

DRIVING TOWARDS A CIRCULAR ECONOMY



Recycler

Key Achievements 2019



For More Information

Dow Jones Sustainability Indices

In collaboration with O ROBECOSSAM Bromed

- Member of the DJSI World and Emerging Markets Chemicals Industry
- Ranked 2nd among global chemical companies
- Received the "Silver Class" distinction



• 2019 Climate Change Rating: B



- A constituent of the FTSE4Good Index Series
- **Best ESG Score** in the 100% percentile of the group in 2019



 Gold Recognition Top 3% of suppliers in all categories

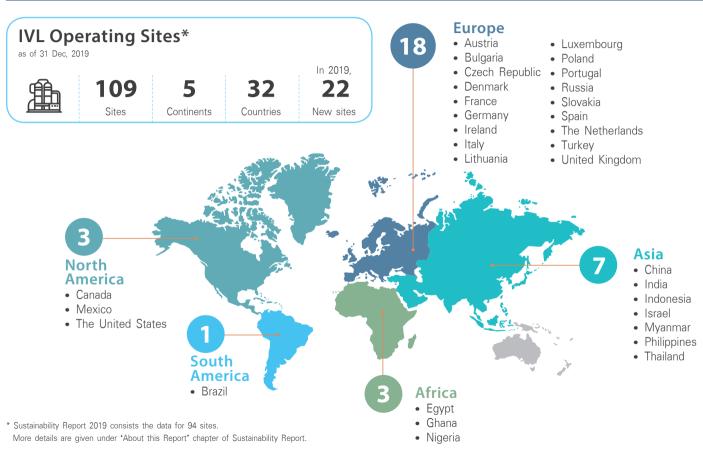


• 2019 ESG Disclosure Score: **BB**

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IVL at A Glance



IVL's Sustainability Strategy



We realize in creating a culture where the workplace is a home away from home. Where together, we dream, aspire, create and celebrate a better everyday life for ourselves, our customers and society.



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.



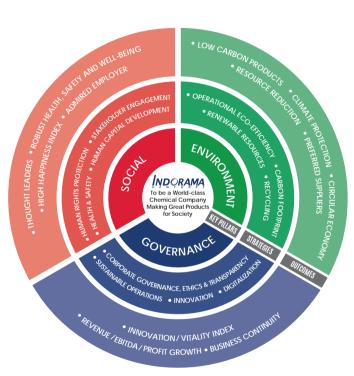
Social – Empowerment Culture

Our respect for human rights, engagement, 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.



IVL's Sustainability Governing Structure

Board of Directors



Corporate Governance / Risk Management / Customer Relationship Management / Supply Chain Management / Taxation / Innovation Management Environmental Stewardship (Energy - GHG - Water - Waste) / Climate Change / Product Stewardship Human Resources (Labour Practices – Human Capital – Human Rights) / Occupational Health & Safety / Corporate Social Responsibility

Group CEO Message



For More Information



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WE EMBRACE SUSTAINABILITY
BECAUSE IT'S A JOURNEY, TRANSFORMATIVE,
AND DEMANDS THAT WE CONTINUALLY
IMPROVE - IN OUR OPERATIONS, OUR TEAM,
AND FOR OUR LONG-TERM SUCCESS.

Our collective efforts will contribute to a successful decade of action on sustainability.



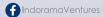


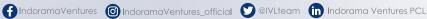


We are accelerating our efforts, pledging to #recycle at least 50 billion bottles per year. Investing US\$ 1.5 billion to achieve this by 2025.



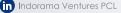
Let's #recycle together













Chief Recycling Officer Message



11

RECYCLING IS AT THE HEART OF
A SUSTAINABLE AND FUTURE GLOBAL ECONOMY,
AND WE AT IVL BELIEVE THAT IT IS A CRITICAL
INNOVATION FOR ECONOMIC GROWTH.

IVL is rapidly becoming a global leader in Recycling by building the infrastructure the world needs to close the loop and deliver a circular economy for PET packaging.

"

Yash LohiaChief Recycling Officer

IVL's Sustainable Value Creation for Stakeholders

Our **Capitals** 4,582

Million USD Total Equity 73.45

Million GJ **Energy Consumption** 13.19

Million Tons Raw Material Consumption 65.22

Million m³ Water Withdrawal

33.06

Training Hours per Employee per Year

170.67

Training Expenditure per Employee

22,696

Total Workforce

1,796,730

CSR Contribution

Our Business Model

Vision

To be a world-class chemical company making great products for society

Mission

We commit to be a responsible industry leader leveraging on the excellence of our people, processes, and technologies to create values for our stakeholders.

Values

- The customer is why we exist.
- Our people make the difference.
- We see change as an opportunity.
- Diversity is our strength.
- We are responsible.

Our

11.36

Billion USD Total Revenue 387

Million USD Core Net Profit (After tax and NCI) 21%

Vitality Index Fibers Business 35%

Vitality Index PFT HVA Business 90.97%

Employee Engagement Score 86.58%

Customer Satisfaction Index

Results

12.34

Million Tons Total Production 2.59

Million G.J. Renewable Energy 206,996

Tons of PET Bottles Recycled

0.555

tCO e/Ton of Production TRIR = 1.45

Cases/200.000 Man-hours

LTIFR = 4.18

Cases/1.000.000 Man-hours

Sustainable Development Goals (SDGs) and IVL



For More Information



Recycling & Circular Economy 3 4 6 8 12 13 14 15 17

- Developing ways to include recyclability into products and circular economy into business and operations
- Bringing customers of recycled products into the product value chain cycle
- Partnering with organizations to intensify our contributions to the circular economy

Climate & Energy 7 11 12 13 14 17

- Being fully aligned with the global initiatives agreed at the COP21 towards developing the climate strategy
- · Increasing the use of electricity from renewable sources
- · Integrating TCFD analysis and recommendations

Environmental Stewardship 3 6 9 7 12 13 14 15 17

- Managing sustainable resources use and improving efficiencies
- · Analyzing global water risk and scarcity
- · Reducing the impacts from hazardous chemicals

Employees & Health and Safety 3 4 5 8 12 14 15

- · Providing decent working conditions, equalities and non-discrimination
- Providing learning and development opportunities
- Guaranteeing that health and safety are at the forefront of our activities

CSR & Collaboration 3 4 6 8 11 12 14 15 17

- Contributing to local development in health & well-being and education
- Creating shared values to stakeholders and promoting economies



GOVERNANCE BUSINESS POTENTIAL

IVL registered volume growth of 18% in 2019, driven mainly by inorganic expansion. Industry-wide spreads declined to historical lows in 2019. Operating cash flow through this period increased as a result of lower prices and operational excellence.

Key Financial Highlights

Production
12.34
Million Tons +18%

Revenue
11.36
Billion USD +6%

Core EBITDA

1,147

Million USD -20%

Core Net Profit
After Tax and NCI
387
Million LISD -51%

Operating Cash Flow

1,316

Million USD +33%

Core Earning per Share

1.96

THR
-56%

TRIS Rating **AA**

Corporate Governance A











For More Information



We are committed to operating ethically, transparently, without bribery and corruption, throughout our global operations.



No penalties were imposed on IVL in 2019 for material non-compliance with respect to corporate governance regulations.



The Company successfully renewed its certification for Thailand's Private Sector Collective Action Coalition Against Corruption (CAC) in May 2018. IVL received its first certification in October 2014.



The Company received an "Excellent - 5 Star" CG score in the CG practices of Thai Listed Companies which was carried out by Thai Institute of Directors (IOD). This is the seventh consecutive year that IVL received the "5 star" rating.

2019 Highlights

IVL reviewed, consolidated and restructured all of its corporate governance related policies and code of conducts in to one document called, the Corporate Governance Manual (CG Manual). The Manual provides all directors, employees and stakeholders of the Company a clearer focus of how the Company's values are being implemented and how corporate governance is being realized in the Company. The CG Manual was distributed to all IVL units, communicated and has been trained since September 2019.



IVL does not have any gender bias and shall appoint a qualified female Independent Director as and when the opportunity arises as stated in the NCCG Charter. Accordingly, The Board has nominated a female candidate, who will commence in May 2020 following the annual general meeting of shareholders.

Customer Relationship Management



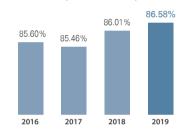




For More Information

Customer Satisfaction Index (CSI) and **Customer Retention Rate (CRR)**

CSI (2016 - 2019)



2019 Target IVL Overall CSI **Better than** or equal to 86%

CSI 86.58% **CRR** 93%

Customer satisfaction measurement covered 100% of global operations



CSI: 86.16% CRR: 95%

PET

CSI: 87.11% CRR: 94%



CSI: 85.88% CRR: 91%

Fibers

Feedstocks

Packaging





Wool

CSI: 86.56% **CRR:92%**



CSI:84.73% CRR: 98%

Recycling

As a market leader in the polyester value chain. IVL recognizes its important role in understanding and positively impacting the needs of its customers in relation to their increasing efforts to tackle sustainability challenges.

2019 Highlights



Awards from Customers



Indorama Ventures received the "Sustainability Award" from Coca-Cola.



Petform (Thailand) was awarded the "Gold Award" from ThaiBev as part of the Business Partner Award Program 2019

Innovation Management 🖫

















For More Information

2019 Highlights

- 13.8 million USD R&D Spending
- 162 R&D Employees
- 17 R&D Centers

Vitality Index*



Fibers Business

2019

2020

Actual 21%

Target **23%**

Target **21%**



PET HVA Business

2019

2020

Actual 35%

Target **34%**

Target 34%

IVL recognizes that innovation is crucial to its vision of making great products for society. It also pursues continuous improvements of its products and processes to keep pace with shifting market needs, to protect people and environment, and to incrementally improve our core business.

PHP Enka TecTape Hybrid Roving wins AVK Innovation Award

The development of a lightweight car seat with PHP Fibers' Enka TecTape Hybrid Roving has been recognized with the AVK Innovation Award during the Composites Europe Fair 2019, which was supported by the German government.





Trevira Fibers wins Brandenburg Innovation Award

Trevira has been named winner of the "Brandenburg Innovation Award for Plastics and Chemistry 2019" by the Brandenburg Ministry of Economic Affairs for its new flame retardant, UV-resistant polyester yarn.

^{*} Vitality Index: Revenue generated from the sales of products developed during the last five years.





RESPONSIBLE OPERATION

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

Environmental Management

We are committed to effectively managing our environmental stewardship. In 2019, 83% of our total operations have ISO 14001 certifications. All of our investments in initiatives that have a positive environmental impacts undergo a feasibility and financial analysis to ensure that each of our projects are sustainable.



Climate Strategy



Energy



Renewable Energy



GHG



Water



Waste



Recycling



Circular Economy

Climate Strategy









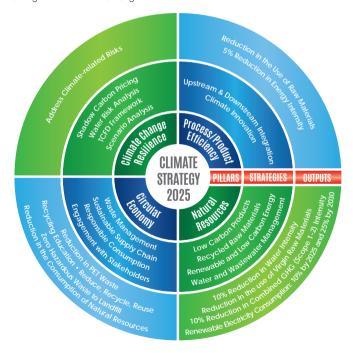






For More Information

Our Climate Strategy 2025 is fully aligned with the global initiatives agreed at the Paris Climate Conference (COP21) towards developing strong low-carbon strategies.



Sensitivity Analysis

At the corporate level, we conduct a sensitivity analysis every six months to ensure sustainability, especially the environmental and social impacts to business operations.



- Scenario Analysis
 using TCFD as guidelines on climate change
- Water Sensitivity Analysis
 using the AQUEDUCT Water Risk tool developed
 by the World Resources Institute (WRI)

Climate Governance





We are applying principles in the World Economic Forum Climate Governance Initiative. It serves as tools to help elevate the strategic climate debate and drive holistic decision-making.



Energy Management











For More Information

In 2019, there were 56 energy efficiency projects which contributed to our operational eco-efficiency.

The increase in absolute energy consumption is due to growth in business operations and acquisition of high energy intensive units. However, we will focus more on energy-efficient alternatives and expand our energy efficiency measures. IVL continues to explore further possibilities to increase use of renewable energy.

Total Energy Consumption



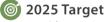


Total Renewable Energy Consumption



Total Renewable Biogas (GJ)

Total Renewable Electricity (GJ)



- 5% reduction in energy intensity
- 10% renewable electricity consumption

© 2030 Target

• 25% renewable electricity consumption

2019 Highlights

- 5% increase in renewable electricity consumption over previous year
- 1.5 million GJ of renewable electricity purchased and generated
- An increase from 3 to 4 sites in 100% renewable electricity consumption and
 1 to 4 sites in solar rooftop PV panels operation
- 52% of all operations certified by ISO 50001

GHG Management











For More Information

We analyze the GHG emissions across our operations globally in accordance with Greenhouse Gas Protocol on Corporate Accounting and Reporting by the WRI/WBCSD and ISO 14064-1:2006 and implement reduction measures.

The increase in absolute GHG emissions is due to the acquisition of high energy intensive entities which led to high emissions.

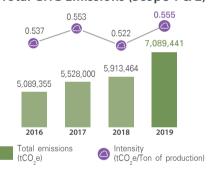
Direct GHG Emissions (Scope 1)



Indirect GHG Emissions (Scope 2)



Total GHG Emissions (Scope 1 & 2)



2019 Highlights

- 6.5% reduction in GHG Scope 2 intensity
- 122,806 tCO₂e saved as a result of renewable electricity



2025 Target

 10% reduction in combined GHG (Scope 1 & 2) intensity



100%

GHG accounting, verification and assurance in accordance with

ISO 14064-1 and ISO 14064-3

Water Management













For More Information

Across our global operations, we make all pragmatic efforts to minimize use of water resources. In 2019 we reduced our water intensity by 4% over previous year. We have been implementing the 3Rs Principle to reduce freshwater withdrawal in most of our operations through waste water treatment plants and rain water harvesting.

Total Water Withdrawal



Water Recycled/Reused*

* Percentage of historical recycled/reused water intensities are restated due to change in calculation methodology.







2019 Highlights

- 2019 water intensity target achieved with
 4% water intensity reduction
- 2.4 million m³ of freshwater saved
- 5.2 million m³ of water recycled/reused, equal to 7.46% of total water withdrawal

© 2025 Target

• 10% reduction in water intensity

* Assessment conducted using the AQUEDUCT Water Risk Tool developed by WRL.

Waste Management













For More Information

Over the years, waste management has been continued to increase our commitment to sustainability.

Post Hazardous Waste to Landfill Audit, we take initiatives to further reduce both hazardous and non-hazardous waste. We are aiming zero hazardous waste to landfill.

2019 Highlight

 Initiated a Hazardous Waste to Landfill Audit

Total Hazardous Waste



Total Waste Generated, Disposed, Reused, Recycled and Recovered























For More Information

2025 Global Commitment

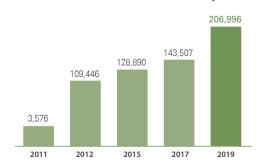
- Recycle 750,000 tons of post-consumer
 PET materials as feedstock into our polyester
 production per year
- Recycle 50 billion bottles per year
- Invest USD 1.5 billion



Recycled around 50 billion PET bottles



Post-Consumer PET Bottles Recycled



Unit: Tons

Circular Economy ()





















For More Information

It is important for us to be able to offer added value to our customers with our product, while protecting the environment in the best possible way. By adopting a more circular economy, this is a key step to help us achieve our aspiration of being a world-class chemical company making great products for society.

DESIGN Recyclina Innovation & • New recycling technologies **Product Stewardship** • Product Design: Lightweighting/ to tackle plastic waste · Recycling commitment high performance • Low carbon product WE SOURCE • Use/Handing/Disposal **RECYCLE PRODUCTION** Collaborating with • Customers/Consumers Suppliers/Partners **Alternative Raw Materials** REC YCL Government bodies Recycled feedstock **CIRCULAR Recycling Awarenesses** · Renewable raw materials **ECONOMY** Customers **Operational Eco-Efficiency** Suppliers/Partners Carbon footprint • Students/Teachers • Energy/Water/Waste ত্তী **COLLECTION** · Renewable resources DISTRIBUTION PEOPLE CONSUN · Life cycle assessment Advocating for Changes in Laws and Regulations Tackling plastic waste concerns **Improving Logistics** by promoting demand for Management recycled plastics • GHG Scope 3 Accounting CONSUMPTION • Increasing consumption for recycled PET







Health, safety and well-being represent our core values. We continuously implement programs for improvements and places the health and safety of our workforce at the forefront of our activities.



We provide fair and equal opportunities for all, without discrimination and build a unique and naturally different corporate culture that respects diversity and foster cooperation and synergies among the group with ensuring the respect of human rights in every context including labor practices.



We engage and maintain strong relationships with community by contributing to long-term and sustainable economic growth and development of the communities where we live and operate.

Occupational Health and Safety





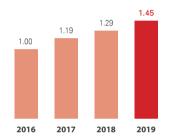




For More Information

Total Recordable Injury Rate: TRIR

(cases/200.000 man-hours)



As of 31 Dec 2019, 70% of our total operations have OHSAS 18001/ISO 45001 occupational health and safety management system certifications in place.

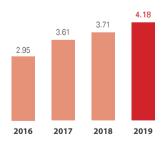
We continued to invest in occupational health and safety training for all our employees. Over 465.800 hours of Health and Safety training were given to our employees and contractors.

TRIR / LTIFR

Our Total Recordable Injury Rate (TRIR) stood at 1.45 and Lost Time Injury Frequency Rate (LTIFR) was at 4.18 in 2019. The increase of TRIR and LTIFR over time is due to the changing mix of acquisitions. Some of the more recent acquisitions have more manpower and require more manual work leading to high injuries.

Lost Time Injury Frequency Rate: LTIFR

(cases/1.000.000 man-hours)





2025 Target

• 10% reduction in Total Recordable Injury Rate

2019 Highlight

• 70% of all operations certified by OHSAS 18001/ISO 45001

Workforce and Diversity



Total Workforce

22,696







For More Information

We live by our values which means creating a valuable workplace proposition. With 22,696 colleagues from 79 nationalities, we are a living entity working together in 32 countries to build trust, learn and grow in addition to delivering.

2019 Highlights

- 17.53% increase of total workforce
- 90.50% retention rate
- 0.3% increase of female employee





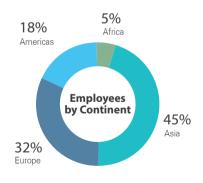
Note: Turnover rates have been recalculated and restated using more stringent definition and methodology.

2019 Achievement • 90.97%

Employee Engagement Score



 Employee engagement score is better than or equal to previous year





Human Capital Management









For More Information

We are also committed to sustainably building IVL's growth culture where employees are inquisitive, inclusive, engaged, and become ambassadors of a great place to work. We created multiple forums, channels, and e-Learning platforms to facilitate experiential learnings.

Average Training Hours

(hours/employee)

33.06

20.7

20.7

2016

2017

2018

2019

2019 Highlights

- 728,206 hours of training
- 8.64% increased of training hours per employee over the previous year
- 170.67 USD training cost per employee
- · Communication launch of the

IVL Leadership Curriculum project to 200 Global Leaders

Operational Excellence Awards



Feedstock Business
Indorama Ventures Portugal PTA,
Portugal



Fibers Business Indorama Polyester Industries Public Company Limited (Nakhon Pathom), Thailand











Packaging Business
Petform (Thailand) Limited,
Lopburi, Thailand



Corporate Citizenship









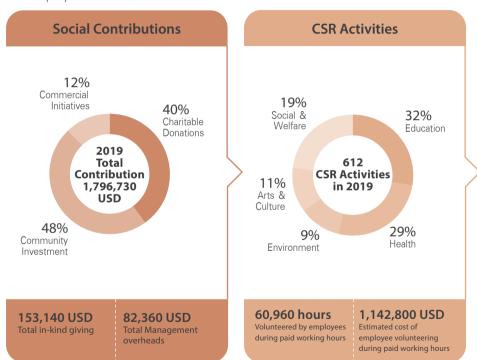






For More Information

We aim to have a positive impact on society and focus on delivering results and value – whether social, environmental or economic – to ensure the company remains sustainable.



Results and Outcomes



Education (Recycling)

- 26 schools/13,149 students/163 teachers
- 560 community people
- 9 organizations (public/government)
- 3,862 donated shirts made from recycled PET bottles



Health (Access)

- 594 medical cases (access provided for physical check-ups, dental care, free transportation to hospitals)
- 114 cleft palate operations performed



Environment (Conservation)

- Wetlands edge environmental center, USA
- The Wadden Sea National Park, Denmark
- Sponsored Asheboro Zoo, USA
- Released Tilapia fish and Probarbus Jullieni
- Conserved of water by tree planting and check dam building
- Collected 400 kg of wastes from cleaning up water sources

Recycling Education











For More Information











We collaborated with the IVL Foundation to raise public awareness concerning plastic waste management and recycling education. We also established a collection network for plastic bottles to monitor participation and changes in behavior, and observed the positive impact from our recycling education program.

In 2019, we made huge progress through the following activity:



Community

560

People

22

Public Events

791

Recycling Bins Donated



6 Provinces

Recycling Talks



26 School Visits

533 Recycling Materials Downloads



124 Articles about Recycling





Teaching Hours

187 Recycling VDO Downloads



Recyclina Factory Visits*



Bottles Back to Factory**

- * Recycling Factory groups visit only in Thailand at Indorama Polyester Industries Public Company Limited (Nakhon Pathom)
- ** Only bottles back to Indorama Polyester Industries Public Company Limited (Nakhon Pathom). Thailand

Summary of IVL's Key Sustainability Ambitions 2025

2025 Global Commitment

- Recycle **750,000 tons** of post-consumer PET materials as feedstock into our polyester production per year
- Recycle 50 billion bottles per year
- Invest USD 1.5 billion

Circular Economy

- Integration the circular economy into IVL Business Operations
- Partnering with organizations to intensify our contribution to the circular economy



Reduction in energy intensity



10% by 2025 25% by 2030

Renewable electricity consumption









Water

10%

Reduction in water intensity



GHG 10%

Reduction in combined GHG (Scope 1 & 2) intensity



Zero Hazardous Waste to Landfill

Implementation of

Sustainable Products Classification

Data Reporting, Verification and Report Assurance

Reported based on the GRI Standards

Reporting 100% **Verification &** Assurance

in accordance with **AA1000AS**

GHG Accounting, 100% Accounting, Verification & Assurance

in accordance with ISO 14064-1 and ISO 14064-3



Sustainability Report 2019



For More Information

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Annual Report 2019



For More Information





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