



2016 Sustainability Report Executive Summary



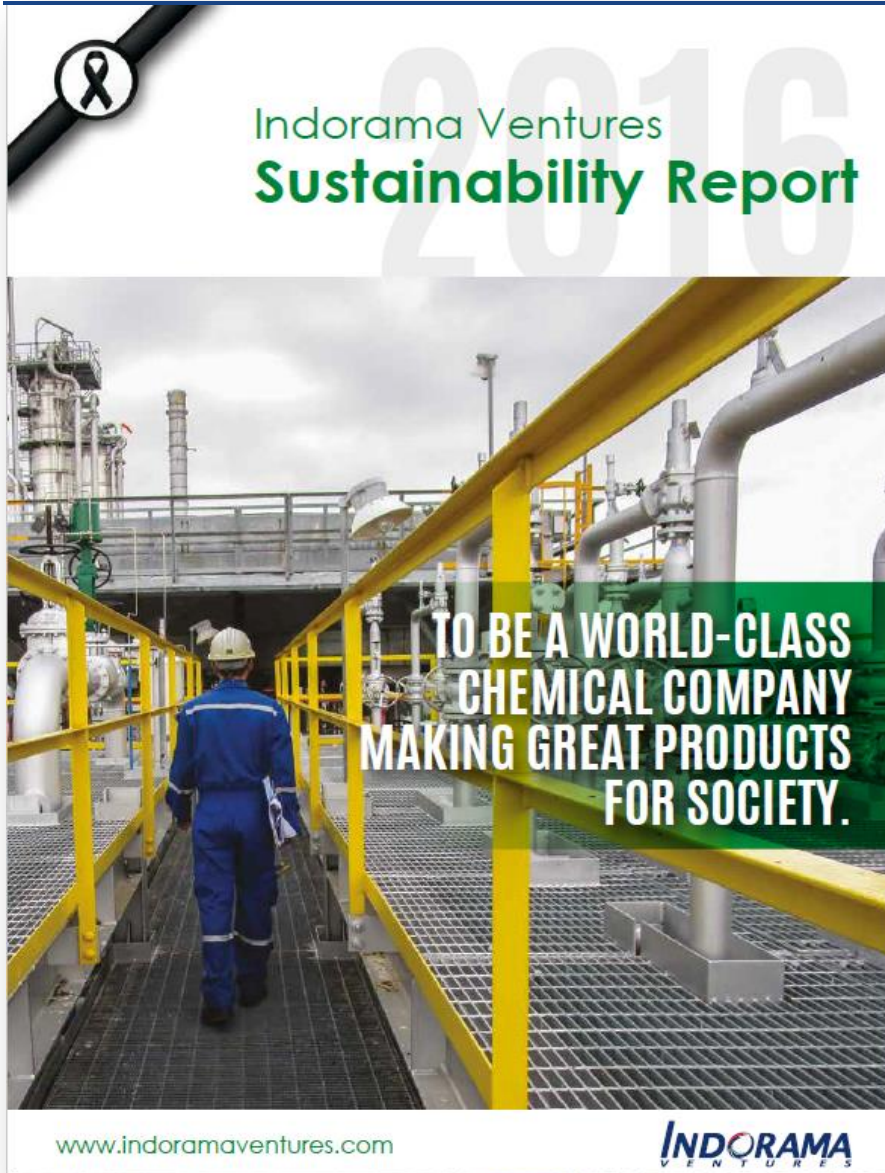
Group CEO Message



**“ Indorama Ventures
has set out a clear vision
that embeds environmental
preservation and
sustainability
into our business culture,
day-to-day operations and
long-term business strategy ”**

Aloke Lohia

2016 Sustainability Report



- In accordance with the [GRI:G4 Guidelines](#)
- Data verification of nine environmental and social indicators by an [external assurance](#)

Materiality Issues

Material Economic Issues

- Business Ethics & Integrity
- Regulatory Compliance
- Corporate Governance
- Innovation Management

Material Environmental Issues

- Environmental Management
- Environmental Compliance
- Product Stewardship

Material Social Issues

- Health and Safety
- Human Rights
- Human Capital Management

Materiality Assessment & Stakeholder Engagement

- Extended to more external stakeholders & integrated materiality into business strategy



Internal Stakeholders
(75)

Suppliers
(5)

Investors
(3)

Customers
(6)

Bankers
(3)



External Stakeholders

Media
(2)



Material Process

1. Material Issues Identification
2. Engagement with stakeholder
3. Materiality Identification
4. Materiality Prioritization
5. Assurance and Reporting

External Stakeholders – Feedback/Suggestions



“As a brand owner, we are interested in increasing use of recycled materials.”

Director - Global Procurement , PepsiCo



“CG policies and practices provide insight into IVL's leadership, integrity and best corporate practices.”

VP Global & Emerging Market Equities, AGF Investments



“Risk management is increasingly critical to not only business survival, but also to company's growth and sustainability.”

Deputy Head of Research, CIMB Security Thailand

Data Verification & Report Assurance

- Standardized Environmental and Social Data for Sustainability Report

External Assurance Audit Coverage

2015 Report

20 Sites

=

40% Production Capacity

2016 Report

↑ 22 Sites

=

↑ 50% Production Capacity

2020 Target

All Sites

=

100% Production Capacity

22 sites

7 sites in
Thailand



15
overseas
sites



GRI G4 – 9 Indicators

G4 – EN3 Energy Consumption within the organization

G4 – EN8 Water Withdrawal by Source

G4 – EN15 Direct green house gas (GHG) emissions (Scope1)

G4 – EN16 Indirect green house gas (GHG) emissions (Scope2)

G4 – EN21 NOx, SOx and VOCs

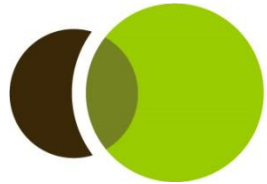
G4 – EN22 Total Water discharge by quality and destination

G4 – EN23 Total weight of waste by type and disposal method

G4 – LA6 Types and rates of injuries, occupational diseases, lost days, absenteeism, work-related fatalities

G4 – LA9 Average hours of training per year per employee

Sustainability Performance



ROBECOSAM
Sustainability Award
Bronze Class 2017

Bronze Class:
RobecoSAM's Sustainability Yearbook 2017

Bloomberg

Leading in SET Index:
Bloomberg ESG Disclosure Scores

IVL Percentile Rank vs.
DJSI World Chemical Companies



FTSE4Good

A constituent of:
the FTSE4Good ASEAN5 Index and
the FTSE4Good Emerging Index



#1 Thai MNC:
Transparency in Corporate Reporting



Climate Change Rating - B



MSCI ESG Rating - B

EcoVadis

Gold Recognition:
Top 5% performers evaluated by EcoVadis

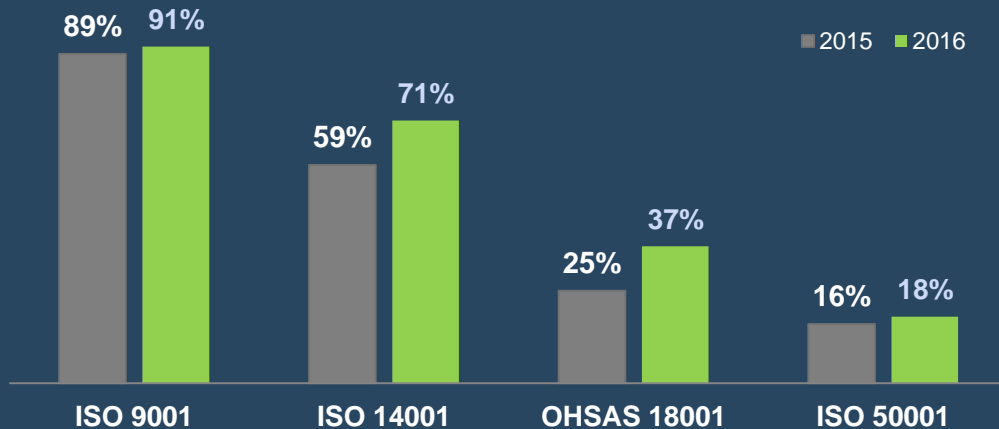
Global Certification

• **Certificate status**
(as of Dec' 16)



- ISO 9001: Quality Management System
- ISO 14001 Environmental Management System
- ISO 50001: Energy Management System
- OHSAS 18001: Occupational Health & Safety System
- ISO 14064 – 1: Quantification and reporting of GHG emissions
- ISO 22000: Food Safety Management

ISO Certification status: 2015 vs 2016

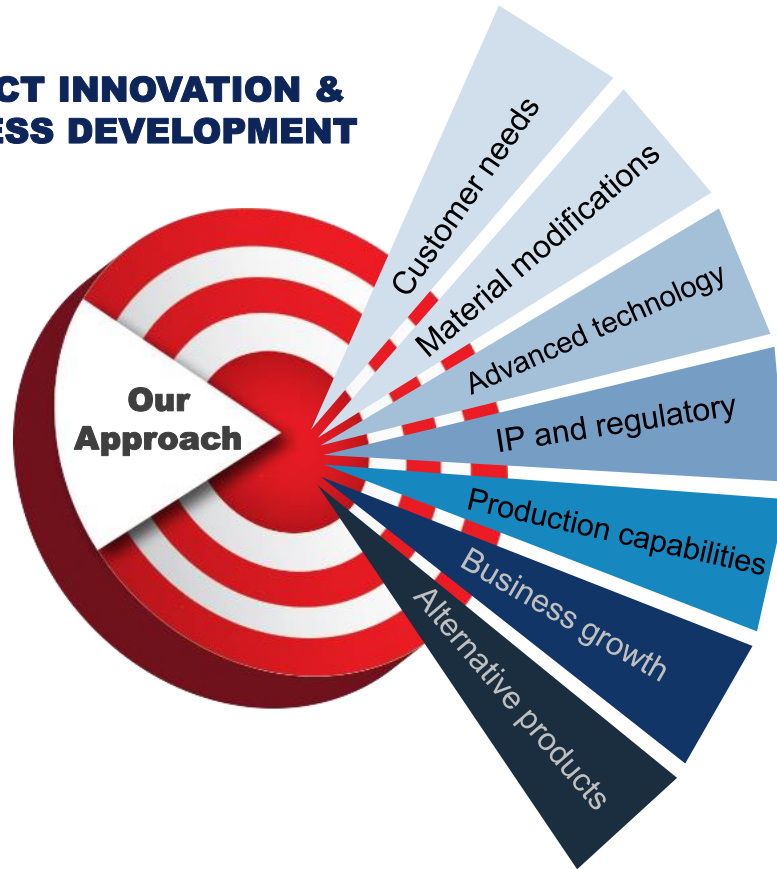


Other Global standards:

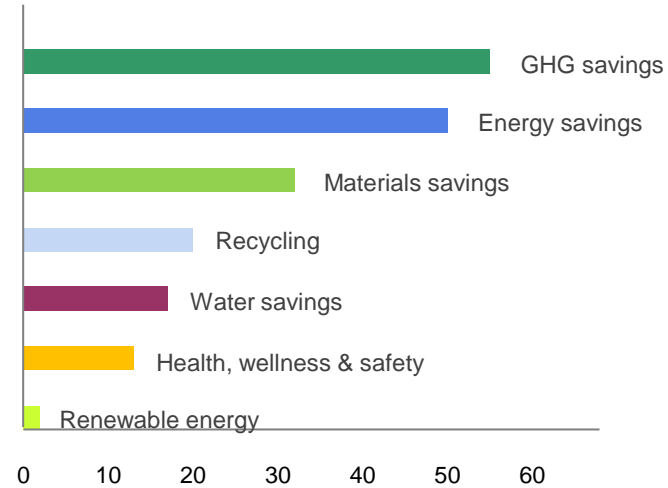
- REACH:
The European Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals
- OEKO – TEX Standard:
Standard for textiles products
- EuCertPlast:
European Plastics Recyclers
- EMAS:
Environmental Monitoring and Assessment
- ISO/TS 16949:
Quality management system requirements for automotive related products
- SA 8000:
Social Accountability International Standard

Innovation Management

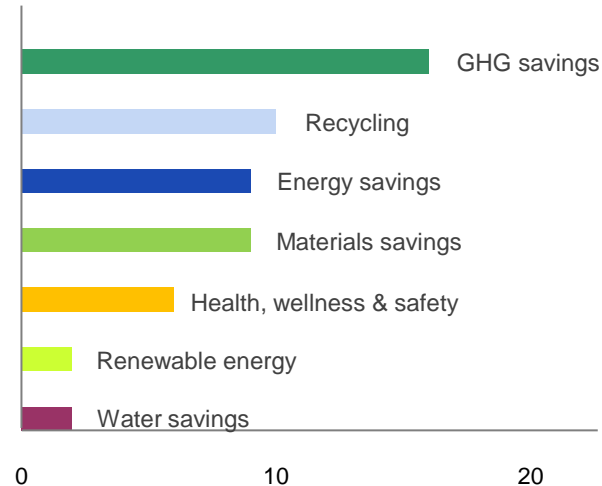
PRODUCT INNOVATION & BUSINESS DEVELOPMENT



Process innovation environmental attributes, 2016



Environmental product innovation attributes, 2013 to 2016



Achievements in 2016

IVL's Fibers Business achieved a vitality index of **22.2%**
(as against 21.6% in 2015)

Customer Relationship Management



Customer satisfaction measurement and performance

Business Segment	2016 CSI *	CSI Target for 2017	2016 CRR ** by Revenue (%)	CRR by Revenue Target for 2017
Fibers	83	Equal to or better than 2016 CSI	72	≥ 73
PET	85		97	≥ 94
Feedstock	88		97	≥ 80
Wool	86		90	≥ 85
Packaging	80		95	≥ 95
Total IVL	86		93	≥ 85

* Customer Satisfaction Index ** Customer Retention Rate

Highlights and achievements in 2016

Customer satisfaction measurement covered **100%** of operations

- Customer satisfaction survey standardization
- Net Promoter Score (NPS) calculation

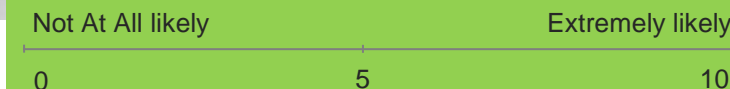
Net Promoter Score (NPS)

Promoters	Passives	Detractors	NPS
48%	41.80%	10.2%	38

(NPS) = % Promoters - % Detractors

0 – 6: Detractors 7 – 8: Passives 9 – 10: Promoters

Q: How likely is it that you would recommend us as a supplier?



Recycling Business

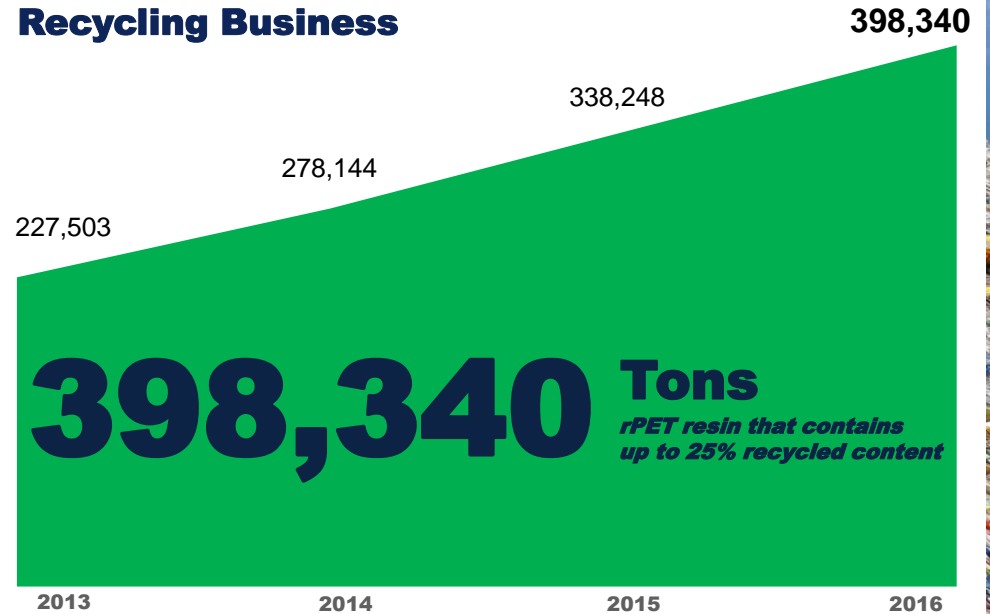
From 2011 to 2016

Approximately
500,000 tons
of PET waste
saved from landfills

Over
156,000 tons
of CO₂ reduced
from recycling



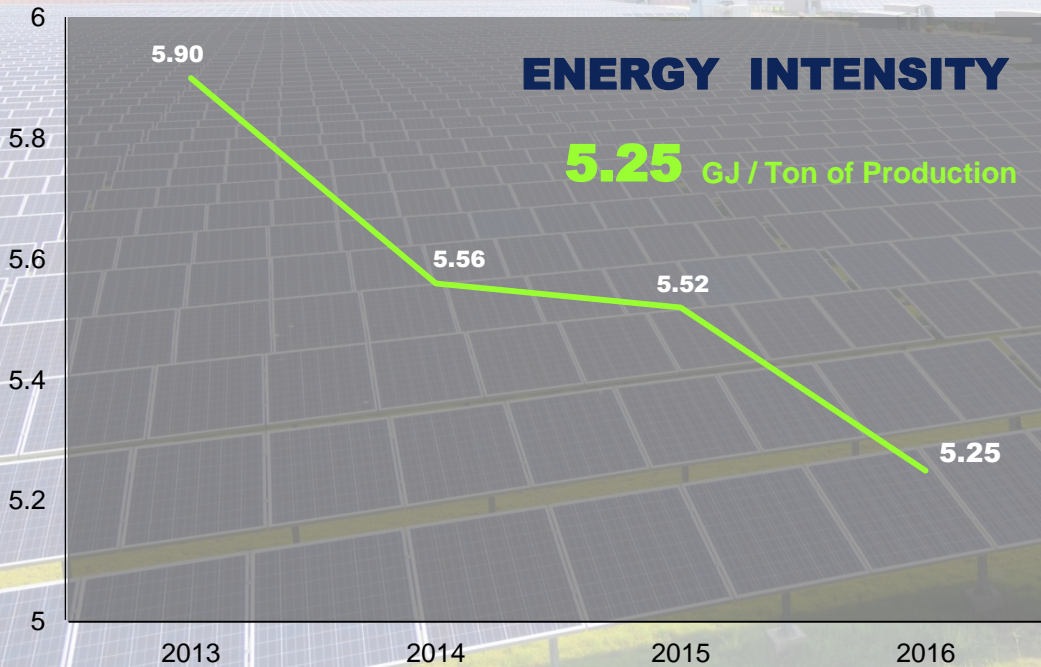
Year-on-Year growth of IVL's
Recycling Business



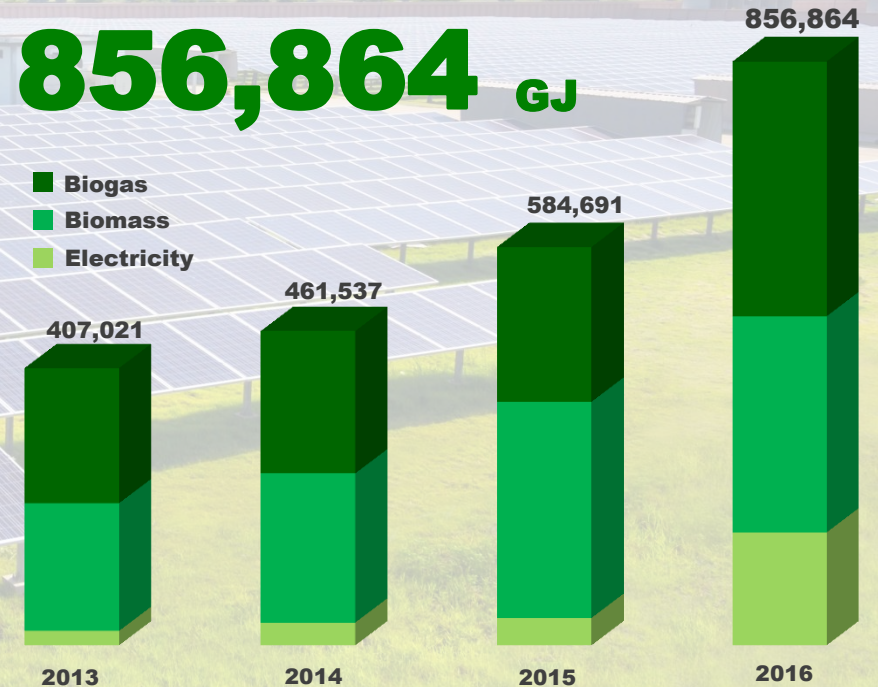
Energy

Energy Consumption

	2013	2014	2015	2016
Total energy consumption (million GJ)	33.2	37.5	41.4	52.2
Renewable energy intensity (GJ / Ton of Production)	0.09	0.08	0.10	0.13



Year-on-year increase in
RENEWABLE ENERGY
usage in IVL operations

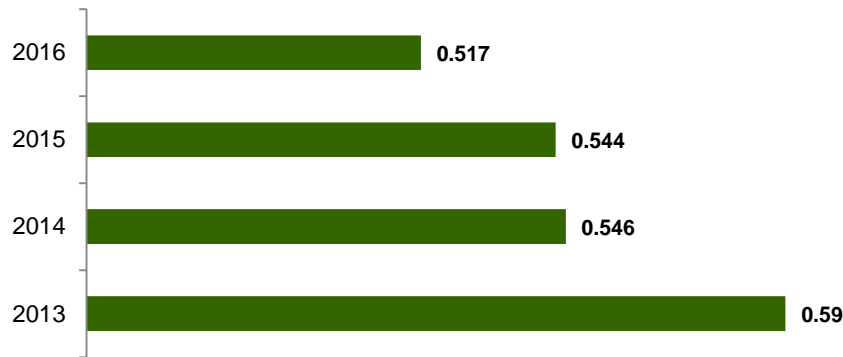


Green House Gas (GHG) Emissions

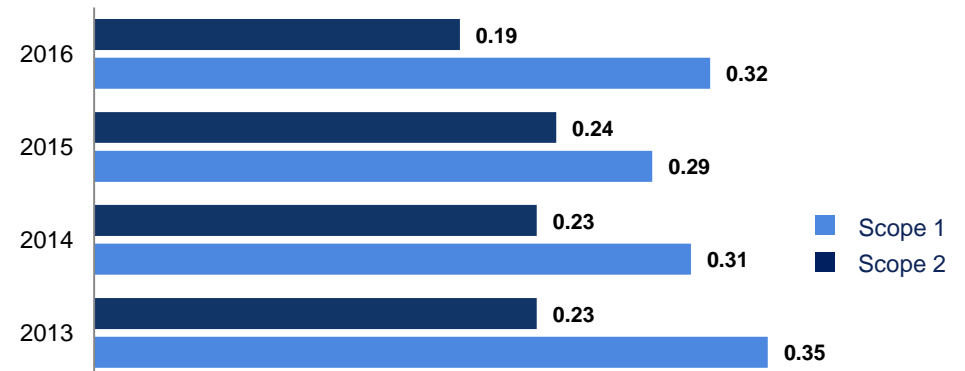
Disclosed and verified **100%** of GHG scope 1 and 2 emissions

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

Total GHG Emissions Intensity
(tCO₂e/ton of production)



GHG Scope 1 & 2 Emissions Intensity
(tCO₂e/ton of production)



IVL's GHG Targets



6% Reduction of Combined scope 1 & 2 by 2020



100% Disclosure of scope 3 by 2020 (selected criteria)



Committed to Science Based target (SBTi)

Scope 1:

From sources owned or controlled by a company



- Stationary and mobile combustion
- Wastewater emissions
- Refrigerants / HFC / CFC
- Company owned vehicles

Scope 2:

From electricity, heat, or steam purchased by a company



- Purchased electricity
- Purchased heating and cooling
- Purchased steam

Scope 3 (Target):

From sources not owned or directly controlled by but related a company



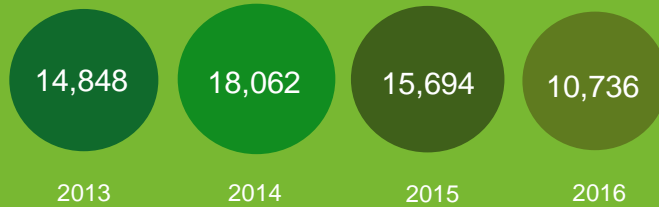
- Purchased Goods and Services
- Upstream and Downstream Transportation and Distribution
- Wasted Generated in Operations
- Business Travel
- Employee Commuting

Renewable Resources



Use of Bio MEG

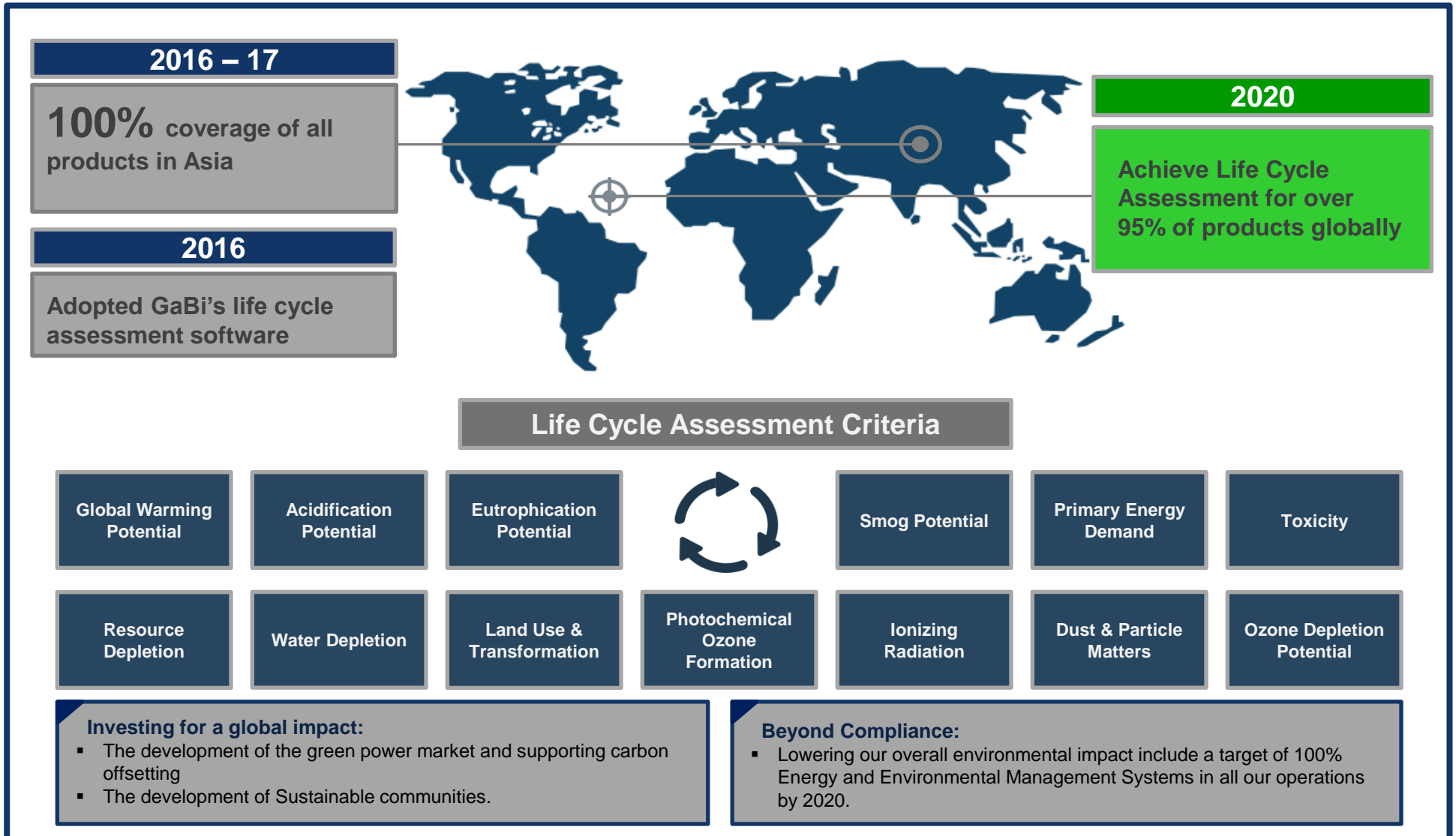
59,340 tons
from 2013 - 2016



Over **26,000** tons of
Poly Lactic Acid (PLA)
have been produced from 2012 - 2016

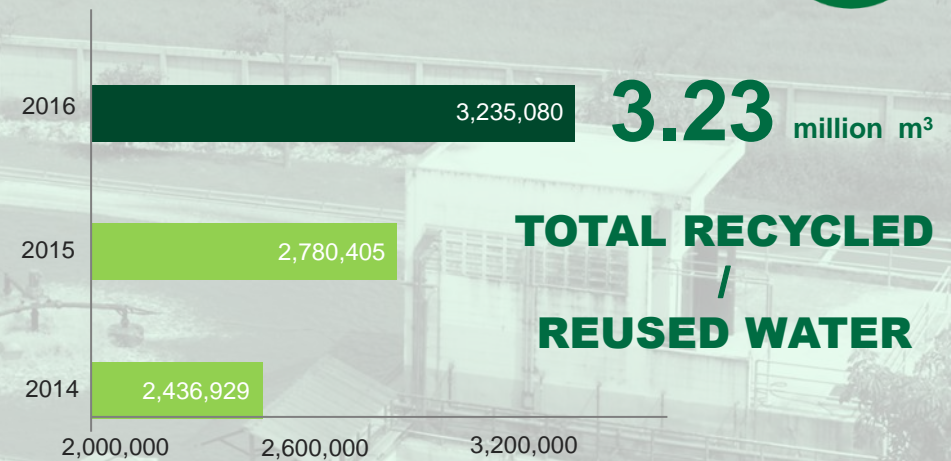
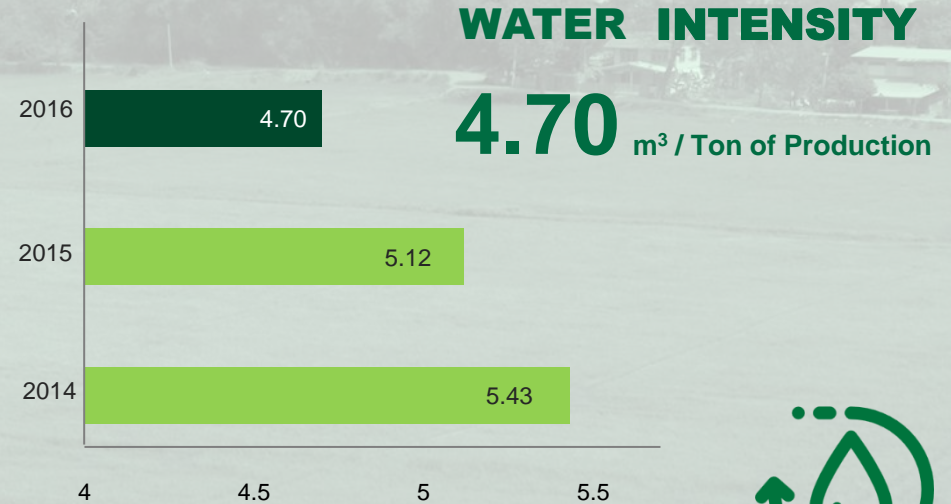
Reducing our carbon footprint
by over **40,000** tons
 

Life Cycle Assessment (LCA) – Cradle to Factory Gate

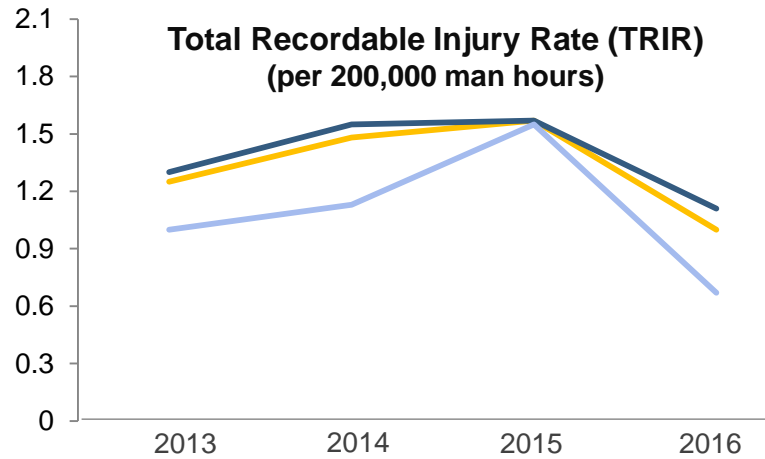


Water Management

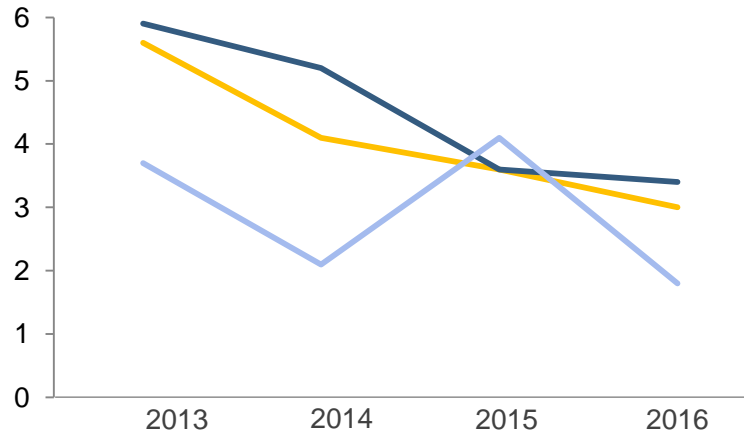
	2014	2015	2016
Total water intake (million m ³)	36.09	38.20	46.83
Water recycled / reused water (%)	6.75	7.28	6.90



Occupational Health & Safety



Lost Time Injury Frequency Rate (LTIFR) (per million man hours)



— Total (Contractor + Employee)
— Employee — Contractor

No fatalities

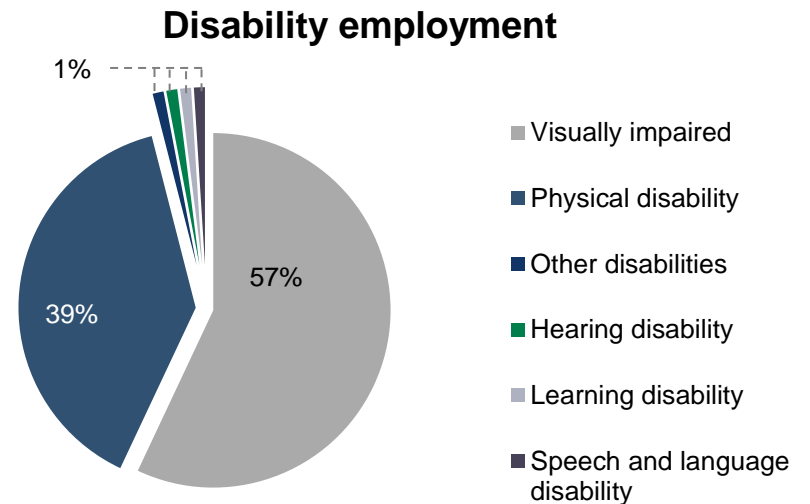
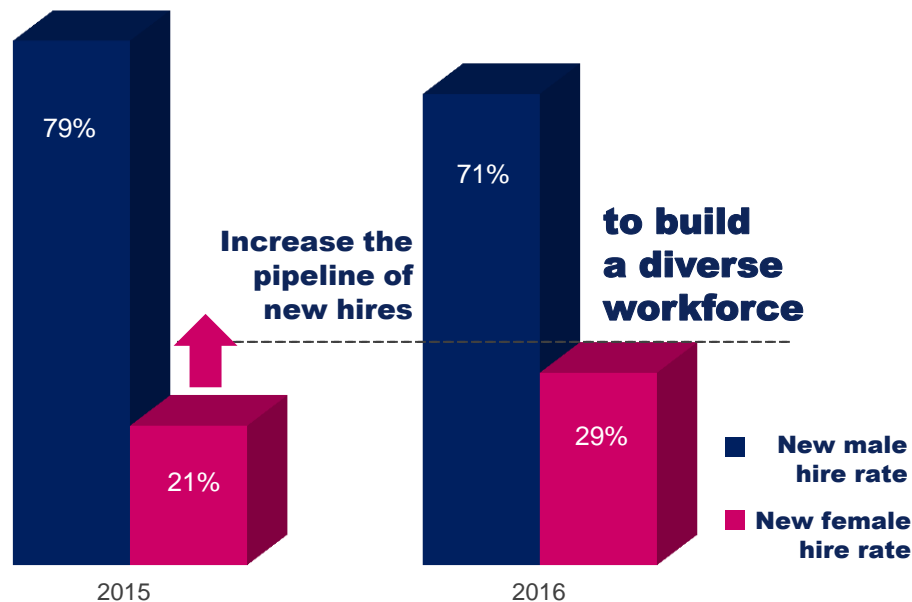
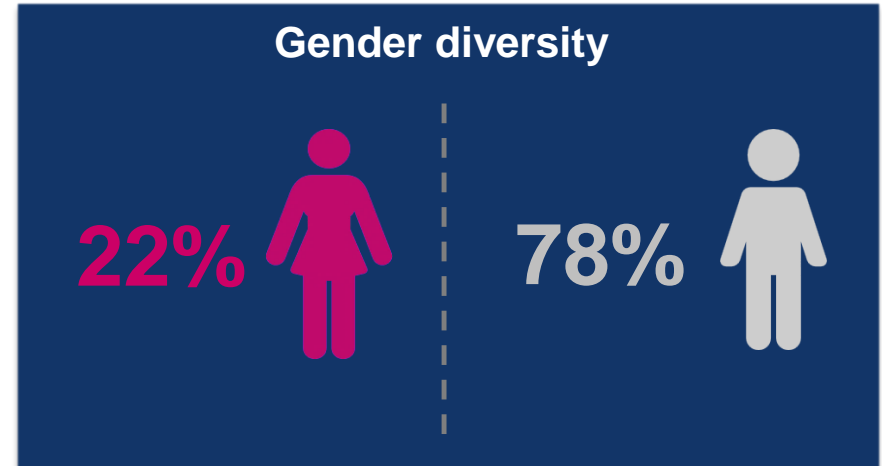
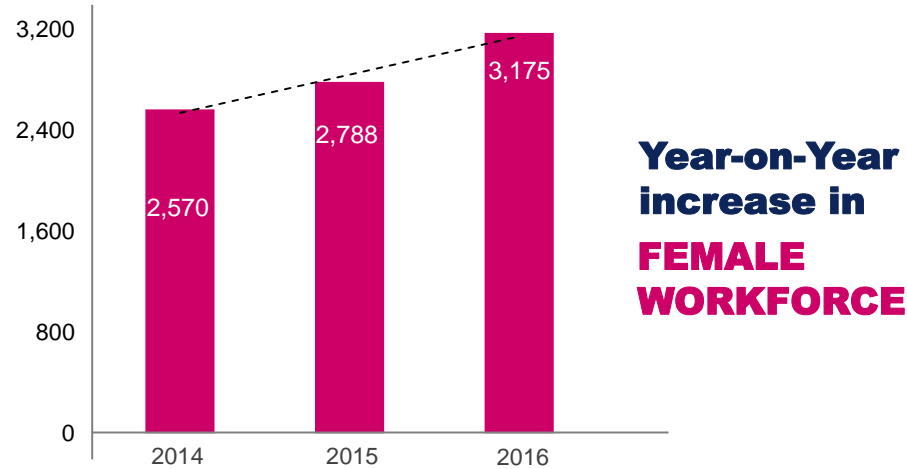
at IVL's entire operations from 2012 - 2016



Zero recordable injuries

at 28 plants in 2016 representing
45% of total entities of the Company
as against 29% of total entities in 2015

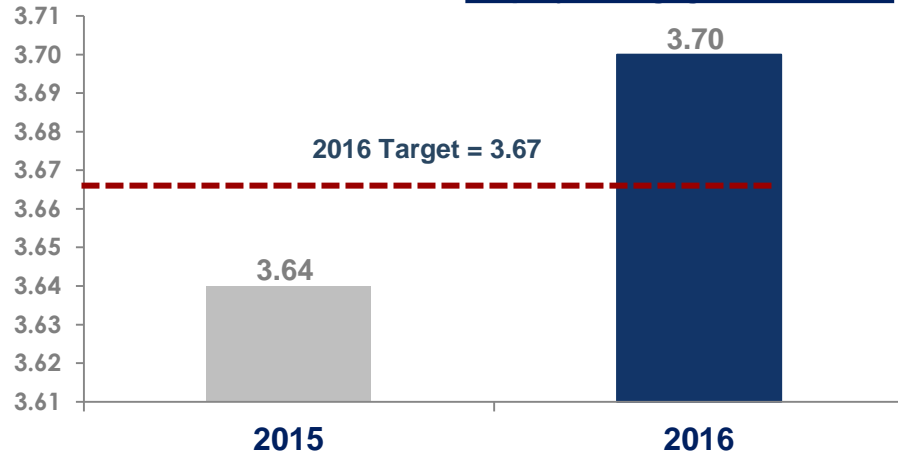
Diversity






Global Employee Engagement

- Carried out Global Employee Engagement Survey

Employee Engagement Scores



-  Exceeded 2016 Target
-  93% of employees participated
-  1.65 % engagement score increase compared to 2015

Human Rights Assessment

- Conducted Human Rights Assessment throughout our supply chain



Workplace Human Rights Assessment



Carried out globally in 21 countries covering 100% of operations

WHRA Process

Measure

Assess

Mitigate

Outcome: Areas for Improvement

- Safety & Security
- Freedom of Association
- Workplace Environment



Supplier Evaluation Process

Acknowledge the Supplier Code of Conduct

Respond to Self - Assessment

2014

Extended to 100% of Raw Material and critical non – Raw material suppliers

2016

Applied to all new Raw Material and critical non – Raw material suppliers

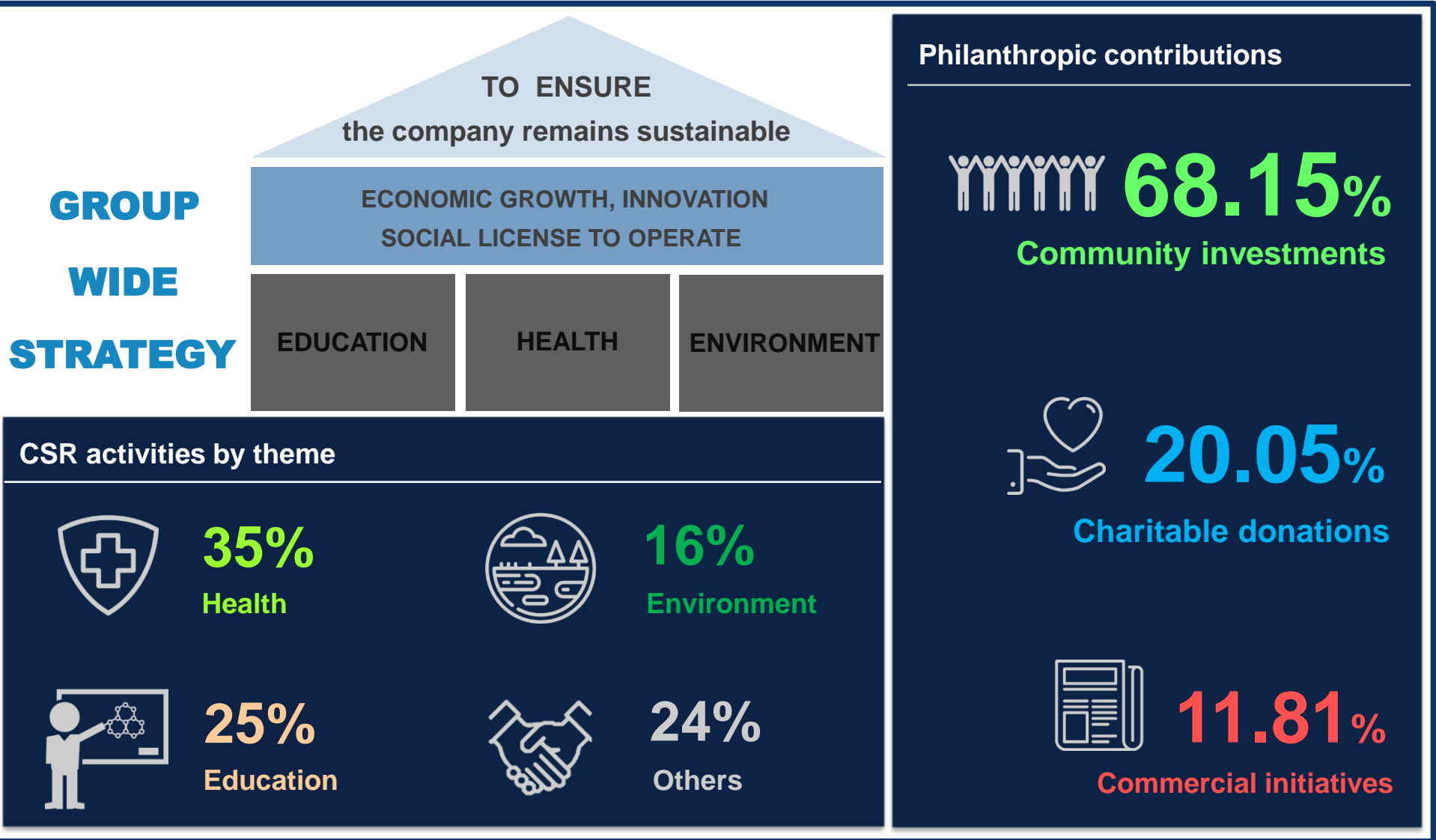


Customer, Business Partners and Competitors



“ Any customers, business partners & other parties with concerns regarding the human rights impact of IVL’s activities may utilize the channels established in accordance with the Human Rights Policy “

Corporate Citizenship



Contacts and Feedback



RICHARD JONES

Head – Investor Relations and Corporate Communications

+662 661 6661 ext. 680

richard.j@indorama.net

HARSHA V REDDY

Joint Vice President – Head of Global Sustainability

+662 661 6661 ext. 605

harsha.r@indorama.net

AVINASH CHANDRA

Vice President – EHS Head Corporate

+662 661 6661 ext. 184

avinash.c@indorama.net



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http://www.indoramaventures.com/EN/CSRresponsibility/pdf/sustainability_report_2016.pdf



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