

Sustainability Report Executive Summary 2017



TO BE A WORLD-CLASS CHEMICAL COMPANY
MAKING GREAT PRODUCTS FOR SOCIETY

INDORAMA
VENTURES
www.indoramaventures.com



IVL Strategy Meet, 2018



Positioned to Achieve Lasting Success

“Our focus will always be on
SUSTAINABILITY
as this remains a core value at IVL.

We will remain true to our roots and committed to building a better society through our sustainable business operations.”

Alope Lohia

Sustainability Governing Structure

Seven Independent Directors, five Executive Directors and two Non-executive Directors

Board of Directors

Three Independent Directors and three Executive Directors

Sustainability & Risk Management Committee (SRMC)

13 senior executives from different functions and businesses

Sustainability Steering Committee (SSC)

Chief Sustainability and Risk Officer

16 sustainability area Champions from different functions and businesses

PET Business

Fibers Business

Feedstock Business

Economic Dimension

Corporate Governance / Risk Management / Innovation Management / Taxation / Supply Chain Management / Customer Relationship Management

Environmental Dimension

Environmental Stewardship / Climate Strategy / Product Stewardship

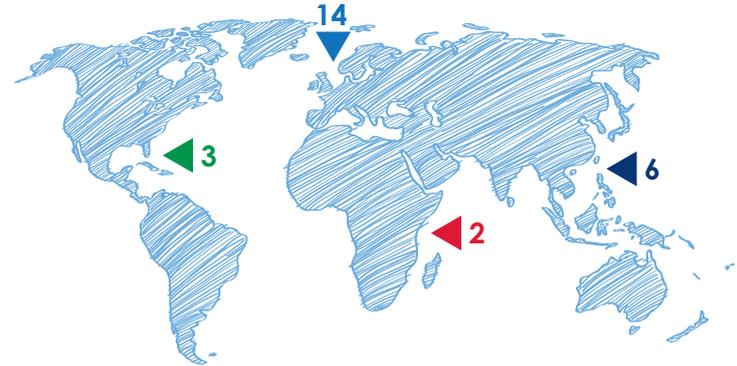
Social Dimension

Human Resources / Occupational, Health & Safety / CSR & CSV

Our Operating Sites



As of Dec' 17



- China
- India
- Indonesia
- Myanmar
- The Philippines
- Thailand

Asia

- Czech Republic
- The Netherlands
- Luxembourg
- Germany
- Denmark
- Lithuania
- Ireland
- UK
- Spain
- Turkey
- Poland
- Portugal
- France
- Italy

Europe

- Canada
- Mexico
- The United States

North America

- Ghana
- Nigeria

Africa

2017 Sustainability Report

Indorama Ventures Sustainability Report 2017



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www.indoramaventures.com

<http://www.indoramaventures.com/storage/sustain/report/en/2017-sustainability-report.pdf>

- In accordance with the **GRI Standards**
- **External assurance verification** of data for 11 environmental and social indicators

Material Topics



- Business Ethics & Integrity
- Corporate Governance
- Innovation Management
- CRM & Supply Chain
- Risk and Crisis Management

Economic



- Environmental Management
- Climate Strategy
- Environmental Compliance
- Product Stewardship

Environmental



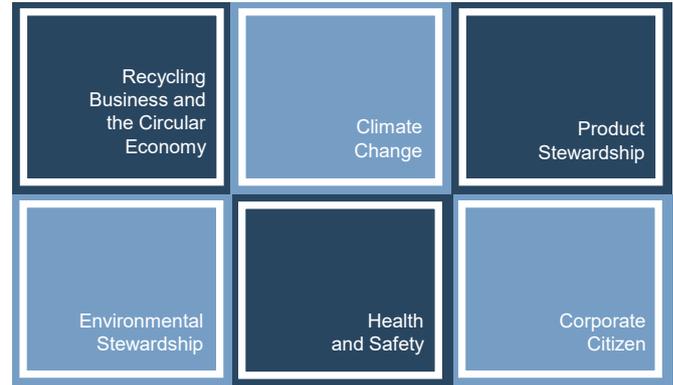
- Health and Safety
- Human Rights
- Human Capital Management

Social

Sustainable Development Goals (SDGs)

We responded by aligning our group-wide strategy with the SDGs in 2016 to ensure that our operations support a plan of action for people, the planet and prosperity to achieve sustainable development. Our material topics are strongly aligned with the SDGs, and in 2017, our contributions further prioritized sustainable development through the SDGs.

We are committed to constructively contributing to the following Sustainable Development Goals:



Materiality Assessment & Stakeholder Engagement 2017 Sustainability Report, p.24 - 31

Extended to external stakeholders and integrated materiality into business strategy



Material Process

1. Engagement with stakeholders
2. Identification of Key Material Issues
3. Reporting and assurance

External Stakeholders – Feedback/Suggestions



“Without integrity, there is no long-term business.”
Director - Global Procurement



“Innovation is key to IVL’s differentiated product portfolio to combat commoditization and provide value to customers.”
Commercial Manager



“IVL should strive to be environmentally responsible in all areas of its business.”
Deputy Head of Research

Reported based on the
**Global Reporting
Initiative
(GRI) Standards**



100%

Reporting
assurance on
plant coverage

Assurance Audit Coverage
**100% of our
production target
achieved**

Three Years ahead
of schedule

Assurance Audit Coverage

- Disclosure 302-1: Energy Consumption within the Organization
- Disclosure 302-3: Energy Intensity
- Disclosure 303-1: Water Withdrawal by Source
- Disclosure 305-1: Direct (Scope 1) GHG Emissions
- Disclosure 305-2: Energy Indirect (Scope 2) GHG Emissions
- Disclosure 305-7: Nitrogen Oxides (NOx) / Sulfide Oxides (SOx) / and other significant air emissions
- Disclosure 306-1: Water Discharge by Quality and Destination
- Disclosure 306-2: Waste by Type and Disposal Method
- Disclosure 306-3: Significant Spills
- Disclosure 403-2: Types of Injury and Rates of Injury, Occupational Diseases, Lost Days, Absenteeism, and the Number of Work-related Fatalities
- Disclosure 404-1: Average hours of training per year per employees

External Recognitions

MEMBER OF

Dow Jones Sustainability Indices

In Collaboration with RobecoSAM



ROBECOSAM
Sustainability Award
Silver Class 2018



ROBECOSAM
Sustainability Award
Industry Mover 2018

RobecoSAM's
Sustainability Yearbook 2018

Bloomberg

Leader in the SET Index:
2017 Bloomberg ESG Disclosure
Scores

- Member of the 2017 DJSI Emerging Markets Chemicals Industry
- Ranked in the top five of all global chemical companies



FTSE4Good

A constituent of:

- The 2017 FTSE4Good ASEAN5 Index
- The 2017 FTSE4Good Emerging Index



- 2017 Climate Change Rating: B
- 2017 Supply Chain Rating: B-



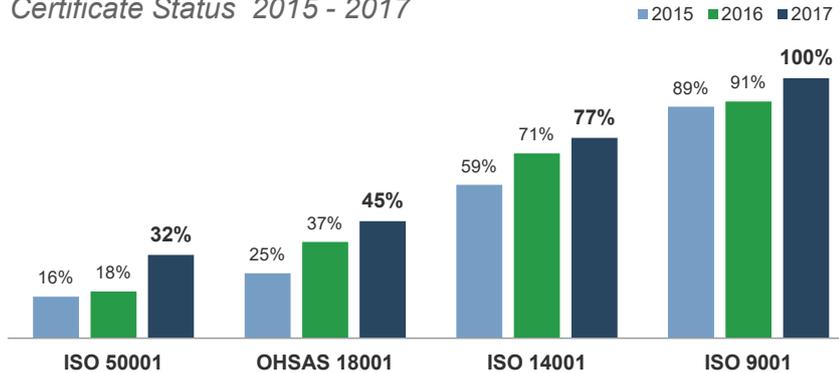
The Stock Exchange of Thailand

- SET Sustainability Awards 2017 – Rising Star
- Thailand Sustainability Investment 2017



Gold Recognition:
Top 3% of suppliers
in all categories

Certificate Status 2015 - 2017



2020 Target

ISO 9001 certification for 100% of operations and ISO 14001, ISO 50001 and OHSAS 18001 (or its equivalent) for 98% of Operations*

We have consistent and organized environmental and social management systems in place, and we aim to continuously improve and achieve excellence in our operations.

Our certifications also mean that we follow the established requirements, specifications, guidelines and characteristics to ensure that we are consistently producing materials, products, processes and services that meet world class standards.

<http://www.indoramaventures.com/en/our-company/iso-related-certifications>

* Applicable to IVL Group sites which have been in operation in IVL Group for at least two years

*We are committed to operating ethically,
transparently and
against bribery and corruption throughout our
global operations*

No penalties in 2017 for material non-compliance with respect to corporate governance regulations



Rated as **#1**
among Thai companies
and **#20** out of 100
multinational corporations
in the **Transparency in
Corporate Reporting**



An **Excellent 5-Star**
CG Score
in the practice of
**Corporate Governance of
Thai Listed Companies**

We do not take any particular political positions.

No direct political donation or contribution was made by IVL or its subsidiaries in 2017



Performance evaluation of the Board by a third-party



Customer Relationship Management

The Customer Satisfaction Survey enables us to understand our customers' needs and their satisfaction with our products. This, in turn, also helps us to foresee our customers' future plans.

In 2017, the Customer Satisfaction Index maintained a consistently high level at 85.46%, even though the number of responses from our global operations was higher than in 2016.

Overall average Customer Satisfaction Index (CSI) scores:

Business Segments	2016 CSI Result	2017 CSI Target	2017 CSI Result	2018 CSI Target
Fibers	82.55%		83.66%	
PET	84.73%		83.49%	
Feedstock	87.64%	Equal to or better than the 2016 Satisfaction Index	87.72%	Equal to or better than the 2017 Satisfaction Index
Wool	86.39%		85.29%	
Packaging	80.40%		82.68%	
IVL Overall	85.60%		85.46%	

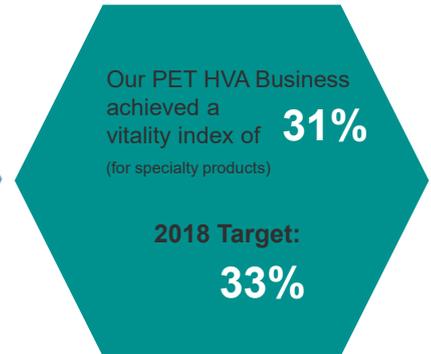
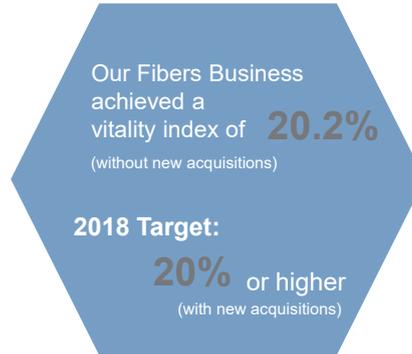
Overall average scores of the Customer Retention Rate (CRR) by percentage of total revenues:

Business Segments	2016 CRR Result	2017 CRR Target	2017 CRR Result	2018 CRR Target
Fibers	72%	≥73%	91%*	≥90%*
PET	97%	≥94%	96%	≥94%
Feedstock	97%	≥80%	70%	≥80%
Wool	90%	≥85%	83%	≥85%
Packaging	95%	≥95%	95%	≥95%
IVL Overall	93%	≥85%	90%	≥91%

* Calculated based on key customers

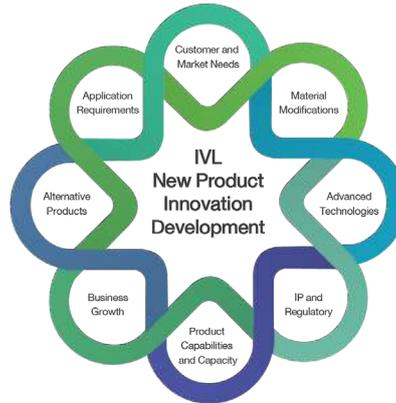


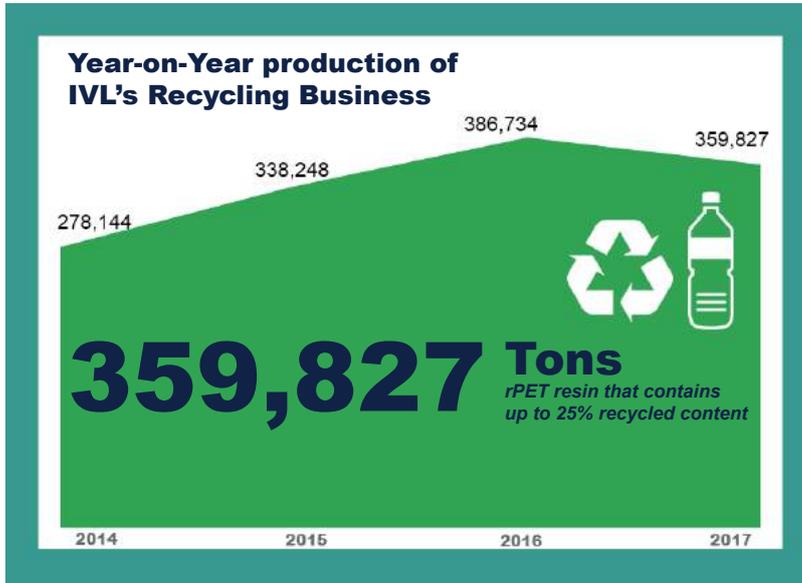
Innovation Management plays an important role in the success of our High Value-Added (HVA) businesses, and has enabled us to become a global leader in an advanced and growing business segment. By being creative, pioneering and imaginative, we can carve out a new niche and remain ahead of our competitors.



Vitality Index: Revenue generated from the sale of products developed during the last five years

At IVL, our focus is on product and process innovations that effectively integrate environmental and social demands. Our HVA business is constantly evolving and continues to face many challenges, including technical and competitive evaluations. To keep pace with rapidly shifting market trends and global challenges, including the SDGs, we choose to leverage our strength through innovation.





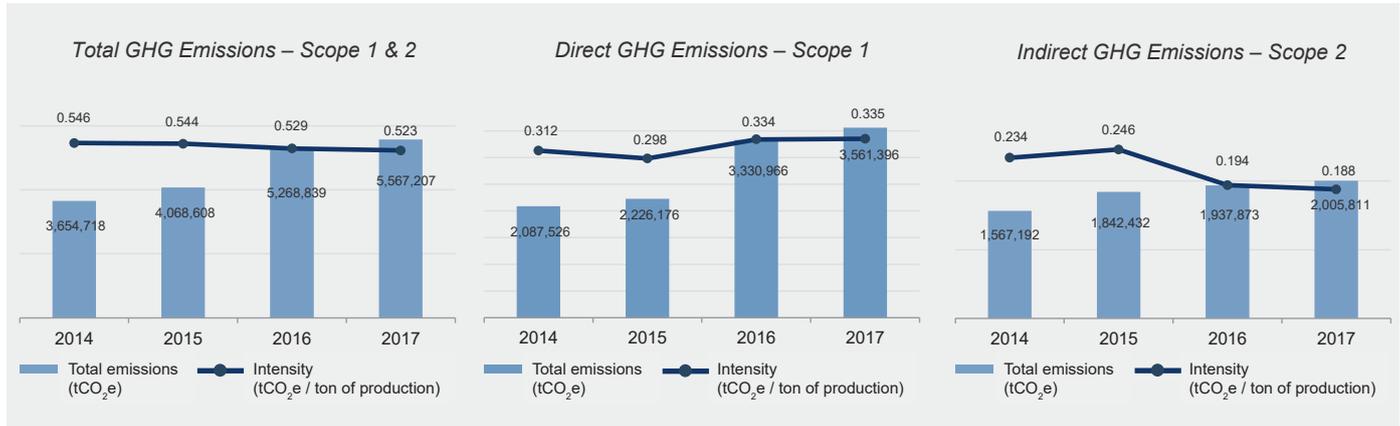
Expanding and improving recycling are important ways to help address climate change. Manufacturing goods from recycled materials typically requires less energy than producing goods from virgin materials. Recycling also helps by saving natural resources, reducing greenhouse gas emissions, and avoiding waste to landfill and water pollution.

Our recycling business has grown from just 4 tons in 2011 to over 350,000 tons in 2017

“PET is recyclable” and manufacturing products from recycled materials saves natural resources.

We are continuously exploring opportunities to expand our recycling business. Our most recent collaboration with Unilever and Ioniga to recycle colored PET bottles into virgin PET is an innovative and important example of our continuous efforts. 

Green House Gas Emissions



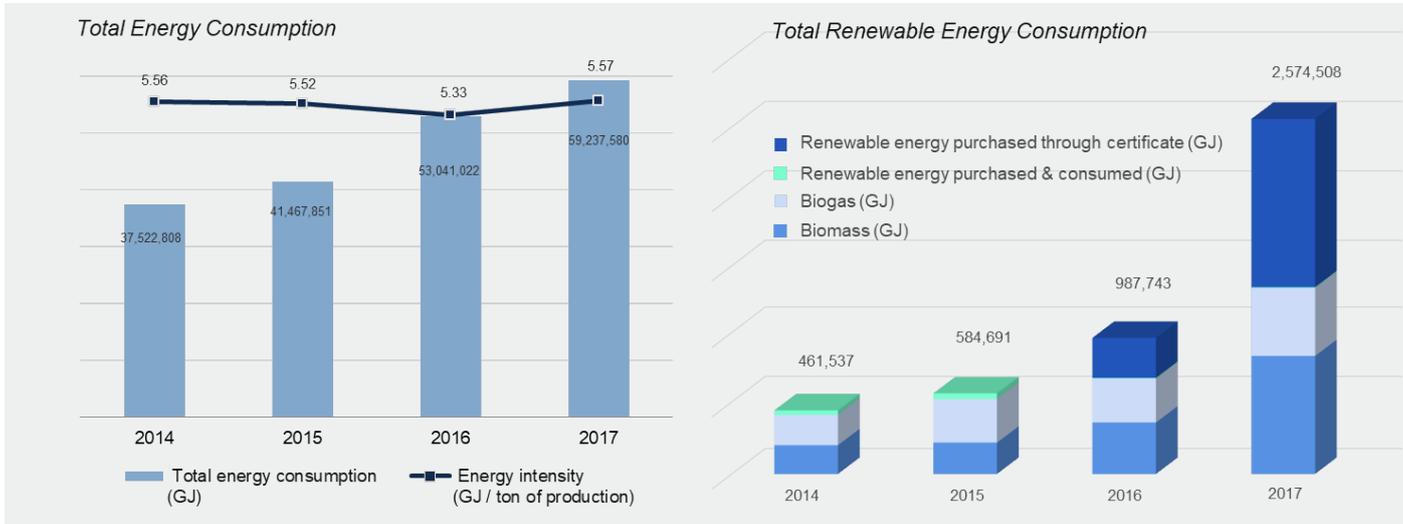
We are committed to proactively managing our environmental footprint and investing in initiatives that have a positive impact.

1.13%
Reduction of combined Scope 1 and 2 emissions over 2016

Year after year, we work to reduce emissions by striving for resource efficiency through process and environmental innovations, and by keeping our production as environmentally-friendly as possible.

2020 Target
6%
Combined Scope 1 & 2 intensity reduction from 2013 levels

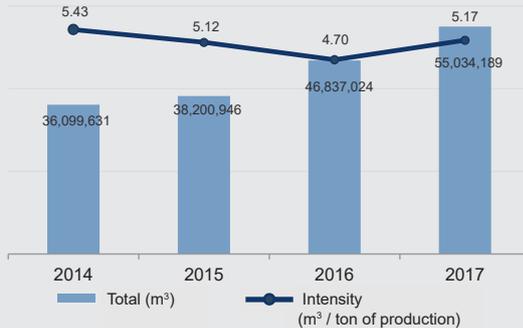
IVL's GHG Scope 1 and 2 emissions have been verified by an external auditor (in accordance with ISO 14064-3)



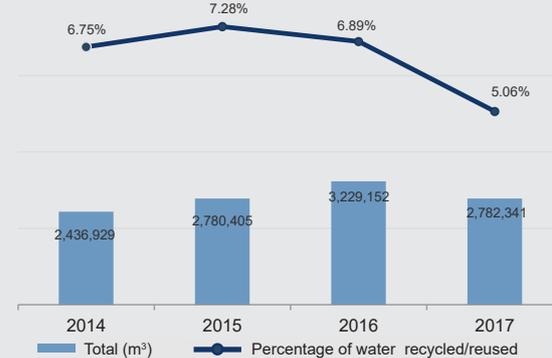
Our focus on energy efficiency has been continuously increasing as this further helps us become more competitive by reducing energy costs while also dealing with climate change. We have been undertaking several energy saving initiatives concurrently.

Two of our plants, namely, Orion Global Pet in Lithuania, Indorama Ventures Quimica in Spain are using 100% renewable electricity. Indorama Holdings in Lopburi, Thailand, has installed a solar power plant to generate green renewable energy for captive consumption. In 2017, OGP reduced its GHG emissions by 65% as compared to 2016 by replacing fossil fuels with biomass.

Water Consumption



Water Recycled & Reused



IVL is committed to sustainable water management (including water withdrawal and discharge) by complying with all applicable environmental laws, international standards, and regulations in countries where we have operations, and will be proactive in demonstrating leadership and responsibility in-line with our values.

We are conscious of our responsibilities. Our vision is to produce great products for society through the effective use of natural resources, and by adhering to top-class industry best practices. For these reasons, water was identified as one of the material topics in our 2017 materiality assessment, and we adopted a global water management policy and strategy.

2018 Target

To maintain or reduce water intensity from the previous year



While our products are not harmful, we are committed to reducing the environmental impact and toxicity in our raw materials, processes and products.

Our Company Product Stewardship encompasses three sets of procedures – product safety, process toxicity, and eco-impact including end-of-life disposal.

It enables us to identify the product stages to further improve their design, manufacture, raw materials, transportation, and value chain to lower their eventual impact on the environment. This also applies to our operations and our value chain, both upstream and downstream.

Product Toxicity

We continue to lower product toxicity by:

- Ensuring compliance of products as used by customers or end consumers
- Lowering toxicity impacts during the manufacturing process
- Avoiding emissions in manufacturing at customer sites

Life Cycle Assessment

Life Cycle Assessments (LCAs) provide an important framework and method for identifying and evaluating environmental impacts associated with the complete life cycle of our products, for example, from raw material extraction to product disposal. LCAs also help us in differentiating our products from those of our competitors. In 2017, we completed LCAs at our plants in Asia and some plants in the United States in accordance with ISO14040/44:2006. We plan to extend LCAs to the rest of our operations in 2018 with completion expected in 2019.

**Over 70%
of our
total production**

**is covered by LCAs and we
are targeting over 95%
coverage by 2020**



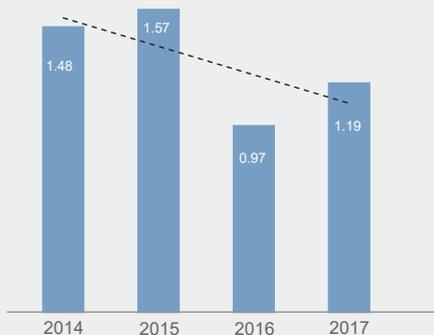
In 2017, we continued to invest in occupational health and safety training for all our employees. This investment has resulted in the improved health and safety of our employees through increased awareness and a higher near-miss incident reporting rate of 1,007 in 2017 from 732 in 2016.

However, the total recordable injuries and lost time injuries increased in 2017 from 2016 due to the higher number of accidents at certain sites that were acquired in 2017, and which are labor intensive. Enhancing our safety culture and practices at these sites will be a key focus in 2018.

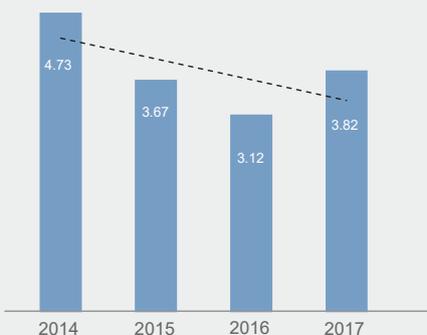
Near Miss

	2016	2017
Employees	650	885
Male	582	749
Female	68	136
Contractor	82	100
Male	73	92
Female	9	8

*Total Recordable Injury Rate (TRIR)
(cases / 200,000 man hours)*



*Lost Time Injury Frequency Rate (LTIFR)
(cases / 1,000,000 man hours)*



2018 Target

**2% reduction of TRIR and LTIFR
over the previous year**

Passionate global employees with multi-cultural backgrounds, different mindsets and languages provide us with the intellectual diversity that helps in converting challenges into opportunities. To ensure the sustainability of our international team, we focus on meaningful investments in our employees to further develop their skills, knowledge and experiences.



88 Disabled employees



14,525 Permanent employees



Asia **55.3%**

North America **16.6%**



22.21%

Europe **27.1%**

Africa **1%**

Employee Attrition



Asia's Best Employer Brand Awards 2017

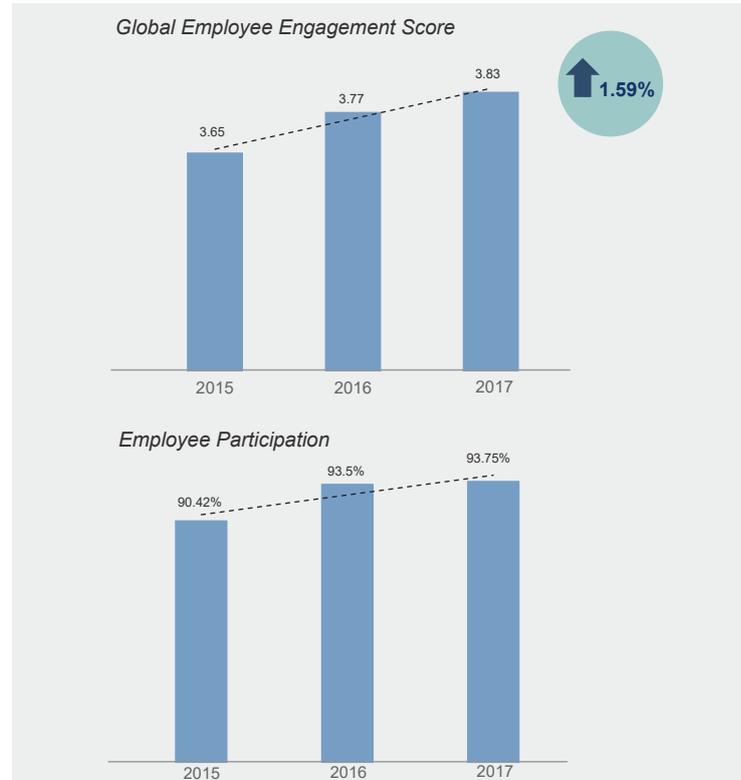
Our values are center stage throughout the employee lifecycle and reflected in improving employee engagement and retention with insights gathered from various channels. The resulting employee value proposition has helped us to win "Asia's Best Employer Brand Awards 2017" granted by the Employer Branding Institute of India.



In 2017, we witnessed a considerable improvement in the average engagement score at 3.83 compared to 3.77 in 2016. This increase can be attributed to more effective engagement interventions which were designed and rolled-out based on data analytics and which took into account multiple parameters.

Some of the initiatives that drive our engagement interventions are:

- Enhancing employee communication
- Recognition of employees
- Focused training & development



Operational Excellence Awards

Operational Excellence Awards were introduced in 2017 to recognize the efforts of a unit team within a business segment. There are 12 common criteria for the awards which focus on finance, operations and sustainability.

The best business units of the respective 4 business segments were awarded and facilitated by our Chairman and Vice Chairman in the presence of IVL's global leaders at the Annual Global Strategy Meet held in Bangkok.



Feedstock Business

Indorama Ventures Xylenes & PTA LLC, USA



Fibers Business

Wellman International Ltd., Ireland



PET Business

UAB Orion Global Pet, Lithuania



Packaging Business

*Indorama Ventures Packaging (Philippines)
Corporation., Philippines*

We continued to invest in our people by providing access to a modern workplace, development opportunities and an inspirational culture. In 2017, we invested USD 314.12 per employee in training and development. The average training hours per employee in 2017 increased to 22.71 hours compared to 19.7 hours in 2016.

Our experiential learning framework is based on the 3E framework of Experience, Education and Exposure embedded with the 70:20:10 rule (70% learning on the job, 20% from coaching, mentoring and observing others and 10% from formal training interventions).



Global Leadership Development Program

IVLDP, our global leadership development program was focused to built future leaders where 130 executives were exposed to self assessment and businesses assessment tools. Later it was put to next level program called i-Lead, which is designed to creating a culture of experiential learning for future leaders. The program is led by GCEO himself.



“Shadow” and “Talent” Development Program

This program teaches practical subjects with relevant hands-on experience that promotes learning as a way of life in management. A total of 28 employees selected for their high potential are being trained as the next generation of managers and participated in a specially-designed program in 2017.



Lean Six Sigma (LSS) Program

In 2017, 927 employees attended LSS programs and undertook 145 projects. Over 30,500 Six Sigma training hours have been spent from 2012 to 2017, yielding over USD 26 million in savings for the Company.



Training hours per employee **22.71** hours



Training expenditure per employee **USD 314**

Human Rights Assessments conducted throughout our supply chain



Workplace Human Rights Assessment

Human Rights in our business value chain



*Human Rights Risk Propensity



Human Rights in our supply chain

Suppliers

The supplier evaluation process involves a systematic and harmonized approach requesting that they:

- Acknowledge the Supplier Code of Conduct
- Respond to a self-assessment questionnaire

Customers, business partners and competitors

We respect the privacy of our customers and other business partners as mentioned in our Policy on Treatment of Shareholders; Policy on Treatment of Customers; Business Partners and Competitors Policy; and Trading Partners and Creditor Policy.



We continue to support communities in the spirit of good corporate citizenship. We believe that our three key CSR themes are fundamental in creating and nurturing a clean environment, improving the quality of life in communities and contributing to sustainable living.

Our CSR activities are aligned with the UN's Sustainable Development Goals (SDGs) covering education, health and the environment, and we look to sponsor activities which reflect the needs of individual communities in areas such as social development and the arts.



Contacts and Feedback



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