and assess issues that may have a material impact on our long-term sustainability. Our materiality assessments are conducted in alignment with the Global Reporting

Initiative (GRI) Standards to include internal and external stakeholders, which helps us identify our significant economic, environmental, social and governance impacts.

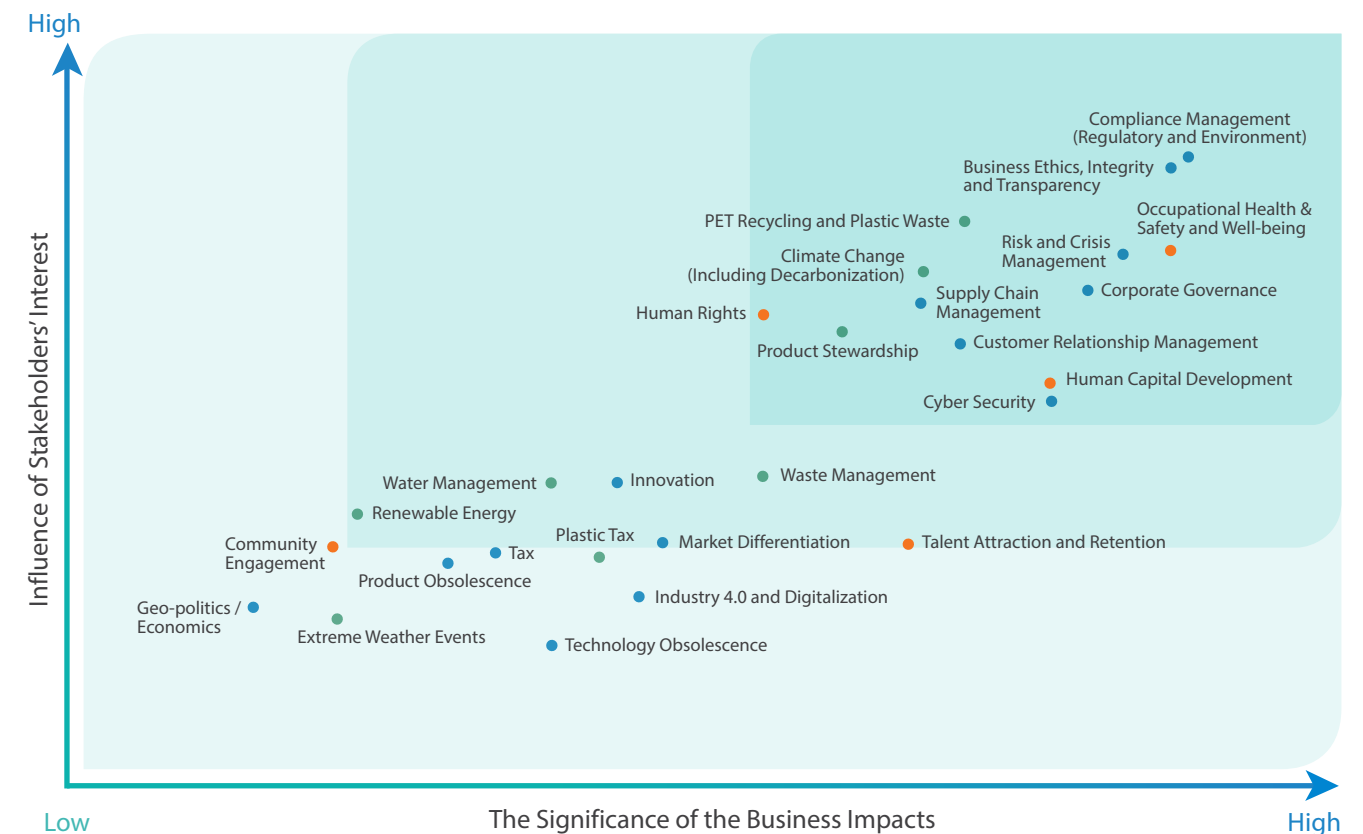
Materiality Assessment Process at IVL



In 2020, we engaged with our internal stakeholders and external stakeholder groups which included customers, suppliers, bankers, investors, and consultants on a global scale. Our materiality survey was conducted via standardized questionnaires with clear definitions which enabled us to receive meaningful responses. Through the inputs received from our survey, we were able to map out an updated materiality matrix. This mapping directly informs our business strategy, environmental, social and governance priorities. The mapping required consideration on a range of opinions and detailed internal analysis sessions with senior management across our business units. It also means understanding IVL's impact boundaries and clarifying our spheres of control and influence.

Through the information received from our stakeholders during the materiality survey, we analyzed, prioritized and validated 28 topics to form our materiality matrix, of which 13 key material topics were identified. We observed an increased importance in key topics such as cybersecurity, supply chain management and PET recycling and plastic waste. In addition to these 13 key topics, we also provided insights and disclosures into other material topics of importance to our business and key internal stakeholders within relevant sections of our reporting.

Materiality Matrix 2020



Key Material Topics

13 Key Material Topics in 2020

ENVIRONMENT

- PET Recycling and Plastic Waste
- Climate Change (including Decarbonization)
- Product Stewardship

SOCIAL

- Occupational Health & Safety and Well-being
- Human Rights
- Human Capital Development

GOVERNANCE

- Compliance Management (Regulatory and Environment)
- Business Ethics, Integrity and Transparency
- Risk and Crisis Management
- Corporate Governance
- Customer Relationship Management
- Supply Chain Management
- Cyber Security

Risks and Opportunities

We manage risks via our Enterprise Risk Management Framework which is based upon the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Framework and forms the basis upon which we identify and manage business risk at all levels throughout the business and our subsidiaries. The Sustainability and Risk Management Committee (SRMC) is the sub Board committee which oversees the effectiveness of the overall risk management to align with the company strategies. A Risk Management Council (RMC) has been established to serve as the central platform to assist Indorama Management Council (IMC), SRMC or Board to identify and deliberate principal risks and drive risk governing matters. This is to provide assurance on enterprise risk, crisis and business continuity management implementation to protect and create value for IVL.

Moreover, in this current volatile, uncertain, complex and ambiguous (VUCA) business environment, we embedded a business continuity management (BCM) framework within the organization aligned with the global ISO 22301 standard to build resilience and capabilities that safeguard the interest of our

key stakeholders, our reputation, brand and our value-creating activities. In doing so, we developed clear roles and responsibilities together with recovery strategies and plans for relevant scenarios to ensure that business continuity is well-defined and communicated, with continuous testing to reinforce the robustness of our strategies and planning.

Risks are categorized into Emerging Risks, Strategic Risk, Business Risks, Operational Risks, Functional Risks which includes Environmental, Health & Safety Risks, Information Technology Risks, Financial Risks, Legal & Compliance Risks, etc., which makes up our enterprise risk management as a whole. While Emerging Risks are analyzed as they develop, it can be challenging to quantify these risks due to the high degree of uncertainty or high loss potential.

The different risk categories identified are of equal importance to IVL as an organization. We have included disclosures on key emerging risks in this report to illustrate its alignment with our sustainability-linked material topics in this report. For more information about other risk categories and our risk monitoring and control mechanisms, please refer to our [2020 Annual Report](#) pg.127

Emerging Risks	Opportunities	Link to Material Topics	IVL's Response
The evolving sophistication of emerging cyber threats could have an adverse impact on our business financially and reputationally	<ul style="list-style-type: none"> Implement robust cyber security measures to be a trusted partner and leader in data privacy. Educate users on the risks of cyber security and train them on safe usage of the system. Opportunity for continuous cyber security improvement. 	Cyber Security	Cyber Security Management, pg. 55
Disruptive innovations/ technologies potentially leading to vulnerabilities such as PET alternatives	<ul style="list-style-type: none"> Market disruptor in producing innovative products for continued growth. Promote recycling campaigns and provide education to differentiate PET from other plastics. Circular Economy Thought Leadership 	Product Stewardship PET Recycling and Plastic Waste	Safe and Sustainable Products, pg. 69-72 Circular Economy Thought Leadership, pg. 57-59 Continuous Improvements in Recycling, pg. 62-65
Failure to address anti-plastic campaigns may adversely impact the industry's growth potential	<ul style="list-style-type: none"> Increase our investments in recycling plants. Working with several industry partners to achieve a circular economy for sustainable plastics. Educating consumers on the need to recycle and adopt a lifestyle focused on sustainability. Acquiring proprietary knowledge of mechanical recycling, and established partnerships to develop and test next-generation chemical recycling technologies. 	PET Recycling and Plastic Waste	Driving Circularity Through Stakeholder Partnerships, pg. 60-61 Circular Economy Thought Leadership, pg. 57-59 Continuous Improvements in Recycling, pg. 62-63 Recycling Education, pg. 111-113

Emerging Risks	Opportunities	Link to Material Topics	IVL's Response
Water crises may disrupt business operations and economic activities	<ul style="list-style-type: none"> Leader in water stewardship by reducing freshwater consumption. Implement more stringent and more effective sustainable water management. Close working with local authorities to ensure adequate water supply and avoid potential conflicts with nearby stakeholders and maintain business continuity. 	Risk and Crisis Management Water Management	Risks & Opportunities, pg. 34-35 Environmental Management, pg. 83-85
Adversely impacted by economic uncertainties given the evolving coronavirus pandemic	<ul style="list-style-type: none"> Potential to develop strong governance function to weather the impact of the pandemic. Leaders in best practice employee safety management Strengthen supply chain value across our business risks Leverage on our facilities and networks allows us the opportunity to deliver products to our customers as a reliable partner, even in time of uncertainties 	Risk and Crisis Management Occupational Health and Safety	Our Response to the COVID-19 Pandemic, pg. 40-41 Ensuring a Safe and Conducive Workplace, pg. 94

Sensitivity Analysis

Sensitivity analysis covering strategy, operations, the environment, water stress analysis, shadow carbon pricing analysis, financial sensitivity and reputation are conducted on half-year basis or yearly basis at the corporate level. These are focused on sustainability

and analyze the environmental, social and governance impacts to our business operations. We also conduct scenario analysis and refer to the TCFD as guidelines on climate change. Sensitivity analysis covers the impacts on our production, revenue and EBITDA.

Risk Culture


Built into the day-to-day execution of our corporate strategy, and through the daily activities and decision-making of our employees, risk management provides the core of our approach. Throughout the business, management, committees and embedded risk champions have clear roles and responsibilities for assessing risks and identifying associated controls to mitigate and/or reduce risk.

Risk Capability & Culture Leadership Program has been developed and implemented to elevate risk thinking and strengthen risk capability for agility to address changes in business environment. This program aims to strengthen risk leadership mindset in leaders to shape the masses, envision and galvanize future state of risk.

This comprehensive infrastructure helps to build awareness, ownership and management of risks through the organization, leading to improved business performance. Continuous monitoring further ensures the supervision, critical observation and determination of risk status to identify any gaps and instigate risk response, identifying control activities and any performance level changes that may be necessary.

Supported by our group governance structure, ethics programs and codes of conduct, we can ensure that we work with heightened awareness to risk and respond effectively and efficiently. Proactively managing potential risks in this way provides necessary assurance and significantly enhances our business performance.

Our Contributions to the UN SDGs

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With a strong focus on creating value for the 3Ps - People, Planet and Prosperity, we continue to support and contribute to the UN SDGs.

Recycling and Circular Economy

3 8 9 11 12 13 14 15 17

Bringing customers into the product value chain cycle and developing ways to support the circular economy.



Recycling Commitment



Industry Partnerships



Recycling Education

Climate Change and Energy

7 9 11 12 13 14 17

Being fully aligned with global initiatives that develop strong low-carbon strategies.



Renewable Energy



Science-Based Target (SBTs)



GHG Reduction & Energy Efficiency

Environmental Stewardship

3 6 7 9 12 13 14 15 17

Improving resource efficiencies and ensuring that our production is environmentally-friendly.



Water Stress Analysis



Waste Diverted from Landfill



Plastic Bottle Collection

Health, Safety and Well-being

3 4 5 8 12 14 15

Guaranteeing that health and safety are at the forefront of our activities.



Safe Workplace



Human Rights Protection



Process Safety

CSR and Collaborations

3 4 6 8 11 12 14 15 17

Making Recycling Education a global program and collaborating to have further positive impacts on society.



Knowledge



Environment



Well-being

The progress we have made in our contributions to the UN SDGs has been monitored throughout the year and publicly reported in our Sustainability Report 2020, IVL SDGs Report 2020 and in the [SDGs section](#) on our website.



This year's UN Global Compact Leaders Summit marks 20 years of uniting business for a better world. We joined this virtual event in the Global Townhall Session under the topic "Build Back Better: Business Resilience for our Future" and address our commitment and contribution to the sustainable development goals through our circular economy concept focusing on the PET bottle recycling.



At the "GCNT FORUM 2020: Thailand Business Leadership for the SDGs" held at the United Nations Conference Center, Bangkok, to celebrate both the 20th anniversary of the UNGC and the 75th anniversary of the United Nations, IVL pledged that by 2030, we will collectively invest a total of THB 1 billion (approximately US\$33 million) in sustainability projects and initiatives that directly support achieving the UN SDGs and also commit to embedding the UN SDGs into the core of our business strategies and activities. This declaration reaffirms our commitment to supporting the Thai government in its efforts to achieve the 2030 agenda.



Mr. Alope Lohia, Group CEO of Indorama Ventures PCL, joined a panel discussion on "Leadership for Sustainability under the New Normal towards the SDGs" at the GCNT Forum 2020: Thailand Business Leadership for UN SDGs on August 31, 2020, at the United Nations Conference Center in Bangkok, Thailand.




(Left to Right: Ms. Gita Sabharwal, UN Resident Coordinator in Thailand; Mr. Chaiwat Kovavisarath, President and CEO, Bangchak Corporation PCL; Mr. Alope Lohia, Group CEO of Indorama Ventures PCL; Dr. Sarayuth Saengchan, Senior Executive Vice President-Finance and Acting COO of Mitr Phol Group; and Ms. Patchari Raksawong, Moderator)

As a result of our commitment and actions, IVL won the Sustainable Business Awards, Thailand 2019 for the UN Sustainable Development Goals from Global Initiatives which was announced on December 4, 2020.



Major Sustainability Awards & Recognitions

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Member of
**Dow Jones
Sustainability Indices**
Powered by the S&P Global CSA
Sustainability Award
Silver Class 2021
S&P Global

- Indorama Ventures was **recognized in SAM's Sustainability Yearbook 2021 with the Silver Class distinction and was listed in the Dow Jones Sustainability Indices (DJSI) - World and Emerging Markets.**
- We were **ranked third** among 115 of the world's leading sustainable chemical companies.

- Indorama Ventures **achieved a B Rating** in the **CDP's Climate Change Assessment in 2020.**



MSCI 

- Indorama Ventures **improved its ESG rating** from **BB to BBB in 2020.**

- In 2020, Indorama Ventures **remained at the Gold Level, recognized as one of the top 2% of companies (98th percentile)** rated by EcoVadis in the **manufacture of basic chemicals.**



for 2nd consecutive year

- Sustainalytics assessed IVL as a leader in the chemicals industry** placing the company **7th out of 202 companies**, as per their report in January 2021.

- Indorama Ventures **remained a constituent of the FTSE4Good Index Series** following the **October 2020 index review, achieving the top rank among chemical companies globally (scoring 4.6 out of 5).**
- We received a **Best ESG score** standing at the top of **the group with a 100th percentile rank.**



FTSE4Good

Bloomberg

- We **achieved Rank #1**, the leading Bloomberg ESG disclosure score among companies on the Stock Exchange of Thailand (SET50).

- IVL was ranked #2** with a grade of B- (B Minus) following DSM with a grade of B, **among 35 of the world's largest chemical companies.**
- We received this score for the first time in 2020.




- IVL won three awards** for Climate Change, Supply Chain Management and UN Sustainable Development Goals.
- IVL also received another **four Special Recognition Awards** in the categories of Strategy and Sustainability Management, Workforce, Water Management, and Waste and Material Productivity.

- Indorama Ventures was awarded **"Best Regional Loan"** in the manufacturing sector for its US\$300 million Blue Loan - **the first of its kind granted to a plastic resin manufacturer.**



Major Industry Associations & Memberships

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Global

- United Nations Global Compact (UNGC)
- World Economic Forum
- Global Plastic Action Partnership (GPAP)
- Task Force on Climate-related Financial Disclosures (TCFD)



Americas

- Americas Fiber Manufacturing Association, USA
- Association of Plastics Recyclers (APR), USA
- PETRA - PET Resin Association, North America
- National Association for PET Container Resources (NAPCOR), USA, Canada and Mexico
- Operation Clean Sweep, USA
- American Chemistry Council (ACC)

Europe

- The Committee of PET Manufacturers in Europe (CPME), Europe
- European Man- Made Fibres Association (CIRFS), Belgium
- IVC - Industrievereinigung Chemiefaser e.V., Germany
- World Economic Forum, Switzerland
- Plastics Recyclers Europe (PRE), Europe
- EDANA, Europe

Asia

- The Federation of Thai Industries, Thailand
- Thai Beverage Industry Association, Thailand
- Global Compact Network Thailand (GCNT), Thailand

Responsible Care

IVL is a Regular member of the ACC which represents a set of diversified organizations in the field of chemistry and innovation. The ACC seeks to make progress in sustainability-linked issues in today's landscape.

In addition, IVL US subsidiaries adhere to the 'Responsible Care' program are seeking certification by end of 2022. This is a commitment by the ACC members of the global chemical industry whose members and partners pledge to improve environmental, health, safety and security performance throughout their entire operating systems.

For more information: <https://responsiblecare.americanchemistry.com/>

Roundtable on Sustainable Palm Oil (RSPO)

Our subsidiaries in US, India and Australia, Indorama Ventures Oxides LLC Port Neches Operations, Indorama Ventures Ankleshwar Pvt Limited and Indorama Ventures Oxides Australia Pty Limited are members of the RSPO. They are found to be in compliance with the RSPO Supply Chain Certification Standard and have excellent environmental and safety record. This guarantees that the environmental and social criteria for processing RSPO certified palm oil products through one or more of the supply chain models as stated in the RSPO Supply Chain Certification Systems have been met.

For more information: <https://rspo.org/members/10802>

American Chemistry Council (ACC)

We joined the American Chemistry Council (ACC) and Mr. Alope Lohia, our GCEO, is on the ACC board which focuses on setting organizational policy, approving budgets, determining advocacy priorities and providing overall strategic direction for the ACC. This forum focuses in part on sustainability and energy and represents a platform that addresses environmental and social concerns collaboratively. We continue to provide insight and advocacy on key issues through our involvement in these ACC committees, which help protect and ensure greater sustainability of our integrated US supply chains. IVL is increasing its active engagement and industry leadership in 2021 through greater committee participation at the ACC.

For more information:
<https://www.americanchemistry.com/Membership/MemberCompanies/#Regular%20Members>

Our Response to the COVID-19 Pandemic

The COVID-19 pandemic incurred significant disruptions to businesses globally in 2020, testing our ability at all levels to manage the well-being of our employees and surrounding communities. From extensive measures

Employee Care

Protecting the health and safety of our employees is our number one priority; 2020 saw widespread steps taken to keep our employees and their families safe, including safeguarding sites and ensuring compliance with local authorities. Our newly introduced EHS enabling function continues to coordinate policies, procedures and data related to employee health and safety (including tracking COVID-19 cases across our operations). Our "Work from Home" policy was announced and implemented with immediate effect and remains valid until further notice. Additionally, regular IVL emails

to protect employee health and safety, through to compromised supply chains and fluctuations in cost and availability of raw materials, no industry was exempt from the impacts of the pandemic.

provide guidance together with precautionary measures for employees. The situation in Thailand is assessed bi-weekly and measures change accordingly.

While our overall performance regarding management of COVID-19 has been very good, it is with a heavy heart that we share the news of two colleagues passing away in 2020. One colleague was from Mexico and another one in the U.S. We would like to extend our sincere condolences to their families.

Business Continuity

At the group level, the Indorama Management Council (IMC) closely monitors our response to COVID-19. The Business Continuity enabling function, comprised of IVL leaders across functions and businesses, monitors any risks and works closely with local plant management to address operational and tactical issues. Our senior-level Global Emergency Management Team (GEMT) is tasked with formulating and responding to the pandemic, and ensuring the safety of our workforce and operational efficiencies. Weekly meeting are carried out to monitor the situation around the world and provide updates, including employee well-being and business impacts, to ensure that the proper duty of care and

programming continuity decisions are being made for each location while providing clear communications.

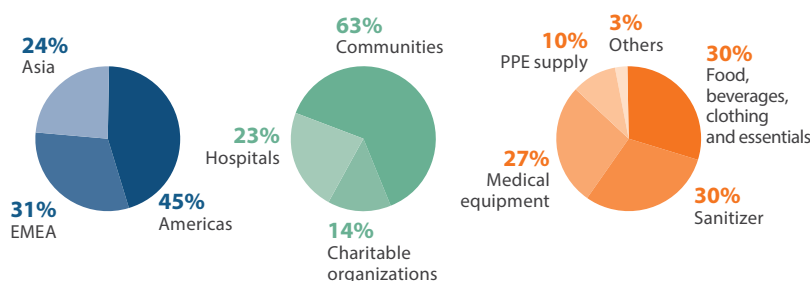
We also work with specialists to analyze the potential security and safety impacts to our employees. We are closely following the rules put in place by governments in multiple countries where we operate and offer ongoing communications across the organization and to our stakeholders providing updates on developments, impacts and solutions in relation to our plants, people and business. We are proactively communicating with partners, suppliers and our customers to avoid disruptions during this period of enhanced demand for essential products.

Contributions to Society

To get through the COVID-19 pandemic together, we actively responded and supported our communities through the IVL Foundation and CSR activities around the world. Furthermore, in 2020, we established an IVL COVID-19 Fund (US\$ 2.5 million) to support the provision of necessary supplies for communities and hospitals.

Contributions through IVL's COVID-19 Fund (US\$1.88 million)

Support for 135 organizations in 29 countries



* Data as of December 2020, % of total contributions.



We took the opportunity in 2020 to adapt our products and manufacturing capabilities to create value that meets consumer and environmental needs. With innovation at the heart of our response to COVID-19, we became the first company in Thailand to utilize high quality and durable rPET to develop PPE suits through our partnerships with Less Plastic Thailand, Thai Taffeta, T-Plus, TOA Paint and GoWith20.

We distributed over 20,000 coverall PPE suits to 200 hospitals across Thailand, using 80,000 post-consumer PET plastic bottles.

We also adapted our Integrated Oxides and Derivatives (IOD) business facility in the United States to manufacture hand sanitizer to protect against COVID-19.

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Adapting to the New Normal

Throughout 2020, the world made significant progress in addressing the challenges of COVID-19 yet we continue to feel the impacts on many levels. As vaccination drives gather steam, coronavirus variants remain a concern. As people around the world have adapted, behaviors have changed and expectations continue to shift. We took the opportunity during 2020 to invest in various areas of our business and entered 2021 prepared and resilient.

We unveiled a "New Normal" booklet for employees which outlines new standard operating procedures in the workplace and provides guidance on staying healthy. We cancelled business travel, moved to virtual meetings and made efforts to support our employees as they worked remotely.

We offer our gratitude to everyone who helped safeguard the well-being of our employees and look forward to working alongside our partners, suppliers, customers and other stakeholders to continue delivering outstanding products that benefit society in 2021 and beyond.

