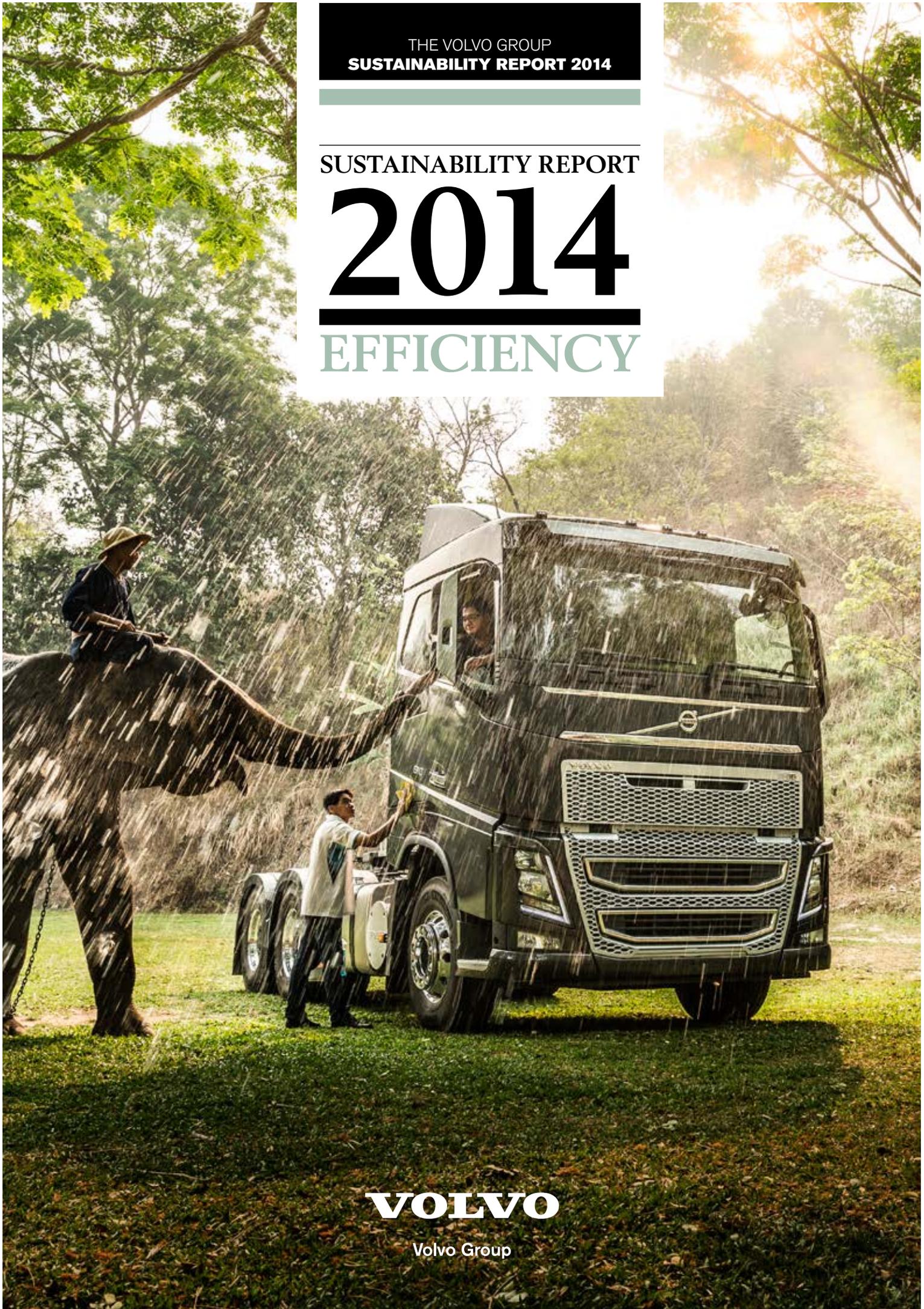


THE VOLVO GROUP  
SUSTAINABILITY REPORT 2014

SUSTAINABILITY REPORT

2014

EFFICIENCY



**VOLVO**

Volvo Group

# Contents

|                           |          |
|---------------------------|----------|
| <b>STRATEGIC APPROACH</b> | <b>4</b> |
| CEO interview             | 5        |
| About the Volvo Group     | 7        |
| Strategic efficiency      | 9        |
| Our vision                | 10       |
| Sustainability approach   | 11       |
| Global context            | 12       |
| Materiality               | 14       |
| Stakeholder engagement    | 17       |
| Sustainability goals      | 18       |

|  |           |
|--|-----------|
| <b>SUSTAINABLE TRANSPORT SOLUTIONS</b> | <b>21</b> |
| Leaner and cleaner solutions           | 22        |
| Energy efficiency                      | 23        |
| Electromobility and hybrid solutions   | 23        |
| Alternative and renewable fuels        | 26        |
| Safer solutions                        | 28        |
| Vehicle safety                         | 29        |
| Traffic and driver safety              | 30        |
| Smarter solutions                      | 31        |
| Connected vehicles                     | 31        |
| Transport system efficiency            | 32        |
| Complete vehicle combinations          | 34        |
| Driving dynamics                       | 35        |
| Future transport solutions             | 36        |
| Leadership                             | 37        |
| Innovation                             | 38        |
| Research                               | 39        |

|  |           |
|--|-----------|
| <b>CREATING SHARED VALUE</b>                 | <b>40</b> |
| Customer satisfaction                        | 41        |
| Efficient solutions                          | 42        |
| Diverse customer needs                       | 43        |
| Supporting customer productivity             | 44        |
| Measuring satisfaction                       | 45        |
| Skilled workforce                            | 46        |
| Volvo Group University                       | 47        |
| Leadership and management                    | 47        |
| Employee engagement                          | 48        |
| Attracting talent and developing competences | 48        |
| Financial performance                        | 50        |
| Societal engagement                          | 52        |
| Traffic and site safety                      | 53        |
| Environmental sustainability                 | 53        |
| Education and skills development             | 54        |

|                                  |           |
|----------------------------------|-----------|
| <b>RESPONSIBLE BEHAVIOR</b>      | <b>55</b> |
| Corporate trustworthiness        | 56        |
| Legal compliance                 | 56        |
| Ethics and integrity             | 58        |
| Human rights                     | 60        |
| Workplace health and safety      | 61        |
| Risk management                  | 62        |
| Diversity and inclusion          | 62        |
| Value chain sustainability       | 64        |
| Product development              | 65        |
| Supply chain                     | 67        |
| Operational environmental impact | 68        |
| Distribution and service         | 71        |
| Product use                      | 72        |
| Reuse and recycling              | 73        |

|                                  |           |
|----------------------------------|-----------|
| <b>ABOUT THIS REPORT</b>         | <b>74</b> |
| Reporting scope and boundary     | 75        |
| Accounting principles            | 75        |
| Data collection and verification | 76        |



**Front cover:**

The image is taken in Chiang Mai, Thailand.  
The truck is the new Volvo FH16.

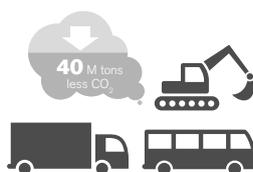
This document is a PDF-version of the full Volvo Group Sustainability Report 2014, available online at [www.volvogroup.com/sustainabilityreport](http://www.volvogroup.com/sustainabilityreport). This report covers the sustainability performance of the Volvo Group from 1 January to 31 December 2014. It has not been verified by a third party. See 'About this report' for more detail.

# 2014 Volvo Group sustainability highlights

## SUSTAINABLE TRANSPORT SOLUTIONS



Volvo 7900 Electric Hybrid  
**60% LESS ENERGY**



2009–2014 products  
**40 M TONS LOWER CO<sub>2</sub> EMISSIONS**



AstaZero  
**2,000,000 M<sup>2</sup> SAFETY TEST TRACK OPENED**

## SHARED VALUE



Continued inclusion in  
**Dow Jones Sustainability WORLD INDEX**



New global program  
**MOVING SOCIETY FORWARD**



Volvo Group University launched to develop a  
**SKILLED WORKFORCE**

## RESPONSIBLE BEHAVIOR



WWF Climate Savers program  
2009–2014 **20% LOWER CO<sub>2</sub> FROM PRODUCTION**

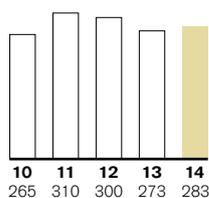


Suppliers in high risk countries **92% OF SPEND ASSESSED**



Carbon disclosure score  
**UP FROM 73/C TO 100/B**

## FINANCIAL HIGHLIGHTS



Net sales growth  
**4% TO SEK 283 BN**



Structural cost reduction program increased to  
**SEK 10 BN**



Market coverage increased in  
**GROWTH SEGMENTS**

# STRATEGIC APPROACH



The Volvo Group has a clear and compelling vision for the future: To become the world leader in sustainable transport solutions. As we continue to implement our 2013–2015 strategy, we strengthen our business and increase our potential to realize our vision. In 2014, our strategic priority was to improve the Group's efficiency.

## CONTENTS

|                       |   |                         |    |                        |    |
|-----------------------|---|-------------------------|----|------------------------|----|
| CEO interview         | 5 | Our vision              | 10 | Materiality            | 14 |
| About the Volvo Group | 7 | Sustainability approach | 11 | Stakeholder engagement | 17 |
| Strategic efficiency  | 9 | Global context          | 12 | Sustainability goals   | 18 |



## CEO interview

### In terms of sustainability, what was 2014 like for the Volvo Group?

During 2014, many important steps in the area of sustainability were taken. The Volvo Group's commitment to sustainability includes the environmental, social and economic dimensions and it starts with our customer offering. Our extensive product renewal gave us a very competitive product range, with excellent fuel efficiency and safety solutions that support our customers in their daily work and at the same time reduce the environmental impact.

I am convinced that the transport and infrastructure industries have a key role to play in the development towards a more sustainable society. To meet the future need of transport solutions, cooperation and leadership is needed and together with our business partners, we can make a positive contribution to sustainable development. During the year, I have participated in discussions with customers and other business partners on the topic of sustainability. Many share our view that there is no option to sustainability for our industry. In the coming years it will be critical to achieve necessary improvements. Therefore, I felt very honoured when I was appointed co-chairman of the UN's high-level panel for sustainable transport. It is my ambition to deliver concrete actions, in order to accelerate the transition to a sustainable transport system.

### Which were the key sustainability achievements in 2014?

The Volvo Group advanced within all three dimensions of sustainability and moved our business forward at the same time as creating value for the societies in which we operate.

A pioneering product launch was the Volvo Electric Hybrid Bus, which reduces fuel consumption and CO<sub>2</sub> emissions by up to 75 % compared to a conventional diesel bus.

Another important step was the completion of the first phase of our commitment to the WWF Climate Savers program. We exceeded our target by 33%, resulting in a 40 M ton reduction in CO<sub>2</sub> emissions. At the end of 2014, the commitment for the period 2015-2020 was signed. A new component was introduced, the 'magnifiers', where the Volvo Group will leverage its leadership position to enhance environmental sustainability beyond our organization, products and manufacturing.

During the year, we continued together with our partners, to deliver on our societal engagement program. The program is supporting our business growth by capturing opportunities and removing obstacles while simultaneously enhancing societal development. The availability of skilled after-market technicians is a key factor to our business success in many countries. Based on our experiences from the vocational training school in Ethiopia, we launched a school in Morocco in November. The launch of a school for technicians in Zambia in early 2015 will be followed by a school in Indonesia as well as vocational training programs for drivers in Ethiopia.

During 2014 the focus was on implementing measures to strengthen our internal efficiency and reduce the Group's costs. I can look back at a year of significant changes and numerous improvement measures that are now paying off. It was a year that required considerable efforts from the Group's employees, who did a very good job. Strong financial performance has a purpose as it gives us control over our own future. This means that we can invest in new products and services that add economic, social and environmental value to our customers.

I am pleased that our stakeholders recognize our efforts and results in the sustainability area, as confirmed by the inclusion of the Volvo Group in the Dow Jones Sustainability World Index.

“I am convinced that the transport and infrastructure industries have a key role to play in the development towards a more sustainable society.”

### Did any 2014 performance fall short of expectations and why?

The mixed trend in the Group's key markets is reflected by the trucks deliveries, which in total were on the same level as in 2013. Deliveries of construction equipment declined substantially, mainly due to a declining trend in China. It is also reflected in our net sales which, adjusted for currency and acquired and divested unites, only rose by 2 % to SEK 283 billion.

In the EU, the Volvo Group and a number of other companies in the truck industry are under investigation by the European Commission regarding a possible breach of EU antitrust rules prior to January 2011. We are taking the allegations very seriously, fully cooperating with the European Commission and evaluating the implications of the Statement of objections we have received. We previously announced that the Group's financial result and cash flow may be affected as a result of the Commission's investigation.

### What is the long-term vision for the Volvo Group?

We have a clear and compelling vision for the future: to become the world leader in sustainable transport solutions. Several of the global challenges the world faces are directly or indirectly related to the transport and infrastructure industries. I believe that sustainable products and services will be essential in addressing challenges such as demographic growth and urbanization, climate change as well as resource scarcity. Success in this field will therefore provide us with a competitive edge.

It is essential for our business success that we gain trust from our stakeholders. We aim to keep our reputation of trustworthiness by acting with integrity, complying with laws and regulations and upholding the norms of the UN Global Compact stated in our Code of Conduct.

### What are the priorities for 2015?

In 2015, sustainability will be in focus, with many important milestones in the UN agenda such as the adoption of the post-2015 development agenda and COP 21. I believe we need to set the long-term road-map towards a more sustainable society and the Volvo Group will support this process.

We still have a great deal of hard work ahead of us internally, but we will continue to keep up the momentum to increase efficiency and reduce costs. Our cost reduction and efficiency targets need to be achieved by the end of 2015 to gain the full benefit in 2016.

The Volvo Group has a strong corporate culture, which has taken us to the position where we are today. Considering how the world around us is changing, there are good reasons for us to discuss and reflect on the values and behaviours that will secure our future competitiveness. During 2015 we will revitalize our corporate culture.

During the year we will present very interesting solutions that will enhance sustainability, strengthen our competitiveness and take us closer to our vision.

“We have a clear and compelling vision for the future: to become the world leader in sustainable transport solutions.”

### What is your outlook for the next 3-5 years?

Long-term I see a future with a highly efficient transport system, with energy-efficient solutions that are safe and secure both for humans and goods. We have already taken many innovative steps towards realizing our vision, not only with pioneering product technology, but also through collaborative programs which are rethinking transports. Over the coming years, I foresee an increased interest for cleaner and smarter solutions from customers both in mature and growth markets. This goes hand in hand with the requirements defined by the society.

I am enthusiastic about the Volvo Group's future, recognizing the potential in our people, products and markets and I am convinced that we can reach our vision.

I hope you find this report on our CSR and sustainability achievements interesting and even more importantly, I hope you will be inspired to join us on the exciting journey we have ahead of us.

Olof Persson  
President and CEO



## Leading the way with commercial vehicles

The Volvo Group is one of the world's leading manufacturers of trucks, buses, construction equipment and marine and industrial engines. The Group also provides complete financing and servicing solutions.

### Building a strong portfolio of brands

Through direct ownership, licenses and joint ventures, the Volvo Group has built up a strong portfolio of iconic and industry-leading brands. We most recently increased our position with the acquisition of Terex Trucks and a 45% share of the truck manufacturer Dongfeng Commercial Vehicles.

### Achieving full market coverage

Our brands and products address different customer needs in varied commercial vehicle markets and segments. This enables us to achieve full market coverage, from the basic to the premium segment.



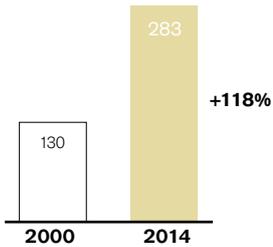
#### TRUCK BRANDS at the end of 2014 - addressing the entire market



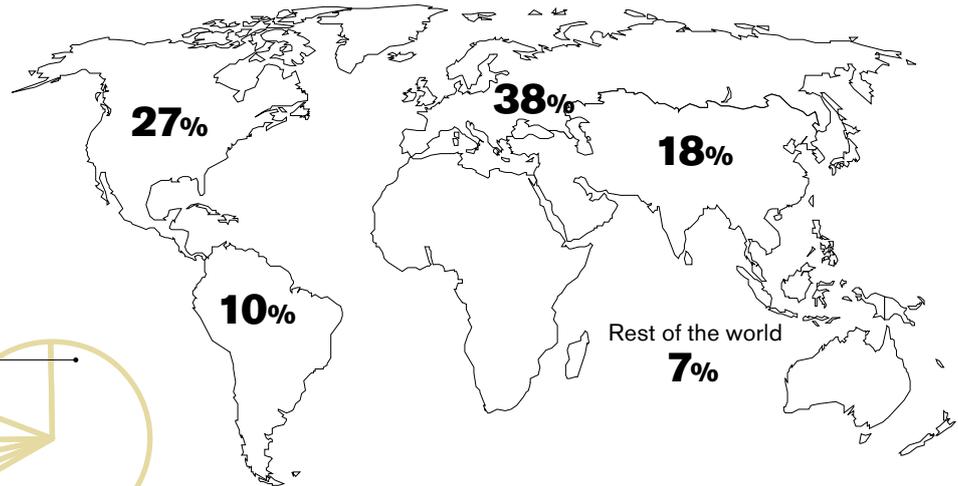
## Increasing share and sales

In 2014, Volvo Group sales amounted to about SEK 283 billion. AB Volvo's shares are listed on Nasdaq Stockholm.

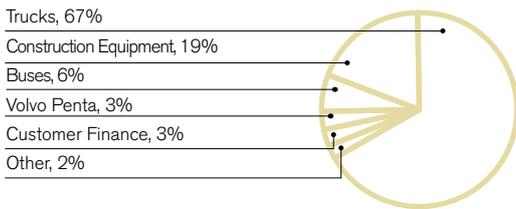
**Volvo Group net sales 2000–2014, SEK bn**



**Share of net sales by market 2014**



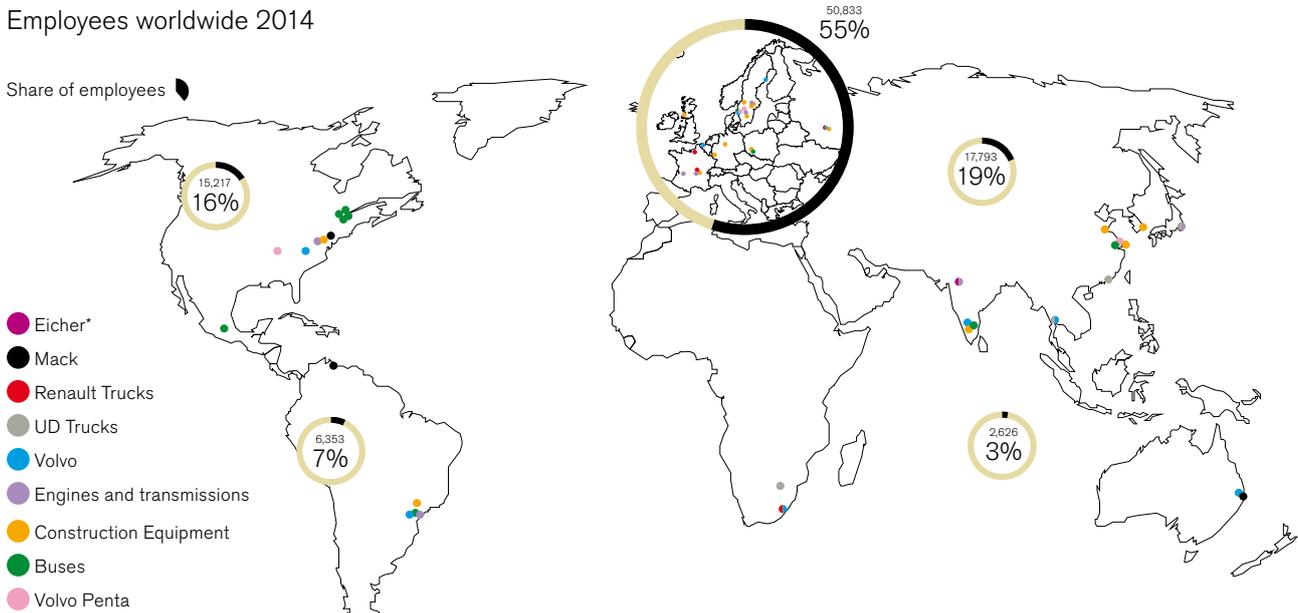
**Share of net sales**



## Developing our global presence

AB Volvo – the ultimate parent of the Volvo Group is a publicly-held company headquartered in Gothenburg, Sweden. The Volvo Group employs about 100,000 people globally, has production facilities in 19 countries and sells its products in more than 190 markets.

### Employees worldwide 2014



\* Ownership ≥ 50%

## Implementing strategic efficiency

As part of the Volvo Group's 2013–2015 Strategic Program, 2014 was the year in which we executed our efficiency program. This involved reducing headcount, improving manufacturing productivity, ceasing activities that do not add customer value, and strengthening process efficiency.

2014 was characterized by variable market conditions and internal measures to increase efficiency and profitability.

### Increasing our efficiency program's scope

We implemented the Volvo Group's planned efficiency activities throughout 2014 targeting structural cost reductions.

- ☑ 2012 REORGANIZATION & STRATEGY
- ☑ 2013 EXTENSIVE PRODUCT RENEWAL
- ☑ 2014 EXECUTE EFFICIENCY PROGRAM & DRIVE ORGANIC GROWTH
- 2015 DELIVER PROFITABILITY IMPROVEMENT



In autumn 2014, we identified additional opportunities to reduce our structural cost level and announced an increase in the scope of our Strategic Program. The following new activities aim to generate an additional SEK 3.5 billion of structural cost reductions:

- Reorganization of Group Trucks Sales to increase efficiency and reduce costs
- Implementation of further cost-reduction activities in Volvo Construction Equipment
- Review of core and non-core Group IT operations

### Full-year cost reductions of SEK 10 billion

Ongoing activities in the Strategic Program 2013–2015 targeted structural cost reductions of SEK 6.5 billion. The new activities being initiated are targeted to generate an additional SEK 3.5 billion of structural cost reductions. Implementing all activities before the end of 2015 is expected to result in full-year cost reductions of

SEK 10 billion in 2016, compared to the full year 2012. Total restructuring costs for the activities are expected to be SEK 6 billion to SEK 7 billion.

In 2014 the total cost reduction connected to the program amounted to SEK 3.3 billion compared to 2012. Restructuring charges amounted to SEK 2.6 billion in 2014. At the end of the year, SEK 2.1 billion to SEK 3.1 billion in expected restructuring charges remained.

### Establishing a more efficiency-focused culture

As well as this high-level strategic program, all teams were encouraged to focus on efficiency improvements within their area of activity and influence. As a result, we achieved some significant improvements in terms of environmental, social and economic sustainability, which are included in this report.



# Realizing our vision

Our shared vision strengthens the Volvo Group and improves our potential to seize new business opportunities, drive development, advance our position, capture market share, and help our customers create value.

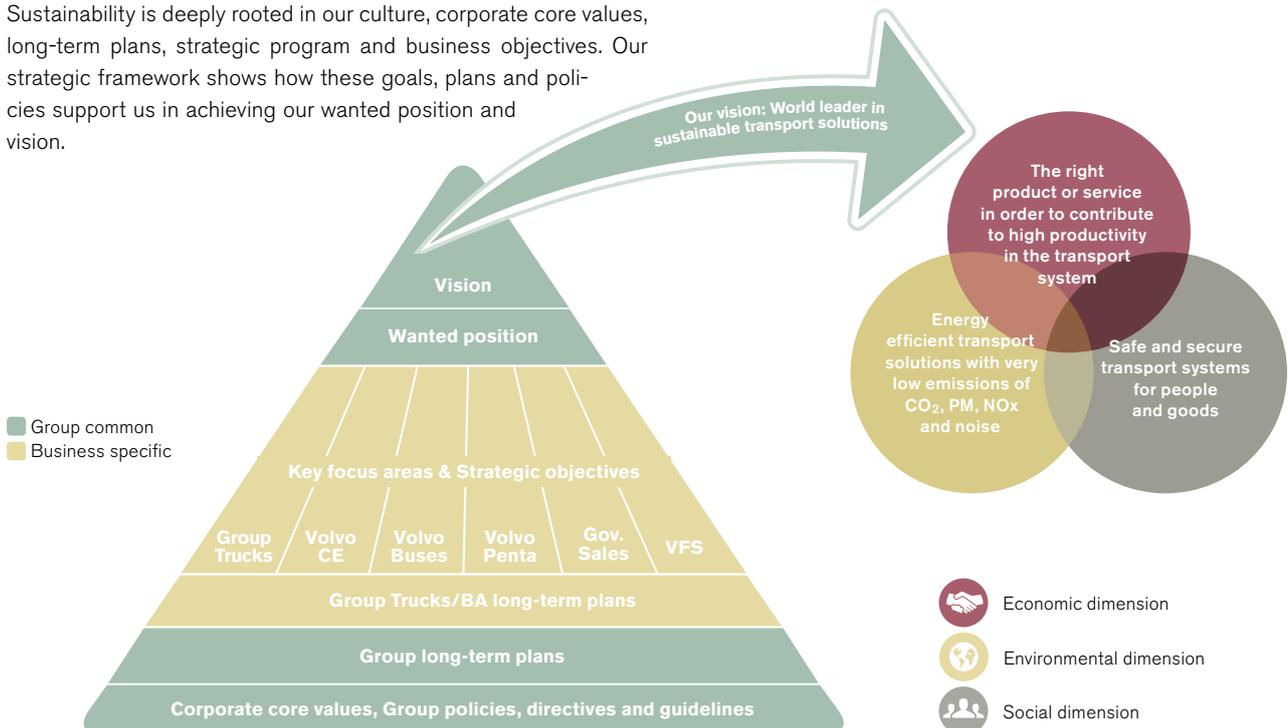
All work within the Volvo Group is based on our perspective of environmental, economic and social sustainability, and conforms to the United Nations' definition of sustainable development that meets current and future needs. Sustainable transport solutions contribute to economic productivity, improved environmental performance and positive social impact.

### To become the world leader in sustainable transport solutions by:

- Creating value for customers in selected segments
- Pioneering products and services for the transport and infrastructure industries
- Driving quality, safety and environmental care
- Working with energy, passion and respect for the individual

### Supporting sustainability strategically

Sustainability is deeply rooted in our culture, corporate core values, long-term plans, strategic program and business objectives. Our strategic framework shows how these goals, plans and policies support us in achieving our wanted position and vision.





## Taking a model approach

The Volvo Group's approach to corporate social responsibility (CSR) and sustainability focuses on conducting business in a responsible manner, taking stakeholders' perspectives into account, creating value for our stakeholders and society, and contributing to sustainable development.

### Volvo Group CSR and sustainability model

Our CSR and sustainability model is based on the United Nations Global Compact principles, other internationally recognized norms of responsible behavior and consultation with internal and external stakeholders.

The pyramid reflects our strategic framework and supports our business vision, wanted position, strategic program and responsible business practices.



In 2001, the Volvo Group signed Global Compact, the UN's initiative on socially responsible business practices.

### Sustainable transport

Becoming the world leader in sustainable transport and infrastructure solutions is the ultimate goal of our CSR and sustainability commitment. We progress towards our vision through leadership, innovation and research, and the development and commercialization of pioneering products and services that are driven by quality, safety and environmental care. Read more on page 21.

### Shared value

The Volvo Group moves our business forward by meeting the needs of customers in selected segments of the commercial vehicles industry, and supporting their value creation. Working with energy, passion and respect for the individual, and investing in skills development, safety programs and environmental sustainability, we help to move society forward today, while securing long-term business opportunities for the future. Read more on page 48.

### Responsible behavior

Conducting business in a responsible manner across our organization, operations and value chain is essential for maintaining and enhancing the Volvo Group's reputation as a trustworthy global company. Responsibility and sustainability are embedded in our corporate culture, values, Code of Conduct, policies and training. Every employee is responsible for adhering to our stated position. Read more on page 55.



# Responding to global mega trends

As part of our business and sustainability strategies, we continually analyze megatrends and regional variations to assess their impact on our Group and seek new business development opportunities.

From the Volvo Group's perspective, the most significant trends driving our work towards sustainable transport solutions are demographic growth and urbanization, climate change, resource scarcity, safety and security, and competition for skills.

The Volvo Group is actively undertaking a wide range of initiatives to address global sustainability challenges as well as several Sustainable Development Goals (SDGs\*) that are being developed by the United Nations as a way to build on the Millennium Development Goals post 2015.

## Turning global challenges into business opportunities

| GLOBAL TRENDS                       | CHALLENGES  | UN GOALS*   | VOLVO GROUP SOLUTIONS**   |
|-------------------------------------|---|---|---|
| DEMOGRAPHIC GROWTH AND URBANIZATION | Transport and infrastructure for 9 bn+ people by 2050.                      | (11.2) Safe, affordable, accessible and sustainable transport, expand public transport. | <ul style="list-style-type: none"> <li>City Mobility</li> <li>Bus Rapid Transit</li> <li>Zone management technology</li> </ul>            |
| CLIMATE CHANGE                      | Fossil fuel dependency and greenhouse gas emissions.                        | (13) Take urgent action to combat climate change and its impacts.                       | <ul style="list-style-type: none"> <li>Energy efficiency</li> <li>Alternative fuels</li> <li>CO<sub>2</sub>-neutral production</li> </ul> |
| RESOURCE SCARCITY                   | Earth's finite natural capital.   | (12) Promote sustainable consumption and production.                                    | <ul style="list-style-type: none"> <li>Remanufacturing</li> <li>Materials efficiency</li> <li>Lifecycle analysis</li> </ul>               |
| SAFETY AND SECURITY                 | 1.2M traffic fatalities and 50M injuries each year.                         | (3.5) Halve deaths from road traffic accidents.   | <ul style="list-style-type: none"> <li>Vehicle safety</li> <li>Driver training</li> <li>Education programs</li> </ul>                     |
| COMPETITION FOR SKILLS              | Varying interests, capabilities and availability among global talent pools. | (4) Provide quality education and lifelong learning opportunities for all.              | <ul style="list-style-type: none"> <li>Academic Partner Program</li> <li>Vocational training</li> <li>Volvo Group University</li> </ul>   |

\* Read more on <https://sustainabledevelopment.un.org/sdgsproposal>

\*\* Examples of current activities

Examples of our innovative solutions are summarized here and featured in more detail in this report.

### 1. Demographic growth and urbanization

Over seven billion people currently live on the planet. The United Nations Population Fund expects there to be eight billion people by 2025, and over nine billion in 2050. Half the world's population already lives in cities, and in the next decade Asia and Africa will see a much greater rural-urban shift. As urban populations grow, cities face increasing social and environmental challenges, including congestion, noise, and pollution. This challenges industry to provide more sustainable and efficient solutions for all types of urban development.

The Volvo Group works collaboratively with public transport and distribution decision makers in numerous cities around the world to develop and apply new technologies and urban transport solutions. These include:

- **City Mobility program.** Read more on page 33.
- **Bus Rapid Transit systems.** Read more on page 32.
- **Zone management technology.** Read more on page 33.

### 2. Climate change

There is widespread agreement that the burning of fossil fuels, including conventional diesel fuel, is a major source of greenhouse gas emissions and causes climate change. The transport sector must respond by improving the fuel efficiency of products and production and moving towards non-fossil fuels. This challenge is driving interest and opportunities in electromobility, as well as alternative and renewable fuels.

As part of the WWF Climate Savers program, the Volvo Group has dramatically reduced carbon emissions from our products and operations and we have announced new activities and targets to accelerate the development of lower-carbon emissions throughout the transport and construction sectors. Our initiatives include:

- **Vehicle energy efficiency.** Read more on page 23.
- **Electromobility.** Read more on page 23.
- **Alternative and renewable fuels.** Read more on page 26.
- **Carbon-neutral production plants.** Read more on page 69.

### 3. Resource scarcity

Population growth, industrialization, urbanization and economic growth all place mounting demands on the use of the planet's finite natural capital. Improved resource efficiency, reuse and recycling is increasingly important for society and our industry.

The Volvo Group works consistently with lean methodologies with a resource efficiency focus. This includes constructing and manufacturing a number of components and materials for easy recycling or remanufacturing. It also involves using less material, integrating more recycled materials, reducing waste and energy, recovering heat, and assessing our water footprint. Specific initiatives include:

- **Volvo Group Reman operations.** Read more on page 73.
- **New River Valley energy efficiency.** Read more on page 69.
- **Product development and lifecycle analysis.** Read more on page 65.

### 4. Safety and security

Every year, according to the World Health Organization (WHO), there are more than 1.2 million road traffic fatalities and 50 million injuries. The WHO predicts that traffic fatalities could be among the top five causes of death worldwide by 2030. Low and middle income countries account for the majority of today's traffic fatalities. There is a growing trend for authorities to regulate commercial vehicles and to make selected safety systems mandatory.

The Volvo Group invests in advanced research and development and collaborates with key partners to develop smart technology and vehicle safety solutions that improve conditions for drivers, road users, pedestrians, vehicles and cargo. Key initiatives include:

- **Vehicle safety technologies.** Read more on page 29.
- **Driver training and traffic safety.** Read more on page 30.
- **Traffic and site safety education programs.** Read more on page 53.

### 5. Competition for relevant knowledge and skills

The transport and infrastructure industry requires a broad range of competences, from engineering and technical skills to management, leadership and financial skills. Multiple factors influence the availability of skilled employees. These include falling interest in science, technology, engineering and mathematics in some developed countries; limitations of the educational systems in some emerging markets; and the long-term decline in the proportion of the working age population in some mature and emerging markets.

We see these challenges as an opportunity to create different ways of attracting and developing a competent talent pool, both for our own company and for our customers' companies. Recent developments include:

- **The Academic Partnership Program.** Read more on page 39.
- **Vocational training schools in Africa.** Read more on page 54.
- **Volvo Group University launch.** Read more on page 47.



## Developing our materiality process

The Volvo Group's sustainability strategy addresses the economic, environmental and social issues that are most relevant to our business and most important to our stakeholders.

The Sustainability Report 2014 marks the start of the Volvo Group's transition from the Global Reporting Initiative (GRI) G3.1 guidelines to the G4 guidelines.\* As part of this, we have reviewed and updated our materiality process and matrix, taking G4's reporting principles and material aspects into account.

### Identifying our material issues

Building on and developing the process initiated in 2013, we began with a wide-reaching scan for relevant sustainability issues. This included consideration of GRI aspects, UN Global Compact principles, Dow Jones Sustainability Index corporate sustainability issues, and Sustainability Accounting Standards Board (SASB) drafts for the marine and road transport sectors.

We held an externally-facilitated materiality workshop at AB Volvo Headquarters attended by members of the Volvo Group's CSR Committee and representatives from the strategy, media relations, legal, HR, finance, investor relations functions and management teams. We based the workshop on the GRI definition of materiality.\*\*

With reference to the Volvo Group's vision, wanted position, strategic objectives, enterprise risk management, financial risks, and industry benchmarks, we identified the economic, environmental and social sustainability topics of importance for business success.

The workshop participants agreed on a list of key stakeholders – customers, investors, employees, trade unions, suppliers, partners, policy makers and NGOs – and added further sustainability topics likely to have a major influence on their decisions to engage with the Volvo Group.

### Prioritizing our material issues

After consolidating the long list into a shortlist of sustainability themes and definitions, colleagues from different countries, business areas and functions scored the topics online, rating them for impact on business success.

Colleagues closest to various external stakeholders were asked to complete the survey acting as a stakeholder proxy. To validate the internal stakeholder scoring, a few contacts from each stakeholder group were invited to participate in a trial survey, in which they ranked relevant issues. The resulting stakeholder data was averaged and weighted to reflect each group's level of influence within the Volvo Group.

### Mapping our material issues

Our 2014 materiality matrix shows the assessed importance and expected impact of our most material issues. As in 2013, customer satisfaction, energy efficiency and emissions from products, as well as business ethics rank the highest.

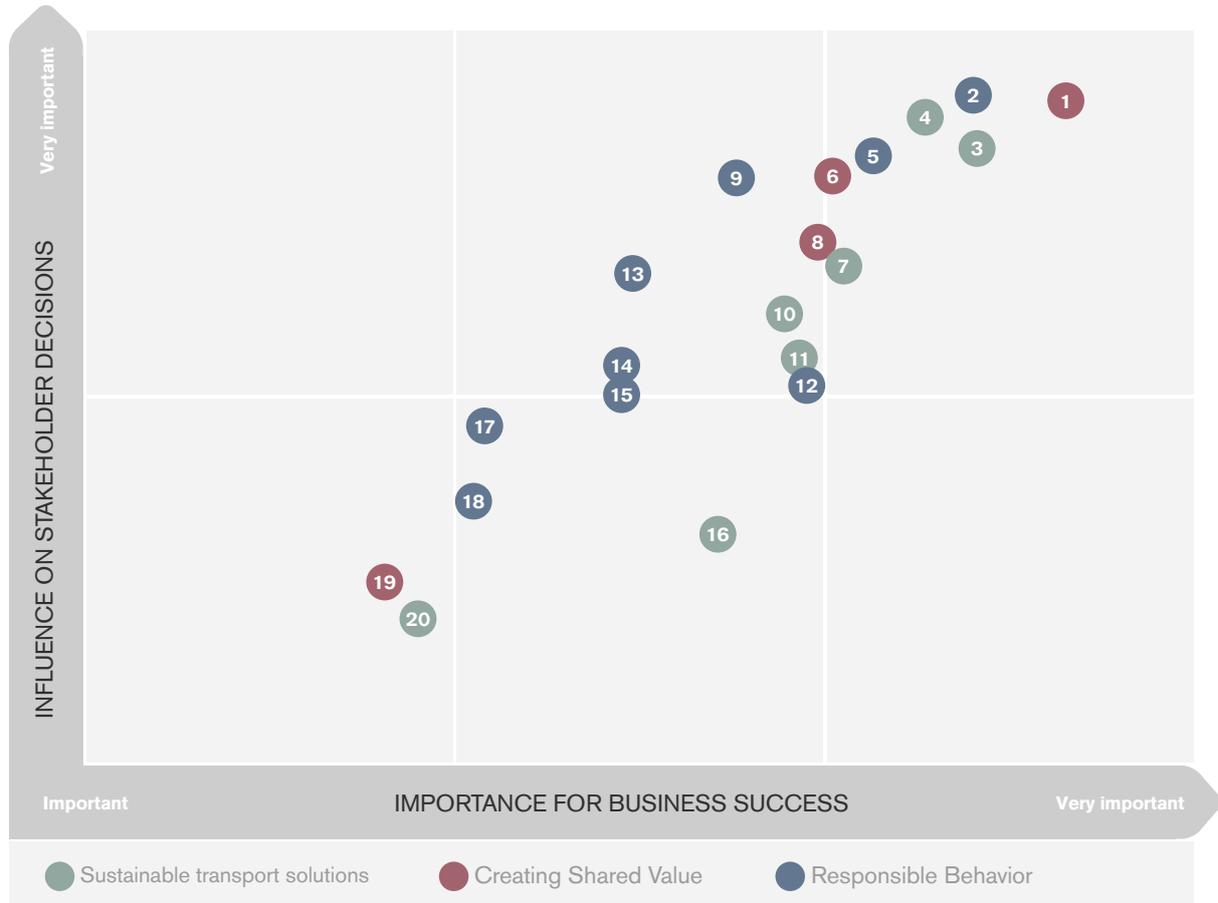
\* Read more on [www.globalreporting.org](http://www.globalreporting.org)

#### \*\* GRI definition of materiality

Aspects that:

- Reflect the organization's significant economic, environmental and social impacts or
- Substantively influence the assessments and decisions of stakeholders.

## VOLVO GROUP MATERIALITY MATRIX 2014



- |                                   |                                     |                                     |
|-----------------------------------|-------------------------------------|-------------------------------------|
| 1 Customer satisfaction           | 8 Financial performance             | 15 Risk management                  |
| 2 Legal compliance                | 9 Workplace health and safety       | 16 Transport system efficiency      |
| 3 Energy efficiency (products)    | 10 Innovation                       | 17 Diversity and inclusion          |
| 4 Emissions (products)            | 11 Fuels (availability and quality) | 18 Product use and end of life      |
| 5 Business ethics and integrity   | 12 Human rights                     | 19 Societal engagement              |
| 6 Skilled workforce               | 13 Operational environmental impact | 20 Leadership and knowledge sharing |
| 7 Safety (vehicles and equipment) | 14 Supply chain                     |                                     |

## Defining our material issues

The number of material issues has been reduced from 30 to 20 by grouping and consolidating issues where appropriate. Some issues have been renamed since 2013. These descriptions aim to define the topline issues more clearly.

### SUSTAINABLE TRANSPORT SOLUTIONS

#### Energy efficiency (products)

Leaner and smarter product and service solutions designed to reduce energy consumption, operational costs and environmental impacts.

#### Emissions (products)

Cleaner transport solutions designed to reduce emissions of greenhouse gases including CO<sub>2</sub>, NO<sub>x</sub>, particulate matters, and noise.

#### Safety (vehicles/equipment)

Product and training solutions designed to enhance driver and operator safety, traffic and site safety, and goods security.

#### Fuels (availability/quality)

Fuel efficiency solutions designed to reduce fossil fuel consumption, development and testing of alternative and renewable fuel technology, and collaboration on availability and quality to enable commercialization.

#### Innovation

Investing in pioneering research and development, remaining at the forefront of technological innovation, and developing innovative technology, transport and service solutions.

#### Transport system efficiency

Rethinking and adapting our products and services to reduce congestion and improve the economic, social and environmental dimensions of urban mobility, distribution and infrastructure.

#### Leadership and knowledge sharing

Taking a leading role on global sustainability platforms, development goals and programs, collaborating with leading universities and research partners, participating in networks and sharing knowledge with trade organizations, project partners and policy makers.

### CREATING SHARED VALUE

#### Customer satisfaction

Enhancing customer relationships and building long-term brand loyalty and business partnerships by delivering the right products and services, understanding customer needs, and taking a total lifecycle approach to support customer profitability through quality, fuel efficiency, uptime, and aftermarket services.

#### Skilled workforce

Ensuring the optimal workforce composition, attracting and developing people with required skills and competences, engaging employees, retaining talent, rewarding performance, and managing the talent pipeline.

#### Financial performance

Implementing our strategies for efficiency, profitability and growth to generate strong and sustainable revenue, and distributing economic value to various stakeholders.

#### Societal engagement

Taking a shared value approach to corporate citizenship designed to move our business and society forward through partnerships, programs and employee engagement that support environmental sustainability, traffic and worksite safety, and skills development.

### RESPONSIBLE BEHAVIOR

#### Legal compliance

Continuous development of our policies and practices to ensure adherence and compliance with all applicable laws and regulations, including corporate governance, taxes and duties, anti-bribery and corruption, fair competition, local content requirements, intellectual property rights, privacy and data protection.

#### Business ethics and integrity

Creating a responsible culture built on corporate core values, transparency, and minimum standards of responsible behaviour which are embedded in the Volvo Group Code of Conduct and applied in our daily work.

#### Human rights

Fulfilling our obligations as signatories to the UN Global Compact, e.g. respecting freedom of association and ensuring the absence of forced or child labor throughout our value chain.

#### Workplace health and safety

Providing safe and healthy workplaces throughout our value chain, and promoting employee health and wellbeing.

#### Operational environmental impact

Managing and mitigating the impact of our production, distribution, dealerships, workshops and corporate functions in terms of energy, emissions, chemicals, water, waste, transport and logistics.

#### Supply chain management

Responsible sourcing policies and practices designed to build long-term partnerships, including ethical assessment and screening of suppliers, training programs, and compliance measures.

#### Risk management

Robust risk management systems to identify, understand, report and mitigate external, financial and operational risks.

#### Diversity and inclusion

Working with energy, passion and respect for the individual to ensure diversity and inclusion through measures such as non-discrimination, gender equality, and fair and equal remuneration.

#### Product use and end of life

Promoting environmentally responsible product use, engaging with stakeholder concerns over downstream product uses, and developing remanufacturing and recycling opportunities to support environmental and economic sustainability.

### Continually improving our process

The Volvo Group regards the sustainability materiality process as a dynamic journey of continuous improvement. The materiality matrix is a useful tool to guide our reporting and to help us develop CSR and sustainability strategies and activities.

The scope of our Sustainability Report 2014 covers all companies fully consolidated in the Volvo Group, as listed in our Annual Report 2014. The scope and boundary of specific case studies and projects are described throughout this report.

We aim to continue developing and strengthening our materiality process in the future to further define and validate the scope and boundary of material issues, and to extend stakeholder involvement.

## Engaging with key stakeholders

Stakeholder engagement enables us to better understand the internal and external expectations of the Volvo Group, and helps to ensure that our business operations build value both for the company and for society.

To help us identify and prioritize corporate social responsibility and sustainability issues for the Volvo Group, we pursue ongoing dialogue with key stakeholders.

All stakeholders are invited to use the contacts listed on [www.volvogroup.com](http://www.volvogroup.com) to raise questions or share opinions with the Group on any issue, at any time.

In addition to shared platforms, we maintain ongoing contact with different stakeholder groups, as detailed below.

| Stakeholder group                                 | How we engage   | 2014 materiality assessment by stakeholders   |
|---|---|---|
| Customers   | <ul style="list-style-type: none"> <li>• Interaction in daily operations</li> <li>• Customer satisfaction surveys</li> <li>• Dialogue forums, such as product development customer focus groups</li> <li>• Brand image surveys</li> <li>• Dialogue via social media</li> <li>• Joint initiatives</li> </ul> | Product emissions, fuel efficiency and legal compliance were considered to have the highest impact on customers   |
| Employees   | <ul style="list-style-type: none"> <li>• Regular review of Personal Business Plan</li> <li>• Employee engagement survey</li> <li>• Team meetings</li> <li>• Intranet</li> <li>• In-house magazines</li> <li>• Videos and webcasts</li> </ul>  | Employees taking part in our most recent materiality assessment ranked customer satisfaction, business ethics and integrity, and legal compliance the highest |
| Trade unions                                      | <ul style="list-style-type: none"> <li>• Representation on AB Volvo Board of Directors</li> <li>• Volvo Group Dialogue</li> <li>• Volvo Group Works Council Meetings</li> </ul>   | Health and safety, human rights, diversity and skills were considered to have the highest impact on trade unions  |
| Potential employees                               | <ul style="list-style-type: none"> <li>• University career days</li> <li>• Industry conferences</li> <li>• Academic Partner Program</li> </ul>  | Health and safety, energy efficiency, innovation and skills were considered to have the highest impact on potential employees                                 |
| Suppliers   | <ul style="list-style-type: none"> <li>• Regular face-to-face meetings</li> <li>• Online supplier portal</li> <li>• Training sessions</li> <li>• Dedicated supplier days</li> </ul>   | Responsible supply chain, legal compliance and innovation were considered to have the highest impact on suppliers   |
| Capital market, shareholders, investors, analysts | <ul style="list-style-type: none"> <li>• Capital market days</li> <li>• Regular investor meetings</li> <li>• General Meetings</li> <li>• Annual and interim reports</li> <li>• Press releases</li> </ul>  | Financial performance, legal compliance, and customer satisfaction were considered to have the highest impact on financial stakeholders                       |
| Policy makers                                     | <ul style="list-style-type: none"> <li>• Membership of industry organizations</li> <li>• Dialogue</li> <li>• Joint initiatives</li> <li>• Regular meetings</li> </ul>   | Legal compliance, business ethics and integrity, and product safety and emissions were considered to have the highest impact on policy makers                 |
| NGOs (Non-Governmental Organizations)             | <ul style="list-style-type: none"> <li>• Dialogue</li> <li>• Joint initiatives</li> </ul>   | Emissions (products), environmental impacts (operations) and societal engagement were considered to have the highest impact on NGOs                           |
| Academic/research partners                        | <ul style="list-style-type: none"> <li>• Academic Partner Program</li> <li>• Various forums</li> </ul>  | Innovation, energy efficiency, emissions and skills were considered to have the highest impact on partners  |

### Sharing knowledge and best practice

The Volvo Group is a signatory of the UN Global Compact, a member of the WWF Climate Savers Program and participates in many trade and industry forums including:

- American Bus Association
- American Public Transport Association
- American Trucking Associations
- Association of Equipment Manufacturers in the US
- Committee for European Construction Equipment (CECE)
- European Automobile Manufacturers' Association (ACEA)
- European Association of Internal Combustion Engine Manufacturers (Euromot)

- European Round Table of Industrialists (ERT)
- International Road transport Union (IRU)
- International Transport Forum (ITF)
- International Union of Public Transport (UITP)
- Japan Automobile Manufacturers Association (JAMA)
- National Marine Manufacturers Association
- Society of Indian Automobile Manufacturers (SIAM)
- Swedish Leadership for Sustainable Development (SLSD)
- Truck and Engine Manufacturers Association (EMA) in the US
- UN High-level Advisory Group on Sustainable Transport
- World Economic Forum (WEF)



# Making progress on our goals

The Volvo Group has several long-term CSR and sustainability ambitions. We set, measure and report on shorter-term goals, which act as indicators of our progress towards long-term sustainability.

## Long-term sustainability ambitions

Based on our vision, our long-term environmental, economic and social ambitions include:

- Proven innovators of energy-efficient transport and infrastructure solutions
- Amongst the most profitable in our industry
- Our customers' closest business partner
- A contributor to societal development, globally and locally
- An employer of choice with a global, diverse team of high-performing people
- Recognized as the leading supplier of sustainable transport solutions
- Zero accidents involving Volvo Group products

## Short- to medium-term sustainability goals

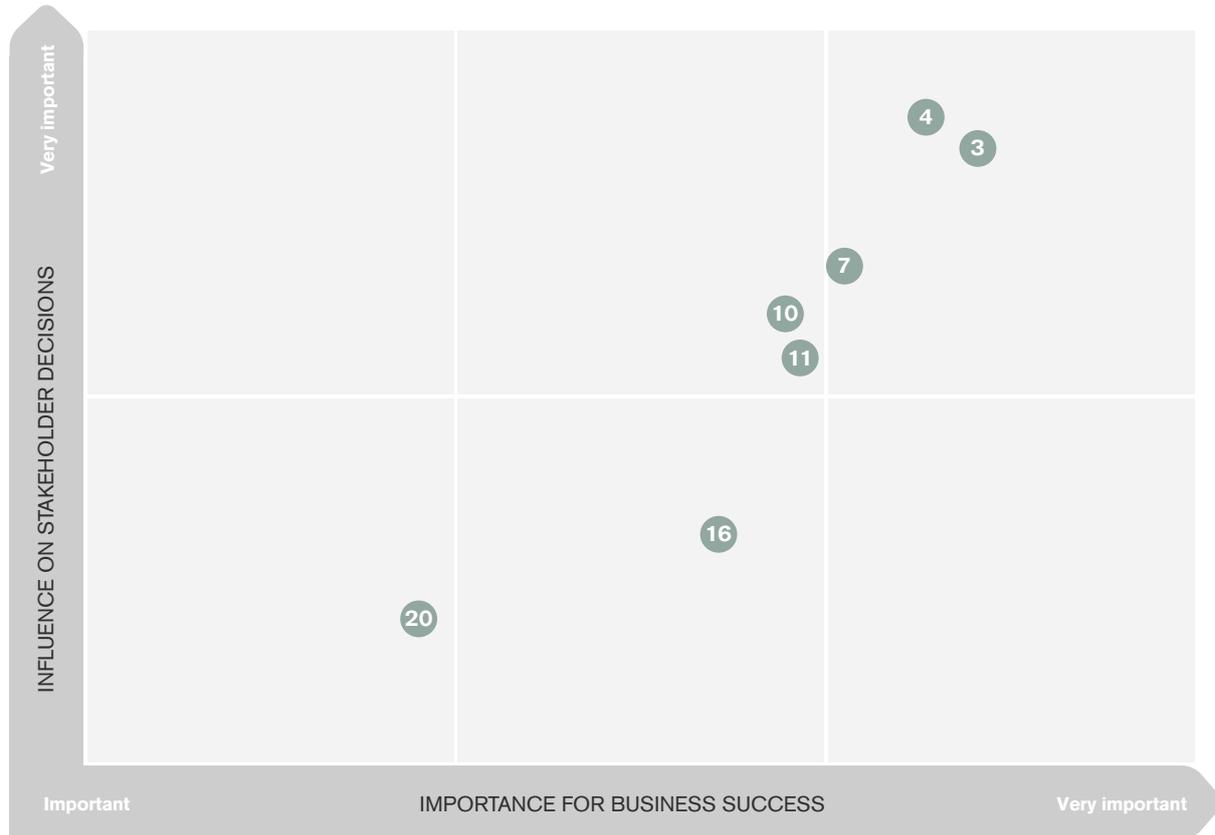
Each year, the Volvo Group reports on its progress on various goals set internally (see table). We also aim to fulfill our obligations under the UN Global Compact, maintain our listing on the Dow Jones Sustainability Index and continuously improve our CDP performance scores.

| Material issue                                    | Sustainability goal linked to material issues ranking  | Target date | 2014 progress   |
|---|--|-------------|---|
| <b>SUSTAINABLE TRANSPORT</b>                      |  |             |   |
| <b>Emissions and energy-efficiency (products)</b> | Volvo Penta to improve average fuel efficiency of its commercial heavy duty engines  | 2020        | <b>New:</b> WWF Climate Savers commitment 2015-2020   |
|   | Reduce total lifetime CO <sub>2</sub> emissions of the Group's products by 30 M tons (2008 baseline)   | 2014        | <b>Achieved:</b> 40 M tons reduced between 2008-2014  |
|   | Reduce total lifetime CO <sub>2</sub> emissions of the Group's products by a cumulative saving of 40 M tons (2013 baseline)                      | 2020        | <b>New:</b> WWF Climate Savers commitment 2015-2020   |
| <b>Safety (vehicles/equipment)</b>                | Become the leading supplier of safe transport solutions  | Ongoing     | <b>On track:</b> Automatic Emergency Brake System already fulfills 2018 legal requirements for coaches  |
| <b>Alternative/renewable fuel drivelines</b>      | Research and develop vehicles and construction equipment powered by alternative fuels for a range of applications                                | Ongoing     | <b>On track:</b> Volvo FE CNG truck launched in Europe, methane diesel snow sweepers commercialized   |
| <b>Transport system efficiency</b>                | Start up the City Mobility concept in at least five cities   | 2020        | <b>New:</b> WWF Climate Savers commitment 2015-2020   |
| <b>Leadership / knowledge sharing</b>             | Develop truck prototypes with substantially lower fuel consumption compared to corresponding 2013 trucks   | 2020        | <b>New:</b> WWF Climate Savers commitment 2015-2020 (Magnifier role)*   |
|   | Volvo Construction Equipment to develop and demonstrate technologies with considerable efficiency improvements compared to a standard 2013 model | 2020        | <b>New:</b> WWF Climate Savers commitment 2015-2020 (Magnifier role)  |
|   | Hold Construction Climate Challenge summit as part of program to promote sustainability across the construction industry value chain             | 2015        | <b>New:</b> WWF Climate Savers commitment 2015-2020 (Magnifier role)  |
| <b>CREATING SHARED VALUE</b>                      |  |             |   |
| <b>Customer satisfaction</b>                      | Be the leader in customer satisfaction by delivering pioneering products and services for the transport and infrastructure industries            | Ongoing     | <b>On track:</b> Positive trend for the Volvo Group portfolio recorded in Customer Satisfaction and Brand Image surveys   |
| <b>Skilled workforce</b>                          | Be among the high-performing companies in the Employee Engagement Index (EEI) of the employee survey   | Annual      | <b>Action needed:</b> Volvo Group scored 72% in 2014, 9% off the high-performing sector (Global norm 2014: 70%)   |
| <b>Financial performance</b>                      | Reduce the Group's structural costs by SEK 10 bn   | 2016        | <b>On track:</b> 2014 structural cost reduction compared to 2012 amounted to SEK 3,3 bn   |
| <b>Societal engagement</b>                        | Develop a new shared value CSR program   | 2014        | <b>Achieved:</b> Moving Society Forward program finalized   |
|   | Roll out Moving Society Forward program globally   | 2019        | <b>New:</b> Implementation to begin 2015  |
|   | Introduce vocational training schools in 10 African countries  | 2018        | <b>On track:</b> Vocational schools launched in Ethiopia and Morocco  |
| <b>RESPONSIBLE BEHAVIOR</b>                       |  |             |   |
| <b>Legal compliance</b>                           | Complete the compliance journey from awareness to acceptance to embedding  | Ongoing     | <b>On track:</b> Awareness and acceptance phases completed  |
|   | All white-collar employees to complete anti-corruption e-learning  | 2014        | <b>On track:</b> Magnifier role – achievements that enhance environmental development across the transport and infrastructure sector. 84% completed between 2013-2014 |
|   | All white-collar employees to complete competition law/anti-trust e-learning   | Ongoing     | <b>On track:</b> 60% completed between 2012-2014  |
| <b>Business ethics and integrity</b>              | Train all employees on Code of Conduct (2012 update)   | 2015        | <b>Action needed:</b> 47% of white-collar employees had completed training by end of 2014   |
| <b>Human rights</b>                               | Customer CSR Assessment pilot for Africa and Middle East   | 2015        | <b>New:</b> Pilot is up and running. Decision on next steps during 2015   |

| Material issue                          | Sustainability goal linked to material issues ranking  | Target date | 2014 progress  |
|---|--|-------------|--|
| <b>Workplace health and safety</b>      | Increase the number of plants with zero lost time accident rate  | Ongoing     | <b>On track:</b> 13 plants (2013: 11)  |
| <b>Operational environmental impact</b> | Achieve ISO 14001 certification for all major production plants  | Ongoing     | <b>On track:</b> 98% certified by end 2014   |
|   | Reduce CO <sub>2</sub> emissions from Group production plants by 0.2 M tons (12%), compared to 2008                                | 2014        | <b>Achieved:</b> CO <sub>2</sub> emissions reduced by 0.4 M tons (20%)                                   |
|   | Implement energy saving activities, reaching a level of 150 GWh, corresponding to 8% energy saving with current production volumes | 2020        | <b>New:</b> WWF Climate Savers commitment 2015–2020  |
|   | Reduce CO <sub>2</sub> emissions per produced unit from freight transport by 20% (2013 baseline)                                   | 2020        | <b>New:</b> WWF Climate Savers commitment 2015–2020  |
| <b>Supply chain</b>                     | Encourage and support 10 selected suppliers to improve energy efficiency   | 2020        | <b>New:</b> WWF Climate Savers commitment 2015–2020  |
|   | Assess 100% of automotive products suppliers in high risk countries  | Ongoing     | <b>On track:</b> Self-assessments equivalent to 92% of spend completed                                   |
|   | Ensure all automotive products suppliers are certified to ISO 14001  | Ongoing     | <b>On track:</b> More than 94% of spend  |
|   | Face-to-face CSR training for all purchasers   | 2015        | <b>On track:</b> Majority is trained. Gothenburg and Lyon to complete 2015                               |
| <b>Diversity and inclusion</b>          | Attract and retain a diverse and gender-balanced workforce   | Ongoing     | <b>Action needed:</b> 18% of global workforce and 21% of senior executives are women (2013: 17% and 19%) |
|   | Train all managers to CEO-3 in diversity and inclusive leadership  | 2015        | <b>On track:</b> 39% of managers trained by end 2014   |

# SUSTAINABLE TRANSPORT SOLUTIONS

## VOLVO GROUP MATERIALITY MATRIX 2014



### SUSTAINABLE TRANSPORT SOLUTIONS

- 3 Energy efficiency (products)
- 10 Innovation
- 16 Transport system efficiency
- 4 Emissions (products)
- 11 Fuels (availability and quality)
- 20 Leadership and knowledge sharing
- 7 Safety (vehicles and equipment)

#### Sustainable transport solutions: our material issues

For the Volvo Group, sustainable transport solutions support economic productivity, reduce environmental impacts and have positive social benefits.

Road freight accounts for around one third of world transport oil demand and is responsible for about 4% of total greenhouse gas emissions. Half the world's population already lives in cities and

urbanization continues at pace in developing economies. Globally, 1.2 million people die every year in road traffic accidents and 50 million sustain injuries.

We acknowledge that transport is part of the problem today, but the Volvo Group believes that we can lead the way and deliver sustainable, future-focused solutions that effectively address our material impacts.

#### CONTENTS

|                                      |    |                               |    |                            |    |
|--------------------------------------|----|-------------------------------|----|----------------------------|----|
| Leaner and cleaner solutions         | 22 | Traffic and driver safety     | 30 | Future transport solutions | 36 |
| Energy efficiency                    | 23 | Smarter solutions             | 31 | Leadership                 | 37 |
| Electromobility and hybrid solutions | 23 | Connected vehicles            | 31 | Innovation                 | 38 |
| Alternative and renewable fuels      | 26 | Transport system efficiency   | 32 | Research                   | 39 |
| Safer solutions                      | 28 | Complete vehicle combinations | 34 |                            |    |
| Vehicle safety                       | 29 | Driving dynamics              | 35 |                            |    |



## Delivering energy-efficient and low emission solutions

The Volvo Group has already proven its ability to produce carbon-neutral transport solutions and we continue to actively research and develop technologies that operate on renewable or alternative fuels.

We believe that renewable and low-carbon fuels have the long-term potential to substitute a significant part of diesel fuel and significantly reduce transport-related greenhouse gas emissions.

Right now, the availability, quality and cost of renewable and alternative fuels in different parts of the world are the main challenges to commercializing the cleaner technologies that the Volvo Group has developed.

As there is no single solution that satisfies all customer and market needs, we continue to develop a wide range of solutions. These include the optimization of complete vehicle combinations, technology and infrastructure developments, and enhanced construction site efficiency.

Regulations and incentives would help to drive the transition to low-carbon societies, and we continue to work for these through the appropriate channels. Equally, we push for policy decisions enabling technological infrastructure advancements.

Energy efficiency, emissions and fuels are among the most important product-related material issues for our business and stakeholders. Our priority focus areas for more efficient and cleaner solutions are:

- **Fuel and vehicle efficiency**
- **Electromobility**
- **Alternative and renewable fuels**

## Driving fuel and vehicle energy efficiency

The Volvo Group is one of the leading companies in fuel efficiency. We are also working on solutions for complete vehicle combinations that add value to our customers and reduce the lifetime environmental impacts of our products.

During 2014, we brought various fuel efficient solutions to market, continued road testing pioneering concepts, and set challenging new targets across our range of products and brands.

### Fuel-saving commercialization in the US

Last year's introduction of greenhouse gas (GHG) 2014-certified engines for Volvo Trucks' VN series offered our North American customers fuel-saving potential of up to 3%.

In August 2014, we announced further fuel-saving enhancements for the 2016 series of highway tractors, including:

- **Aerodynamic sculpting** to reduce air turbulence around the vehicle exterior and improve airflow under the truck resulting in improved fuel efficiency (miles/gallon) of up to 3.5%
- **New XE-Adaptive Gearing and Torque Management Software** options that enable customers to program the specific requirements of operations that go out loaded and return empty or light loaded, providing fuel efficiency improvements (miles/gallon) of more than 2.5%

### Road testing fuel-saving concepts in Japan

In Japan, UD Trucks has been road testing its laboratory on wheels – the Quon Fuel Demonstrator. The demonstrator focuses on three main areas designed to improve fuel efficiency:

1. **Engine downsizing** from an 11 to an 8-liter engine enables reduced engine and chassis weight and an increased payload. Combining the engine with a mechanical automatic transmission achieves similar performance to an 11-liter engine with higher fuel efficiency
2. **Aerodynamic solutions** developed to reduce drag by matching the heights of the wind deflector and van, as well as wheel covers to reduce wind resistance during driving
3. **ADAS (Advanced Driver Assistance Systems)** technology that uses GPS and road data to predict upcoming gradients and curves on the road to help truck drivers to drive in a more fuel-efficient way

### Calculating and reducing environmental footprints in Europe

In 2014 Renault Trucks launched its online EcoCalculator, which makes it possible for hauliers to quickly calculate:

- **CO<sub>2</sub> and pollutant emissions** for each assignment
- **Potential fuel and emissions savings** and benefits
- **Lifetime costs of pollutant and CO<sub>2</sub> emissions** for EU tenders

During 2014 we also launched an Optifuel version of the Renault Trucks T-range with aerodynamic equipment, intelligent technologies and dedicated services. Together, these enhancements enable customers to benefit from fuel savings throughout the vehicle's lifetime.

### Going beyond legislation on fuel efficiency

As part of our new WWF Climate Savers 2015-2020 program, the Volvo Group has set fuel efficiency targets across our range of products and brands, with specific targets for 15 product categories. 14 of these go beyond current or scheduled legislation and regulations. Read more on page 37.

## Extending the advantages of electromobility

Electromobility offers cleaner transport solutions by reducing exhaust emissions and noise. It can also significantly improve energy efficiency and reduce running costs.

The electromobility market includes fully electric vehicles and machines, as well as hybrids, which have two sources of power. The Volvo Group is at the forefront within the electromobility bus market. We are also at the forefront of developing electromobility technology for trucks and construction equipment.

Following extensive field testing, we launched the Volvo Electric Hybrid bus featuring electric hybrid technology in 2014. We are currently testing electric hybrid truck technology and we will launch a fully electric bus service in Gothenburg in 2015. Sunwin Bus, our Chinese joint venture, has already sold 1,400 fully electric buses in this key market for sustainable transport solutions.

Read more about our:

- **Electric and hybrid buses** Page 24.
- **Electric and hybrid trucks** Page 25.

### Understanding fully electric and hybrid solutions

Fully electric vehicles are powered or propelled solely by an electric motor. They emit no particulate matter, nitrogen oxides or carbon dioxide during use and have very low noise levels. This makes them highly suitable for use in densely-populated city centers, especially at night.

Hybrid technology is one of the most promising and competitive technologies for commercial vehicles. Because of its potential for saving fuel, hybrid technology means lower operating costs for customers and significantly reduced environmental impact.

The most appropriate vehicles for hybrid drivelines are those operating in continuous stop-go conditions, such as city buses and refuse or distribution trucks.

The Volvo Group's hybrid vehicles and machines are powered or propelled by two different power sources that are able to recover and store kinetic energy from the vehicle. Since their introduction in 2010, our hybrid buses have been very successful, with customers in more than 20 countries.

Electric hybrids are fitted with a small diesel engine and a battery-powered electric motor that can be fully charged by connecting to an external electrical power source. This technology enables emissions-free operation and fast charging in urban areas, with the capacity to cover longer distances.

### Extending the advantages of electromobility

Fully electric and electric hybrid vehicles are dependent on the availability and efficiency of battery charging solutions. To understand how different systems affect our products and how we can best support our customers in choosing a system solution, the Volvo Group is working in several collaborative partnerships exploring different charging technologies.

Our approach is based on internationally accepted standards and enables efficient re-use of existing e-mobility technologies, thereby ensuring a more rapid and cost effective deployment of urban electromobility.

Under one agreement, signed in 2014, Volvo Buses will supply electric hybrid and fully electric buses to customers and our partners will supply open standards-based fast charging systems.

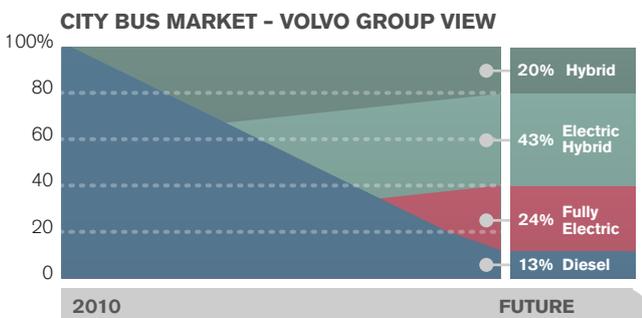
We are also working in collaboration with partners on electric road systems (ERS) where we are exploring possibilities for continuous charging of vehicles as they drive along.

ERS could take the advantages of electromobility beyond urban static recharging points and open up opportunities for electrification of long-distance bus and heavy trucks, as well as future public transport solutions.

- **In Sweden**, the One system, has two power lines built into the surface of the road. Each section becomes live as the vehicle passes over it, and electricity is transferred to the engine via a current collector at the end of the vehicle. The solution is currently being tested on a heavy duty truck and the results are encouraging. The Volvo Group is also taking part in a pre-commercial procurement initiative with the Swedish Transport Administration. The aim is to evaluate the opportunities for realizing dynamic charging as a solution for city buses.
- **In the US**, the eHighWay initiative is due to begin tests on location in California from November 2015. This ERS is an adaptation of existing tramcar technology and will charge the vehicle from an overhead wire.

### DELIVERING ELECTRIC AND HYBRID BUS SOLUTIONS

The city bus market globally is moving away from diesel-powered vehicles towards a future where electromobility is the dominant solution. Volvo Buses are at the forefront of this technology and have electromobility solutions to meet all public transport needs.



In a recent survey\* of authorities, municipalities and bus operators in 24 countries, the majority plans to introduce more electromobility into their future systems. Of those, 70% are considering hybrids, nearly half are thinking about fully electric solutions and around a third electric hybrid technology.

\*source: UITP FP7 framework program 3iBs Project

### Meeting all city needs

For the Volvo Group, hybrids, electric hybrids and fully electric buses all have their natural place in the city. The quiet, wholly emission-free, electric bus is suitable for the city center. The fast-charging electric hybrid for slightly longer routes and diesel hybrids for commuter services into cities.



### Launching the Volvo Electric Hybrid

In September 2014, we achieved a major milestone in our city customer offer with the launch of the Volvo Electric Hybrid bus. The Volvo Electric Hybrid shares the same technology as our well-proven Volvo Hybrid, ensuring customers of high uptime and availability.

Compared to a conventional Euro 5 diesel bus, the new electric hybrid bus:

- Reduces energy consumption by 60%
- Reduces CO<sub>2</sub> emissions by up to 75%

The Volvo Electric Hybrid is highly flexible and can run as an electric bus in selected areas and as a hybrid on any route. It runs in electric mode on average 70% of the route, silently and emissions free, and takes six minutes to charge at end stations.

The first Volvo Electric Hybrid went into commercial operation in Hamburg in December 2014. In Stockholm, electric hybrids will operate on the public transport system in 2015. We have also received orders from Edinburgh, UK.

#### THE VOLVO 7900 ELECTRIC HYBRID BUS FACTS

The bus is equipped with an electric motor that is powered by lithium batteries. It also has a small diesel engine

- The bus is charged quickly at charging stations via an overhead power connection. Recharging takes appr. 6 minutes at end stations.
- The bus can be driven about seven kilometres on electricity alone, covering the distance silently and entirely without exhaust emissions.
- Enables indoor bus stops
- 75% fuel saving
- 60% energy reduction
- 75% CO<sub>2</sub> reduction
- Passenger capacity: 95
- Electrical motor: Volvo I-SAM
- Gearbox: Volvo I-Shift
- Lithium-ion battery

### On track for fully electric bus service

Within the framework of ElectriCity, the Volvo Group and a number of stakeholders from industry, public authorities and academia continue to cooperate on the shared objective of increasing the attractiveness of public transport. The outcome will be an electrified bus system in Gothenburg that acts as a live demonstration for developing and testing new public transport solutions. We are on track to commence commercial services scheduled for June 2015.

Our fully electric bus model will deliver:

- **Silent transport**
- **No local exhaust emissions**
- **99% CO<sub>2</sub> reductions**
- **80% energy savings**

### World leader in hybrid bus market

Our comprehensive range of hybrid buses includes the two-axle Volvo Hybrid and the Volvo Articulated Hybrid, a three-axle high-capacity bus with space for up to 154 passengers. Chassis with Volvo hybrid powertrains form the basis for British double-deckers and the buses used in South American BRT (bus rapid transit) systems.

Compared to conventional diesel models, our hybrid buses offer significant fuel savings:

- **Up to 39%:** Volvo Hybrid city bus and Hybrid double-decker
- **Up to 30%:** Volvo Hybrid Articulated

The technology functions equally well in congested traffic situations and where there is greater distance between bus stops. The diesel engine only starts when the bus reaches 15–20 km/hour, ensuring a quiet and exhaust-free environment at bus stops.

Sales of Volvo Hybrid bus models continue to pull ahead in cities the world over that are aiming to improve the quality of life for commuters. In 2014, orders for more than 475 new buses were signed by customers in countries including the UK, Germany and Switzerland.

### TESTING ELECTRIC AND HYBRID TRUCK SOLUTIONS

The Volvo Group has been successfully road testing and operating fully electric trucks and electromobility technologies for European customers for several years.

Fully electric trucks emit no particulate matter, nitrogen oxides or carbon dioxide emissions during operation and have very low noise levels, making them suitable and popular with customers for city distribution, operations at night and use in restricted low-emission zones.

### Proving the benefits of electromobility

Since 2011, a fleet of 10 Renault Trucks Maxity Electric vehicles has covered over 220,000 km in Paris and its suburbs for one of our customers. These all-electric vehicles fulfill local authority requirements on limiting polluting emissions and noise disturbance and support commercial clients' sustainability commitments.



The Maxity Electric can carry a payload of around 1.5 tons. It is powered by the latest generation lithium-ion batteries, which can be recharged in seven hours at a cost of around EUR 2 per day. The batteries in the new trucks have been scaled to enable the vehicle to cover around 100 km a day on a full charge.

### Researching sustainable distribution

As part of collaborative research with another customer, Renault Trucks is currently testing an experimental all-electric 16 ton vehicle delivering supplies to boutiques in Paris over two years.

The 100% electrically-driven Renault Trucks D-range generates no polluting emissions or noise and will be tested on regular, demanding delivery rounds of over 200 km. Operating over such a long route is a first for any electrically-driven vehicle, and the truck will recharge its battery several times during each 24 hour operating cycle. Its route has been planned so that it can carry out two partial recharges during the day and a total recharge between 7pm and 2am.

The test is scheduled to run until the end of 2015.

### Testing electric and hybrid truck technology

In Switzerland, Renault Trucks is testing two groundbreaking concept 'e-Trucks' that combine an all-electric Renault Midlum with a refrigerated body powered by electricity.

The e-Trucks are able to carry 3 tons of ice cream and refrigerated products. They supply between 30 and 50 sales outlets every day, over a distance of between 60 and 100 km a day. During operation, they produce no exhaust emissions or CO<sub>2</sub> and run almost completely silently.

The vehicles can reach a maximum speed of 90 km/h and have a system for recovering energy during braking. The two lithium-ion battery packs have a total capacity of 170 kWh, giving them an operating range of around 140 km, with recharging taking eight hours using a standard power outlet. Trials are ongoing until 2016.

• **In Sweden**, tests of a Volvo FE electric hybrid truck started in Stockholm in June 2014 as part of a city distribution project involving commercial, local authority and academic partners. The project, called Off Peak, aims to test nightly deliveries with reduced noise and emissions, at the same time as increasing efficiency in the transport system. The tests and evaluation will continue until 2016.

**ePTO - quieter, cleaner and more efficient**

A truck that incorporates electric power take-off (ePTO) technology is currently being developed in a partnership program involving the Volvo Truck Center. The Volvo FH features a hydraulic crane system designed with an ePTO that is completely battery powered.

This means that all crane operations are done with the combustion engine switched off. This allows quiet handling of goods in sensitive environments or during restricted hours, as well as indoor work. The system is very flexible and can replace conventional equipment such as a sky lift or forklift.

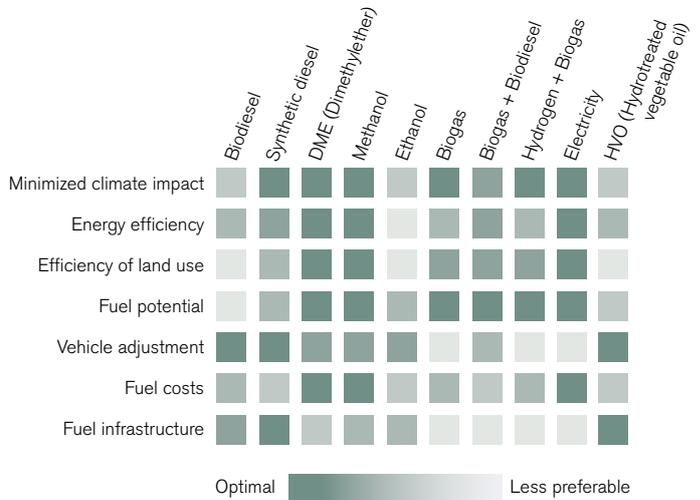


**Taking a strong position on alternative and renewable fuels**

The Volvo Group believes the use of alternative and renewable fuels is essential for achieving sustainable transport solutions. Finding ways to reduce fossil fuel dependency and climate impact, and secure diversity of supply is crucial for environmental, social and economic sustainability.

Following years of study and prototype truck trials running on different fuels, the Volvo Group recognizes that there is no single solution to meet all needs. Conventional diesel fuel, with increasing renewable or synthetic content, will remain the dominant fuel for all types of transport for many years.

**Renewable fuels: assessment of important criteria**



The chart depicts the results of a detailed assessment of a variety of fuels produced from renewable sources against a wide range of criteria. Ratings may vary for a particular fuel depending on the specific production pathway.

We have developed a very clear position on alternative fuels, which we updated during 2014. We support the Volvo Group strategic objective of efficiency by prioritizing our research and development in the following areas:

- **Long distance applications:** liquid methane and Dimethylether (DME) are our main prioritized alternatives. Dynamic electric charging is an additional long-term alternative
- **Medium distance applications:** compressed methane and DME are our main prioritized alternatives. Dynamic electric charging is an additional long-term alternative
- **Urban applications:** electricity and compressed methane are prioritized

**Bringing a new gas-powered truck to market**

In Europe, the Volvo Group is currently operating 600 gas-powered Renault Trucks for distribution and refuse collection.

In 2014, we launched a new gas-powered truck for the European market: the Volvo FE CNG (Compressed Natural Gas). The new model runs entirely on methane gas and is equipped with a new 9-liter gas-powered engine featuring spark plug technology and automatic transmission compliant with Euro 6. When run on biogas, this truck reduces CO<sub>2</sub> emissions by up to 70%.

Spark plug technology is particularly suitable for driving cycles where the truck covers short distances with a lot of start-stop traffic, and the automatic transmission gives faster driveline response.

The Volvo FE CNG has been primarily developed for operations involving short driving cycles with repeated starts and stops such as refuse collection and local distribution. Sales started in August 2014, with series production scheduled for 2015. We are continuing to develop liquefied natural gas (LNG) products for the European market.



### Commericalizing methane diesel snow sweepers

We have successfully commercialized the methane-diesel snow sweeper concept that won the 2012 Swedish Institute for Quality 'Innovation of the Year' award.

Volvo Construction Equipment has delivered hauler front units to its project partner for rebuilding into snow sweepers. Volvo Penta is supplying the engines for the hydraulic system propelling the brush and blow function.

The two snow sweeper engines have a methane diesel function powered by diesel and biogas. The combination of the diesel engine efficiency and the environmental benefits from the biogas makes the engine significantly more energy efficient compared to spark-ignited gas engines.

### Continuing field tests and trials

Continued demonstration and collaboration are key aspects in our development of vehicles that can run on alternative and renewable fuels. The Volvo Group previously stated our intention to commercialize our DME offer in the US. We have now decided to await developments in the market before committing to an exact date.

The Volvo Group continues to believe that DME holds promise as a heavy-truck fuel and our customer field tests of DME-powered vehicles will continue.

In Sweden, we have also been successfully running field trials on Euro 5 Volvo trucks using hydrotreated vegetable oils (HVO), which the Volvo Group believes is a better alternative to biodiesel, as there is a larger raw material base to produce it from.

### Volvo Group Energy and Alternative Fuels Network

To succeed in bringing our innovations on fuel to market, we must work in close partnership with customers and providers of infrastructure and alternative fuels. Renewable energy solutions are also an important magnifier of our WWF Climate Savers 2015-2020 commitment.

In support of this, we set up the Volvo Group Energy and Alternative Fuels Network in 2014. Its mission is to provide and maintain a common fact-based high-level strategy and position for the Volvo Group on energy and alternative fuels.



## Enhancing sustainability through safety

Road traffic and work site safety is both a global sustainability concern and a material area for the Volvo Group to address. We cannot achieve sustainable economic or social growth if regions are crippled by congestion or failing to stem the rising number of fatalities and injuries.

The global cost of traffic accidents to society is estimated at over half a trillion US dollars a year – on a par with the total GDP of Sweden.<sup>1</sup> Unless serious action is taken, the number of people killed or seriously injured in traffic is estimated to increase to 1.9 million a year by 2020. By 2030, it is expected to be the fifth leading cause of death.<sup>2</sup>

There is a huge imbalance between industrialized and developing economies. Fatalities are decreasing in western markets thanks to improvements made over many years in vehicle safety, infrastructure, policies, and training. But they are fast increasing in emerging and developing countries.

### Handling safety issues strategically

As a leading player in the global transport industry, the Volvo Group recognizes that we are part of the problem related to traffic accidents. Equally, we are determined to become recognized as:

- **The leading supplier of safe transport solutions**
- **A leading contributor to a sustainable society in the domain of safety**

Safety is one of our corporate core values and we constantly work towards our vision of zero accidents in everything we do.

The Volvo Group aims to achieve our vision by focusing on:

- **Vehicle safety.** Read more on page 29.
- **Traffic and driver safety.** Read more on page 30.
- **Traffic and worksite safety education.** Read more on page 53.

### Building on our long safety expertise

Our work on safer transport solutions is based on a deep understanding of accidents gathered through decades of in-house research and expanding collaboration.

- **In Scandinavia,** the Volvo Group's in-house Accident Research Team has looked at heavy truck accidents for over 40 years. The team has developed an advanced, in-depth accident analysis methodology and built up a unique bank of knowledge about causes and consequences of heavy truck accidents. Combining accident data analysis with the Group's own research and test programs gives us solid insights into the causes of accidents and injuries. This work provides important input into our future product plans, advanced engineering and research.
- **In China,** traffic safety has emerged as an increasingly important issue for both the Chinese government and the general public. The Volvo Group is one of five partners behind the new China-Sweden Research Center for Traffic Safety (RCTS) in Beijing. Its vision is to deliver world-class traffic safety research that reduces traffic accidents and casualties in China, with the ambition of establishing traffic safety as a core value for a sustainable society. One of the problem areas currently being looked into includes the minimum requirements for drivers to take breaks. In 2014, the Volvo Group also extended its partnership in the Chinese In-depth Accident Study (CIDAS) for three years. CIDAS aims to develop accident research capabilities and a database of road accidents.

1. Global Status Report on Road Safety: Time for Action, WHO (2009)

2. Research paper # 3035: Traffic Fatalities and Economic Growth, World Bank (2003)

## Actively improving vehicle safety

The Volvo Group's ambition is for zero accidents involving our vehicles or equipment. Although our products range from basic and value machines, trucks and buses to premium products, our commitment to safety is universally applied.

We focus on both active and passive safety features:

- **Active safety** features and technology, such as vehicle stability, emergency braking and visibility support, aim to prevent or mitigate the consequences of crashes
- **Passive safety** components, including airbags and body protection in the cab, aim to protect the occupants in the event of a crash

Safety studies show that the vast majority, more than 90%, of all traffic accidents involve human factors.\* Loss of concentration on the road, resulting from fatigue or inattention, is one of the most common causes.

### Technological safety systems

Over the years, the Volvo Group has pioneered a variety of driver assistance systems, including Driver Alert Support and Lane Changing Support, that enhance awareness and alert the driver before a situation turns critical.

Collision Warning with Emergency Brake system is one of our most sophisticated systems and was launched with the Volvo FH truck in 2013.

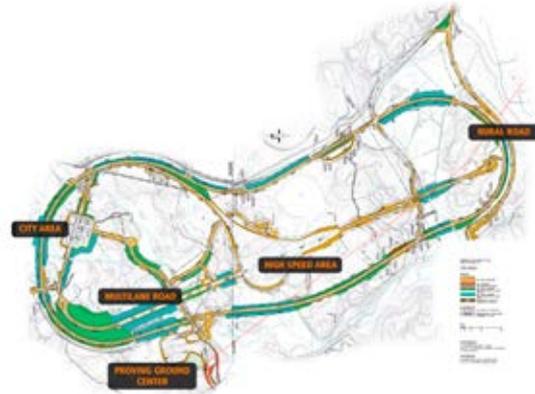
Volvo Trucks has developed new technology which dramatically can reduce the risk of accidents caused by a limited field of vision. It enables a vehicle to do a 360 degree scan of everything in its surroundings. The vehicle evaluates information from multiple sources simultaneously, functioning much like the human mind does, and suggests actions to avoid any incidents. The technology is now in the test phase and may become reality in a few years' time.

### Improving public transport safety

Building on Volvo Trucks' experience in automatic braking systems, Volvo Buses developed a new Bus AEBS (Automatic Emergency Brake System), which was launched in 2014. It uses both radar and camera technology to detect vehicles in front of the coach and to activate the forward collision warning and emergency braking functionality.

AEBS is an example both of the Volvo Group's proactive approach to road safety and its strategic approach to efficiency. New bus regulations come into force in 2015 and 2018. Instead of developing two systems, we have a single innovation that easily fulfills the lower requirements of the 2015 regulations, while efficiently placing the Volvo Group ahead of the legal requirements due in 2018.

### The world's first full-scale safety test track



AstaZero, the world's first full-scale test track for active automotive safety, was launched in 2014. Located in Borås, Sweden, the 2,000,000 square meter testing area simulates cities and rural roads as well as a multilane and high-speed motorway.

The site is owned by the SP Technical Research Institute of Sweden and Chalmers University of Technology. The AstaZero proving ground has been built and developed in close cooperation with the Volvo Group, with the aim of testing active safety innovations in full-scale test environments.

The testing areas include nearly six kilometers of rural road with intersections, street lights and bus stops, as well as a city environment where vehicles can be tested in authentic scenarios involving other vehicles in heavy traffic, cyclists and pedestrians. The infrastructure enables also connected vehicles to communicate with each other as well as with the surroundings.

\* Volvo Trucks European Accident Research and Safety Report (2013)

## Increasing safety through awareness and training

Vehicle safety systems play an important role in preventing accidents and reducing their impacts. But with 90% of accidents involving human factors, the Volvo Group believes the most effective way to increase safety is to complement technological solutions with awareness and training for drivers and society.

We run traffic and site safety programs all over the world, including, for example:

- **The TransFORM program** in Brazil has been run since 1998 and has been replicated in Peru
- **Driver training programs** run jointly with Eicher in India have trained more than 110,000 drivers
- **Educational programs** in Sweden, Norway, Denmark, Russia, Latvia, Estonia, the US, India, Singapore, China and South Korea have taught more than 100,000 children about road safety
- **Operator training** run by Volvo Construction Equipment in India trained close to 2,300 operators in 2014 and the total trained since start is above 8,600
- **Volvo Driver Academy** is a demo project initiated in China. It is a platform for safer and more efficient driving. Over two weeks, 30 drivers received comprehensive training to drive safer and more efficiently. The project will continue in the coming years and is an important initiative for the Volvo Group to participate in the development of China's logistic industry.

Read more about the Volvo Group's traffic and work site safety education initiatives on page 53.



## Optimizing outcomes with smarter solutions

Sustainable transport solutions solve customer problems, optimize operations and take the environment into consideration at the same time. The Volvo Group's enabling technologies, customer and dealer services, and integrated solutions aim to increase revenue and reduce costs for customers throughout the product lifecycle.

### Solving problems with innovative approaches

The Volvo Group is presently active in a variety of programs that address different problems using smart technology, integrated transport systems, advanced engineering, and pioneering vehicle combinations.

For example, the combination of telematics, advanced IT solutions and communication technology providing real-time traffic information, remote monitoring and communication between vehicles and the infrastructure, offers major opportunities for increasing safety and reducing congestion and environmental impacts.

### Transforming Technology into intelligence

Telematics is an area of technology based on vehicles being wirelessly connected. Telematics and connected services are changing the way the Volvo Group can enhance existing services and deliver new and sustainable solutions that support customers and maximize efficiency.

There are currently around 300,000 Volvo Group vehicles around the world with connected services in operation. Our connected services include remote diagnostics, fuel management, and driver coaching.

Connected services are not limited to commercial transport, society as a whole is becoming more connected. The Volvo Group focuses strategically on telematics and connected services to increase our understanding of roads and infrastructure, mobility, emissions, and accidents. This will enable us to contribute positively to the concept and development of sustainable, connected societies.

### Benefiting from connected solutions

There are multiple business benefits of connected services, including:

- **Decreasing operating costs** and improving fleet utilization for fleet operators and drivers
- **Improved vehicle uptime** and customer management by shifting from reactive to proactive dealer and workshop processes.
- **Increasing the understanding** of our product development, call center and warranty departments about how a vehicle operates in use
- **Minimizing the risks** for insurance and leasing companies through better understanding of vehicle usage and its operational status
- **Opening up opportunities** for content and service provider partnerships

As well as the opportunities that smart services and big data offer, we are aware of the sensitivities involved and we are committed to developing our services responsibly.

### Increasing uptime with remote diagnostics

Traditionally, servicing intervals are set by a group of fixed parameters and scheduled months in advance. Until then, the vehicle is driven and no issues are noticed unless something results in an unplanned stop.

With Vehicle Remote Diagnostics, the truck sends a warning signal to us as soon as an issue occurs. This enables us to schedule a service appointment before the problem becomes serious and leads to a breakdown.

### Combining telematics with real-time customer care

In the US, Mack Trucks launched a new and advanced version of its existing on-board remote diagnostics tool in 2014. The latest Guarddog Connect technology is combined with a telematics network, a real-time customer care and service network to:

- 1. Identify** fault codes, diagnostic needs, maintenance milestones and solutions
- 2. Alert** decision makers, the OneCall customer service center and service providers
- 3. Schedule** repairs, availability of parts and prompt repairs

If something happens to a truck out on the road, Guarddog Connect alerts the driver. If the issue needs immediate attention, it automatically contacts Mack's OneCall customer center to diagnose the problem remotely. After diagnosis, OneCall contacts the decision maker, orders parts and schedules a call at a service center near the truck's location. On arrival, our technicians get to work right away to resolve the issue and get the truck, and the customer, back on the road.

### Saving fuel by remembering the road

I-See is the technology platform in the new Volvo FH trucks that aims to deliver fuel savings of up to 5% by the vehicle 'remembering' the topography of the road. The first time a truck is driven up a hill, information is stored in the truck's on-board memory. The next time the route is travelled, this information is used to maximize fuel efficiency.

Skilled drivers can achieve the same results as I-See, but this system enables them to do it repeatedly, which is especially beneficial for long haul driving.

I-See Extended is the latest development of this technology and has two additional advantages:

- 1. The cruise control now functions across a small range,** instead of a fixed speed. This enables the vehicle to automatically accelerate when it knows it is approaching a hill, and when to ease off and use the angle of the road to save fuel
- 2. The new telematics – I-See Extended – enables us to share the recorded road information** with other trucks. Once a single truck has travelled along a road, all I-See Extended trucks will benefit from the knowledge gained, without having to travel it first themselves

This is an efficient way to help customers realize fuel savings more quickly.

### Targeting driver training more efficiently

Volvo Trucks' Dynafleet management system helps fleet managers to support their drivers in driving more safely and fuel efficiently. The technology provides real-time feedback to the driver, helping them to adjust their behavior and driving style. Improved driving also lowers the lifetime maintenance and repair costs of a fleet.

Dynafleet can also highlight which drivers may need more support, such as face-to-face training with a professional instructor. This targeted approach is more cost effective than mass training.

## Pioneering integrated solutions

The Volvo Group aims to be in the forefront of developing more efficient transport systems that take account of and integrate the economic, environmental and social dimensions of sustainability.

We are actively involved in a number of initiatives to deliver smarter public transport solutions in urban areas:

- **Bus Rapid Transit systems**
- **City Mobility program**
- **Zone management.**

We are also participating in several pioneering partnership projects to explore and assess the viability of integrated freight and construction systems, including:

- **Green corridors.** Read more on page 33.
- **Platooning trials.** Read more on page 33.
- **Autonomous machines.** Read more on page 34.

### SMARTER PUBLIC TRANSPORT SOLUTIONS

In numerous cities around the world, the Volvo Group is working collaboratively with public transport and distribution decision makers to develop and apply new technologies and transport solutions.

As cities spread and their populations grow, an expansion of public transport systems is necessary to deal with the logistical problems that arise. Most cities now want to implement solutions that are as environmentally, economically and socially sustainable as possible.

### Pioneering BRT bus provider

The Volvo Group has been a pioneer in the development of Bus Rapid Transit (BRT) systems around the world. There are currently around 250 BRT systems globally and we supply products and services to more than 30, including Bogota's Trans-Milenio BRT system – the biggest in the world. Volvo Buses is also supplying buses to BRT systems in Brazil, Chile, Mexico, India, South Africa and Sweden.

The key elements of BRT are:

- **High-capacity buses**
- **Exclusive bus lanes**
- **Offboard ticketing**
- **Level boarding**
- **Priority at intersections**
- **Traffic control**
- **Passenger information**

BRT systems with high-capacity buses running on dedicated roads or lanes offer the same performance as commuter trains yet require much less capital investment.

### Boosting capacity on Brazil's BRT

In Brazil, we have been a partner within the BRT system for over 25 years. Most recently, in 2014, we delivered 124 new articulated buses for a new BRT line in Rio de Janeiro. The buses offer 20% higher capacity than most similar buses operating the BRT lines there.

This higher capacity allows for increased access to public transport and a reduction in the number of vehicles operating in the corridor, which consequently increases the average speed of the system, reducing the emission of pollutants, and operating costs.

### Sustainable benefits of City Mobility

The City Mobility program pioneered by the Volvo Group brings together key stakeholders to develop and implement integrated and innovative sustainable transport pilot projects that are suited to each individual city.

It is being deployed in several cities including Gothenburg, Stockholm, Hamburg, and Montréal. During 2014, agreements on cooperation were signed with the cities of Shanghai and Curitiba, with Mexico following in early 2015.

The Volvo Group works collaboratively with public transport and distribution decision makers in numerous cities around the world to develop and apply new technologies and transport solutions, such as hybrid and electric vehicles.

As well as supplying vehicles, the Volvo Group assists cities more and more in planning the infrastructure required for the introduction of electric and hybrid buses. This typically includes discussions about:

- **Bus route options**
- **Low-emission zones**
- **Quiet zones**
- **Charging station quantities**
- **Locations for charging stations**

City transport requirements drive further development of our integrated system solutions and sales. City Mobility is one of our new 2015–2020 WWF Climate Savers magnifier commitments, and we aim to start up the concept in at least five cities.

### Introducing Zone Management technology

In 2014 we introduced our innovative new Zone Management technology service, which simplifies safe, emissions-free city driving. More and more cities are introducing restrictions on the vehicles permitted to operate in different urban areas. Some zones are completely emissions free, while others impose special noise or speed regulations.

Volvo Bus Zone Management is a service that enables compliance with restrictions in various kinds of sensitive areas. The technology regulates automatically how the bus operates in specific zones along the route. GPS is used to determine exactly where along the route the bus should run on electricity or diesel, and also how fast it may drive in the various zones. The technology contributes to a cleaner, safer and quieter urban environment.



### DEVELOPING SMART FREIGHT SOLUTIONS

The idea of a Green Corridor is to concentrate freight traffic between major urban areas along specially adapted routes that provide efficient links between highways, sea routes and railways. This will result in safer and more efficient transport, less traffic congestion and overall lower environmental impact.

Smart solutions including strategic trans-shipment points, information sharing and intelligent transport system (ITS) are all integrated into a Green Corridor solution.

### Testing C-ITS with a living laboratory



In the EU, the Volvo Group is participating in a new Green Corridor project stretching from Rotterdam to Vienna, passing through Germany.

The aim is to:

- **Build** a test site for connected vehicles
- **Apply** state-of-the-art vehicle-to-vehicle and vehicle-to-infrastructure communication technology
- **Increase** highway efficiency and safety
- **Reduce** the environmental impact of long-distance freight transport
- **Provide** a basis for standardized, international cooperative ITS (C-ITS) for the future

We are contributing with technical vehicle expertise, knowledge of the transport system, and participation in field tests.

The program began in 2013 and is due to be completed in 2017.

### USING WIRELESS TECHNOLOGY TO CONNECT VEHICLES

Platooning is the US term for road trains, which the Volvo Group has successfully tested over a number of years in projects in the EU, US and Japan.

Platooning uses wireless technology to link a lead truck, operated by a trained driver, and control a convoy of vehicles in a road train. Tests indicate that driving in a close-formation convoy could reduce accidents, improve traffic flow, lower fuel consumption and carbon emissions while offering greater comfort to drivers.

However, there are challenges regarding legislation, responsibility and communications standards, which must all be resolved before platooning can be adopted as a sustainable transport solution. The Volvo Group actively participated in dialogue with the US, EU and Swedish stakeholders during 2014 on issues surrounding platooning.

#### Getting the latest trial on the road

The United States Department of Transport awarded a USD 2 M contract to a multi-stakeholder team including the Volvo Group, University of California Berkeley, CALTRANS, Los Angeles Metro and other partners in 2013.

The Partial Automation for Truck Platooning project began in 2014 and will run until 2016. The aim is to develop and demonstrate a system in which three heavy-duty trucks are connected in a platoon in order to increase roadway capacity and decrease fuel consumption. The main demonstration will take place around the ports in Los Angeles.

#### FULLY INTEGRATED AUTOMATED SITE SOLUTIONS

Volvo Construction Equipment is planning the future of construction sites by developing, evaluating and testing smart solutions that support zero unplanned stops, increased uptime, reduced environmental impacts and enhanced site safety.

Watch the video of Volvo Construction Equipment's future solutions on youtube.

#### Investigating autonomous excavation in Europe

During 2013 and 2014, Volvo Construction Equipment and the Robotics Research Laboratory at Kaiserslautern University of Technology participated in a publicly-funded project focusing on:

- **Software** that makes autonomous excavation tasks possible and automatically adapts to changing environmental conditions or unexpected situations
- **Environmental data management** that is fast, accurate and efficient, to cope with the mobile equipment's high environmental interactions
- **A stability observer** that provides immediate information about the stability of the machine and is capable of predicting machine instability thereby enabling automatic or human intervention

The project was completed in April 2014. Negotiations about its continuation are ongoing.

## Pioneering high capacity transport

The Volvo Group has been actively involved in the development of High Capacity Transport vehicles (HCT) since 2007, participating in projects funded partly by the Swedish Strategic Vehicle Research and Innovation program (FFI).

Many initiatives are ongoing until 2016, with the Volvo Group contributing to products and solutions.

#### Announcing the latest improvements

During 2014, several improvements were targeted, achieved and verified. These included evaluations of fuel efficiency, optimized driveline for complete combinations, lane change stability, brake functionality, weight reductions, and air and rolling resistance. We are also supporting authorities working on the development of rules and regulations, both in Sweden and internationally, for multi-vehicle combinations.

- **The One more pile (VETT)** aims to develop a modular system for forest transport. Compared to standard 60-ton combinations, the high-capacity 90-ton combinations have so far achieved a 22% reduction in fuel consumption and CO<sub>2</sub> emissions, while the 74-ton combinations have reduced CO<sub>2</sub> by 10 to 15% per ton/km. All aspects have been thoroughly investigated and addressed and the overall safety has been improved. Approval has been gained for certain road networks in Finland and Sweden. Sweden is considering approval of the 74-ton on a limited road network and the 64-ton on a major road network.
- **The DUO2 project** is testing a truck that is longer and heavier than those available in Europe today\*. For the DUO2 project, we have special permission to test a 32 meter long truck weighing up to 80 tons, travelling between Gothenburg and Malmö in Sweden – a journey of approximately 300 km. The vehicle combination shows a 27% reduction in fuel consumption, compared to standard combinations and that volume and load distribution may play a more significant role than weight restriction.

\* Under EU legislation, trucks are permitted up to a maximum of 18.75 meters in length and 40 tons in weight, except in Sweden, Finland, Norway, Denmark and the Netherlands where the limit is 25.25 meters and 60 tons. Tests with combinations up to 25.25 meters are ongoing in Germany.

## Improving the driving experience with smart dynamics

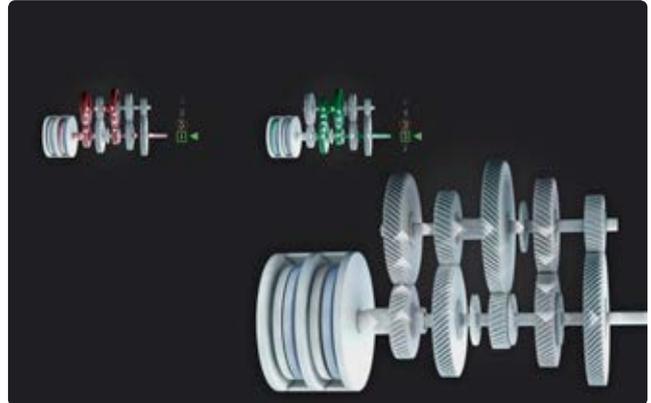
Official figures from the Swedish Work Environment Authority reveal that truck drivers are over-represented in occupational injury statistics. Improving the driver's working conditions and overall experience results in more relaxed, safer and healthier driving.

### Elevating heavy vehicle steering to a new dimension

Volvo Dynamic Steering combines conventional hydraulic power steering with an electronically regulated electric motor fitted to the steering gear. The result is precise steering that gives the truck driver a safer, more controlled, comfortable and relaxed working environment. The technology helps to address the most frequent occupational injuries suffered by heavy duty vehicle drivers.

### Adapting car technology for heavy duty vehicles

In autumn 2014, the Volvo Group was the first company to bring to market a dual clutch system for heavy duty vehicles. Our advanced engineering process successfully adapted the technology used for cars to offer a similar solution for series-produced trucks. The I-Shift Dual Clutch is now available on the Volvo FH.



It can be described as two gearboxes linked together. When one gearbox is active, the next gear is preselected in the other gearbox. During gear changing, the first gearbox is disconnected at the same instant as the second gearbox is connected.

With I-Shift Dual Clutch, gear changes take place without any interruption in power delivery, which is especially beneficial on hilly and winding roads. It is also effective in cities with frequent roundabouts and traffic lights. Overall, it makes for a smoother journey, particularly when transporting livestock or liquids. This results in more relaxed and therefore safer driving, while also reducing wear on the driveline and the rest of the vehicle.



# Rethinking the future of transport

To become the world leader in sustainable transport solutions, we need to understand the industrial, technological and societal challenges and opportunities in the world around us and how the Volvo Group can address these through leadership, innovation and research.

The main challenges facing our business include increasing:

- **Demand** for road transport coupled with limited investment in network capacity
- **Requirements** for long-haul and distribution transport to reduce environmental and social impacts
- **Need** to keep road transport costs at levels that do not impact economic growth or social mobility
- **Demand** for productivity, safety and environmental care in the construction equipment industry

## Developing future solutions

The Volvo Group believes that our products and services are one piece of the transport and infrastructure puzzle. To maximize the long-term environmental, social and business benefits, we need to consider the bigger picture and understand how our products and services are, and can be, integrated into society. Instead of offering single products or services, we will deliver complete transport and site solutions with added customer value.

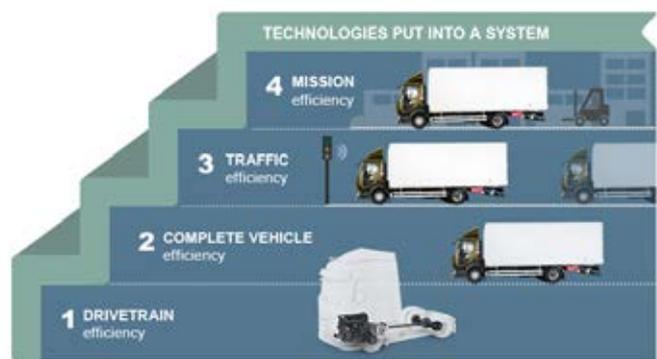
For example, we have developed our City Mobility program in collaboration with partners to provide a complete solution for participating local authorities. Instead of buying and owning electric hybrid buses and procuring charging systems, they pay per kilometer of specified transport capacity.

## Increasing efficiency through complete solutions

The example featured here shows how the Volvo Group's innovation focus goes beyond individual products and services to the complete consideration of every inter-linked aspect. The same mindset is applied when developing truck, bus and construction equipment solutions.

## Pioneering leadership, innovation and research

Our work to become the world leader in sustainable transport solutions is based on our understanding of our customers' needs, the technological challenges and opportunities in the world around us. The Volvo Group therefore focuses on leadership, innovation and research.



Our work starts with the desired outcome, instead of focusing solely on the drivetrain or the vehicle. In the example shown, enhancing customer efficiency and concentrating on efficient delivery of the mission is the goal. We can reduce customer downtime with intelligent, connected systems for efficient traffic and freight scheduling. This is supported by vehicle-to-vehicle and vehicle-to-infrastructure technology that reduces accidents, congestion and improves traffic flows at the same time satisfying the customers' overall needs.

## Taking the lead on sustainability

Sustainable transport solutions are of increasing importance to our business and our stakeholders. The Volvo Group regularly takes an active part in sustainability programs, meetings with business leaders, government and authorities as well as other stakeholders globally, regionally and locally.

The Volvo Group was the world's first automotive manufacturer to be approved by WWF to participate in their Climate Savers program back in 2010. In 2014, Olof Persson, the CEO of the Volvo Group, was appointed co-chairman of the United Nations (UN) High-level Advisory Group on Sustainable Transport for three years.

These platforms are a validation of our vision and our achievements to date. They also extend the scope of the Volvo Group's work on sustainable transport solutions to the highest levels of influence and to all parts of the world.

### Contributing to sustainable transport solutions

Initiated by UN General Secretary, Ban Ki-Moon, the Advisory Group serves as an independent voice in the global promotion of safe and sustainable mobility, transport and infrastructure systems that contribute towards UN sustainable development goals.

This initiative aims to unleash the full potential of transport to enhance inclusive economic growth and social development while reducing emissions, pollution and accidents. Over the next three years, the Advisory Group will work with governments, transport providers, industry, financial institutions, civil society and other stakeholders to:

- **Facilitate economic growth** through affordable and reliable access to mobility and goods transport
- **Reduce the negative effects** of transport on the environment and key ecosystems, including the effects of carbon dioxide and other greenhouse gases on climate change
- **Support social inclusion** and equitable growth through enhanced public health and improved road safety as part of the sustainable development agenda to alleviate poverty.

In the short-term, the Advisory Group will provide the General Secretary with recommendations on sustainable transport, develop innovative policy and multi-stakeholder partnerships for sustainable transport and launch a 'Global Transport Outlook Report' by 2016. Read more on the Volvo Group solutions responding to the global mega trends and UN Sustainable Development Goals on page 12.

### Exceeding on pioneering climate commitments

In 2014, the Volvo Group completed our pioneering commitment to the WWF Climate Savers program.

One of our objectives was a 30 M ton reduction in CO<sub>2</sub> emissions over the total lifetime of the trucks, construction equipment and buses we manufactured between 2009-2014, compared to the baseline year 2008.

Final audited results will be available in late spring 2015, but the latest figures indicate that total lifetime carbon dioxide emissions of the Group's products were reduced by 40 M tons by 2013. These savings have been achieved through improved fuel efficiency.



We also delivered on our commitment to develop prototype trucks with improved fuel efficiency. During the 2009-2014 program, we launched three demonstrators. Our field tests show that combining the techniques piloted could achieve 20% lower fuel consumption.

### Committing to even more challenging targets

At the end of 2014, we agreed on a new 2015-2020 commitment with WWF to:

- **Save energy and reduce CO<sub>2</sub>** emissions in our production by 8% and freight transport by 20% (baseline 2013).
- **Reduce total lifetime CO<sub>2</sub>** emissions from products by 40 M tons.
- **Act as a magnifier** to enhance sustainable development within the transport and infrastructure sectors.

The reduction of lifetime CO<sub>2</sub> emissions is to come from fuel efficiency targets on 15 product categories in total – ranging from the Volvo FH truck to the Volvo Construction Equipment wheel loader.

For the first time, Volvo Penta will be included in our Climate Savers program. Its ambition is to improve average fuel efficiency on its portfolio of industrial and marine commercial heavy duty engines and develop a prototype engine application with hybrid technology. Volvo Penta's fuel efficiency commitment adds nearly 10% to the Volvo Group's total carbon footprint included in our new target.

### Becoming a magnifier for sustainability

The most significant introduction to our Climate Savers 2015-2020 program is the new focus on so-called 'magnifiers', where the Volvo Group will leverage its leadership position to magnify environmental sustainability far beyond the boundaries of our organization.



Our magnifiers within the program include hybrid solutions, our City Mobility programs and the new Construction Climate Challenge. Our ambition is to expand our commitment beyond our own operations, products and services to activities that push sustainable development in the transport sector in the right direction, more quickly. Through this, we can efficiently achieve far greater reductions in greenhouse gases than we can alone. We believe this is the right way to develop our environmental efficiency and support WWF in making its Climate Savers program even more powerful.

### The Volvo Group Sustainability Forum

The Volvo Group Sustainability Forum aims to stimulate greater collaboration between companies, governments, civil society and the UN, to accelerate actions and decisions towards sustainable development. Held in November 2014, this year's Sustainability Forum brought together more than 300 international leaders and stakeholders – including many of our academic and research partners – to explore:

- **Private sector contributions** to the development of UN post-2015 development agenda
- **Sustainable transport** that develops societies

The Volvo Group's ambition is for the Sustainability Forum to be an annual event.

### Swedish Leadership for Sustainable Development

The Volvo Group is a member of the Swedish Leadership for Sustainable Development network. Read more in the societal engagement on page 12.

## Delivering innovative customer solutions

Delivering integrated solutions that add real value to our customers, the environment and society requires us to thoroughly understand all market needs.

### Innovative business practices

Our innovation starting point is to create added value for our customers. Transforming knowledge into a pioneering solution and getting it to market is a long process involving many phases, criteria and stakeholders.

In order to boost our innovation capability, the Volvo Group uses the Innovate process, which has two parts:

- **Ideate** is a creativity generation stage that includes innovation labs, global innovation jams, creativity workshops and customer co-creation activities
- **Accelerate** works to reduce time to market for innovation concepts, efficiently driving development in cross-functional incubated projects, or through internal and external start-ups or ventures

### Gathering knowledge and generating ideas

Creatively adapting technology is another way to innovate. For example, the collision warning and active brake solutions used as a safety feature in some Volvo and Mack trucks is an adaption of radar technology that was first introduced a decade ago.

As part of our technology development process, we thoroughly gathered knowledge through cooperation with European partners on radar development programs. This understanding was necessary before transferring the new technology into our product development process.

### Accelerating construction innovation

For the past three years, Volvo Construction Equipment has been exploring a new way to accelerate innovation. Accelerate Innovation Teams (AIT) aims to foster internal entrepreneurship and increase

speed to market. AIT benefits include early interaction with customers, reduced administration and quick decisions.

It is built upon a model used for coaching and supporting small start-ups, and involves a handful of dedicated people with a passion for what they do exploring the idea from several perspectives. AIT is part of the Volvo Group's growing innovation network of dedicated innovation coaches.

### Engaging with future innovators

INVOLVE is an open innovation platform that helps the Volvo Group to engage and interact with the external global community to explore and solve challenges together. Students at selected universities are invited to come up with new and innovative ideas for different areas of challenge that are important to our business.

The 2014 INVOLVE challenges included:

- **France:** a 24-hour nonstop innovation jam to create the most innovative urban transport solution
- **US:** Penn State University students submitted ideas relating to intelligent vehicles and automation
- **China:** students from Tongji University and Tsinghua University participated in a competition to generate creative and innovative ideas around electromobility, connected vehicles and environmental urban mobility

### Investing in innovative transport solutions

Founded in 1997, Volvo Group Venture Capital is an investment company owned by the Volvo Group. Its ambition is to be a leading corporate investor in sustainable transport solutions. Each investment should have a positive return in itself while also contributing to profitable growth and competitiveness of the Volvo Group.

Successful investments include:

- **Cargomatic:** in 2014 Volvo Group Venture Capital invested in Cargomatic – a software platform that enables local truck drivers to get offers for unutilized capacity on their trucks in real time. The solution offers additional freight capacity based on a truck's location and route, resulting in higher fill rates, reduced mileage and a more efficient and cost-effective logistics, distribution and transport network. For further information, visit: [www.cargomatic.com](http://www.cargomatic.com)
- **Lytx:** is an investment to further strengthen the Volvo Group's continued leadership in safety. Lytx helps commercial drivers become safer drivers through coaching. The DriveCam powered by Lytx™ program uses in-vehicle video technology to capture data on driving behaviors, which can be used to correct risky driving behavior and reduce the risk of a crash. Independent evaluations show a reduction in safety-critical events of up to 50% following the introduction of DriveCam's behavior-based safety program, thereby reducing collision-related costs for the fleet by up to 50%. In simple terms, this means fewer accidents on the roads and less cost for the customer and society. For further information, visit: [www.lytx.com](http://www.lytx.com)
- **RidePal:** offers companies an efficient way to set up tailor-made sustainable commuting systems for employees, enabling them to switch from car travel to taking a luxury coach. RidePal uses an advanced software platform to optimize routes, keep track of payments and deliver route information. Several companies can pool together to share the cost. Every bus takes 30-40 cars off the

road, reducing greenhouse gas emissions and congestion. The Wifi-equipped coach enables the commute to become productive work time, and helps companies attract and retain talent. For further information, visit: [www.ridepal.com](http://www.ridepal.com).

- **Steelwrist:** is a fast-growing manufacturer of tiltrotators with a strong product portfolio focused on supporting customer productivity. Our business relationship with Steelwrist enables Volvo Construction Equipment to factory fit tiltrotators and innovative quick couplers that can improve customer efficiency by up to 30%. These products take safety to the next level while maintaining a compact design for fuel efficiency and productivity. For further information, visit: [www.steelwrist.com](http://www.steelwrist.com)

## Sustainable transport solutions research

We have a clear vision of where we are heading and we invest in pioneering research and technology development to ensure the achievement of our vision.

We believe that bringing together the best minds, cooperating on projects of joint interest and sharing knowledge are some of the most efficient ways to achieve sustainable innovation.

Reducing environmental impacts and enhancing the benefits of our products and services is a priority of our internal research and advanced engineering teams. External research partnerships and participation in public programs are other key factors for realizing our vision.

### Extending our Academic Partner Program

The basic principle behind our Academic Partner Program (APP) is long-term strategic thinking in areas of mutual interest. The APP is a highly exclusive program for selected universities working in areas that support the delivery of the Volvo Group's vision and wanted position. We have partners in Sweden, France, the US, China, India and, since 2014, in Japan.

There are two types of partnerships: Preferred Research Partners and Preferred Talent Partners.

Having preferred research and talent partners is an efficient way to develop and implement long-term research and innovation agendas and to enhance employer attractiveness with leading universities.

### Investing in future urban transport and safety

Each year, the Volvo Research and Educational Foundations (VREF) make major investments in dedicated research projects supporting the development of sustainable transport systems in large urban areas worldwide. We also devote extensive resources to traffic safety research, partnering with key industry players, universities and governments for greater efficiency and effectiveness.

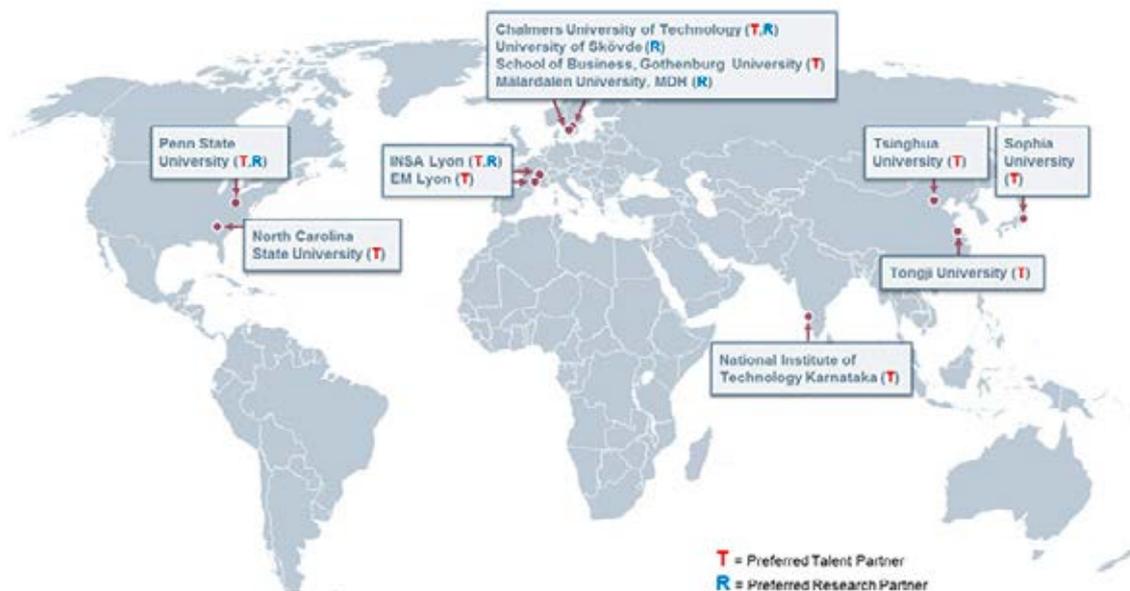
The vision of the Future Urban Transport (FUT) program is sustainable transport for equitable access in urban areas. Ten Centers of Excellence across the world are integrated within universities and technology institutes and cooperate closely with key stakeholders responsible for urban transport systems.

The FUT theme 'Urban Freight' involves leading universities, industry partners and cities in more than 10 countries in Europe, Asia, North and South America.

FUT highlights 2014:

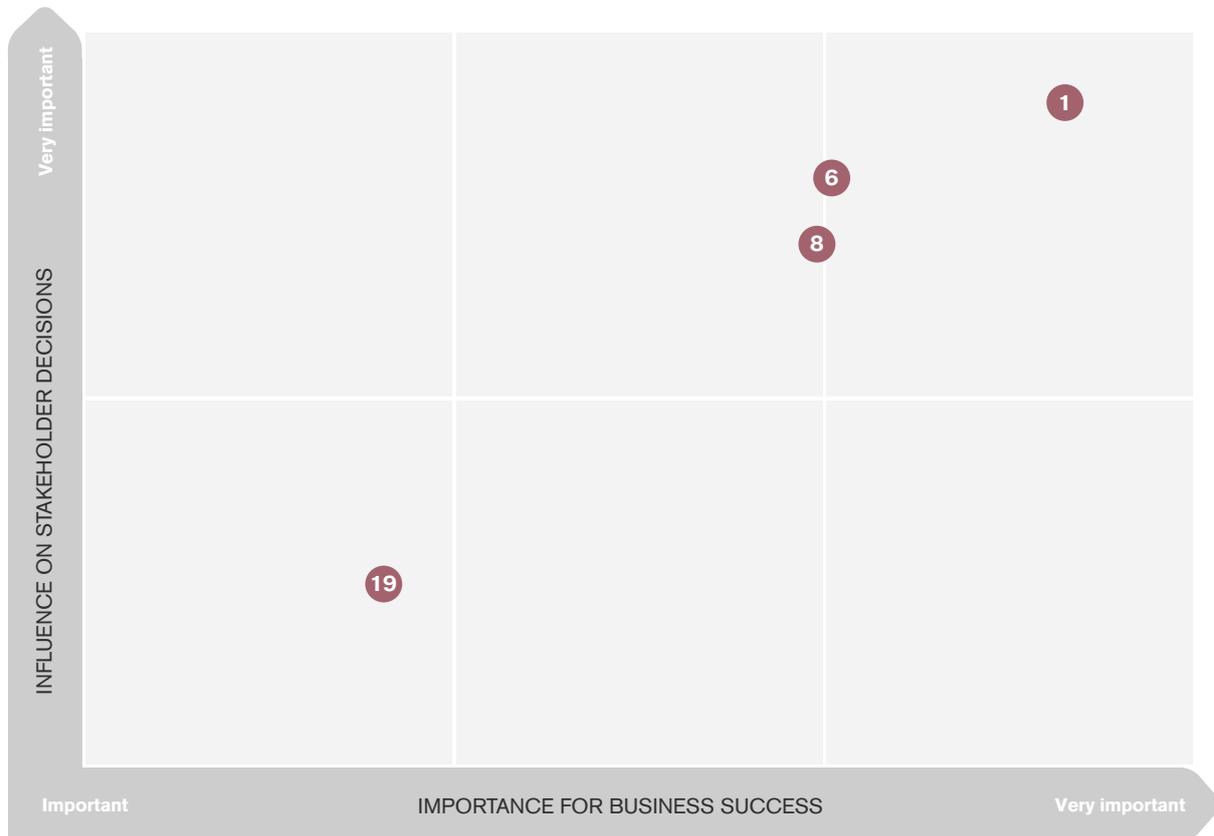
- **Publication** of 'Access and Mobility in Cities': the first 10 years of the FUT program
- **VREF Workshop** in New York on the theme of: Transforming Access, Mobility and Delivery in Cities – Turning Knowledge into Action
- **New Urban Freight** initiatives in Delhi and Gothenburg

During the year, preparations began on a new FUT theme under the working title of 'Mobility and Access in African Cities'. The new theme, due to launch in 2015, will address resource-efficient, socially and culturally inclusive transport systems that improve access in cities. It will have a geographical emphasis on rapidly changing urban environments in Southern and Eastern Africa.



# CREATING SHARED VALUE

## VOLVO GROUP MATERIALITY MATRIX 2014



### CREATING SHARED VALUE

- |                                |                                |
|--------------------------------|--------------------------------|
| <b>1</b> Customer satisfaction | <b>8</b> Financial performance |
| <b>6</b> Skilled workforce     | <b>19</b> Societal engagement  |

#### Creating shared value: our material issues

For the Volvo Group, creating shared value involves efforts to move both our business and society forward – enhancing our competitiveness while simultaneously advancing the economic, environmental and social conditions of the societies in which we operate.

We create economic value for our company and shareholders by delivering transport and infrastructure solutions that meet the needs of our customers. We support our customers' value creation through efficient products and world-class services. We remain

competitive, sustainable and profitable by investing in the Group's employees. We aim to move our business and society forward by aligning our CSR programs with our business needs and knowledge.

#### Addressing material issues in our everyday business

Sustainability is embedded across our business and so we can address many of the material issues relating to creating shared value simply by working towards the Volvo Group's strategic priorities and objectives.

#### CONTENTS

|                                  |    |  |    |                                  |    |
|----------------------------------|----|--|----|----------------------------------|----|
| Customer satisfaction            | 41 | Skilled workforce                            | 46 | Financial performance            | 50 |
| Efficient solutions              | 42 | Volvo Group University                       | 47 | Societal engagement              | 52 |
| Diverse customer needs           | 43 | Leadership and management                    | 47 | Traffic and site safety          | 53 |
| Supporting customer productivity | 44 | Employee engagement                          | 48 | Environmental sustainability     | 53 |
| Measuring satisfaction           | 45 | Attracting talent and developing competences | 48 | Education and skills development | 54 |



## Creating value by satisfying customers

Organizations that capture customers' needs best and translate them into tailored products and services will be the leaders in any market or segment. Organizations with the highest levels of customer satisfaction will gain market share and thereby build a platform for economic sustainability.

For the Volvo Group, customer satisfaction is a key factor in building customer loyalty and becoming our customers' preferred business partner. Our success is based on understanding and delivering on customers' needs and strengthening their operational performance.

Customers want solutions, not just products and services, so it is vital to understand our present and potential customers' needs in order to develop competitive and beneficial features.

### **Understanding customer satisfaction**

For the second year running, customer satisfaction was the highest-ranked area in the Volvo Group's materiality matrix. Customer satisfaction covers various customer touch points and material topics, including quality, fuel efficiency, productivity and uptime. Customer responsiveness, after-market service and long-term relationship management are closely linked to brand image and loyalty.

The Volvo Group considers all of these attributes in our approach to growing customer satisfaction.

## Delivering a full range of commercial solutions

All of the Volvo Group's products and services have been developed to contribute to efficient transport and infrastructure solutions in all parts of society.

### Trucks

All brands in the Volvo Group's truck operations have a unique and distinct brand-specific character that attracts customers in their market segments. All our brands offer customers a broad range of products and services for efficient and economic transport.



### Construction equipment

Volvo Construction Equipment develops, manufactures and markets equipment for construction and related industries. Its products are leaders in many world markets, and include a comprehensive range of wheel loaders, hydraulic wheeled and crawler excavators, articulated haulers, road machinery and a wide range of compact equipment. In the fall of 2014, it was decided to discontinue Volvo branded backhoe loaders and motor graders. In future, these products will be manufactured by SDLG instead.



### Buses

The product range includes complete buses and bus chassis for city, intercity and coach traffic. Our total offer includes a global service network, efficient spare parts handling, service and repair contracts, financial services and traffic information systems. The offer also comprises complete transport systems for electromobility including charging infrastructure.



### Solutions for marine and industrial applications

Volvo Penta manufactures engines for boats and industrial applications. The offer for both leisure boat and commercial craft markets include an engine range of 10 to 900 hp, and a global service network of approximately 4,000 dealers. Volvo Penta also supplies industrial engines ranging from 75 kW to 655 kW for a variety of industrial applications such as container handling, mining equipment and power generation.



## Meeting globally diverse customer needs

The Volvo Group brand portfolio is well positioned within all market segments – from the basic to the premium segment – and every brand within the Group focuses on meeting specific customer needs.

Our global presence enables the Group to offer a wide range of brands, products and services customized for different markets and customer needs. Each brand within the Volvo Group is a strong asset and is assigned a unique position, differentiated in terms of core target customers, price, and solution level. Each brand represents different values, conveys different characteristics, and has a different visual appearance. However, all brands aim for the highest level of customer satisfaction for their targeted customer.

### Adapting to different needs

While retaining its core attributes and strength, each brand must be able to adapt to market expectations in its prioritized segments, meeting customer requirements and behaviors to deliver customer value.

For example, our new UD Quester truck range has been designed to meet specific needs of customers in growth markets in Asia and beyond.

Growth markets are drivers of long-term global growth and offer great potential, especially in the so-called value segment, where customers want products that offer quality, reliability, service and support, but at an adapted cost level. The Volvo Group aims to be a significant player in this segment and we have invested in targeted product research and development.



• **In Africa and the Middle East**, we have announced plans to launch the new Renault Trucks range following stringent testing and extensive customer consultation. The range has been specifically adapted to operate under the most extreme weather conditions and in the regions' challenging terrains. During market presentations in South Africa and Qatar, customers were able to take part in various workshops and drive the new trucks, enabling them to become more familiar with the vehicles and their specific characteristics.



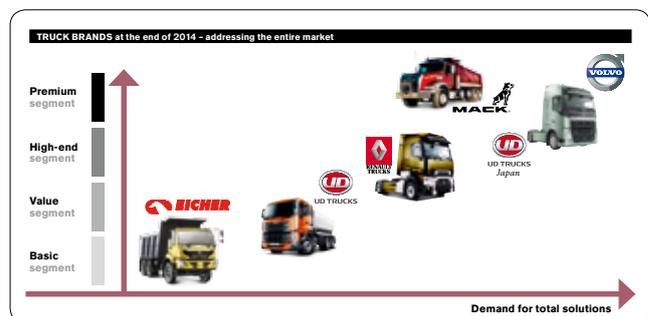
• **In Asia**, we took an important strategic step during 2014, with the introduction of a UD Buses range specifically for growth markets. Building on the brand's success in Southeast Asia, we have adapted the product for the Indian market, combining Japanese craftsmanship and reliability with fuel efficiency. Production started in India to serve the domestic market as a first step.

### Specific segments and customers

At a global level, Volvo, Mack and Prevost represent our premium brands, aimed at customers who choose a holistic view of the brand and associated product and service offer.

Renault Trucks is positioned in the high-end space addressing customers who value total operational cost and network support. Outside of Japan, UD Trucks addresses the value segment, a new focus area for the Group, while UD Trucks in Japan is in the high-end segment.

Our joint venture with Eicher Motors provides the Group with a strong presence in the Indian truck market. Eicher will form the basis of the Group offering in highly cost-competitive market segments. The recent strategic alliance announced with Dongfeng Group fundamentally changes the Volvo Group's opportunity in the Chinese truck market.



SDLG addresses the value space for construction equipment – primarily in China. The acquisition of Terex Trucks allows us to offer a full line of construction trucks and opens up new possibilities in construction and mining.

Nova Bus is a leading North American provider of transit solutions, including buses, high-capacity vehicles and integrated intelligent transport systems.

Sunwin Bus is our joint venture in China. It is a leading bus producer and one of the world's largest manufacturers of fully electric buses. The Sunwin brand is sold primarily in China. UD Bus is a new bus range specifically designed for growth markets.

Volvo Penta is a world leading supplier of engines and complete power systems for marine and industrial applications.

### Special purpose vehicles

Customers of special-purpose vehicles include governments, armed forces, police forces, peace-keeping, relief and various UN organizations. Customer procurement is an extensive process, with strict legal rules and procedures.

This niche segment includes vehicles that have been developed specifically for use by the armed forces, such as armor-plated special vehicles for troop transport, surveillance and support. It also includes commercial trucks and variants with bullet-proof cabs, as well as construction equipment and buses.

Governmental Sales is a relatively new business area for the Volvo Group covering all sales we have in the areas of defense, safety and international relief collaboration. The Volvo Group's sales of defense material, as defined in the Swedish Military Equipment Ordinance (1992:1303) section A, amounted to 0.41% (0.55%) of net sales in 2014.

### Offering a wide range of supporting services and solutions

Volvo Financial Services (VFS) designs and delivers competitive financial solutions which strengthen long-term relationships with the Volvo Group's customers and dealers. VFS conducts customer financing in 43 countries in the world.

Financial solutions are offered exclusively with the sale of Volvo Group vehicles and equipment, and are available with other soft products. This approach of seamless integration at the point of sale delivers a convenient one-stop shopping experience for customers.

In all VFS markets, and particularly in developing markets, downturn preparedness is a key objective, regardless of the current business cycle.

## Enhancing customers' value creation

Our customers' needs and profitability are our number one priority. The Volvo Group places great emphasis on supporting our customers to be successful in their business. We focus on high product quality, safety, reliability and fuel efficiency. Our support services – including servicing, maintenance, repairs and assistance – aim to increase customer uptime and improve their productivity.

When a truck is down, a customer's business stops. Our North American Uptime Center estimates that unplanned downtime can cost up to USD 2,000 per day per event, taking into consideration the loss of cargo and revenue and the additional pay for drivers and other associated costs.

### Opening the Uptime Center in the US

Our new North American Uptime Center has been operational since October 2014. The center physically pulls together over 600 Volvo and Mack Trucks personnel and service under one roof, with 180 people working in roles directly related to uptime services.

Utilizing integrated services, such as Volvo Action Service, ASIST, Remote Diagnostics, OneCall and GuardDog Connect, Uptime Center professionals can now:

- **Monitor** and respond to vehicle issues in real time
- **Help** dealers troubleshoot difficult cases and
- **Find** the necessary parts for repair

Using ASIST to provide service management structure, agents communicate with the customer, dealer and, if necessary, other Uptime Center colleagues, to ensure problems are resolved with as little inconvenience as possible.

As the Center continues to improve and advance, we see a future where it acts as an advisor and consultant to fleet owners and managers. We will be able to increase uptime by predicting the lifetime of components and anticipating when they will break or come to the end of their life. It is one more step in our quest to make our trucks the most productive in the industry.

### Providing 24/7 support in Europe

By proactively informing customers that their vehicle needs to be repaired, The Volvo Action Services increase uptime, reduce warranty costs and improve customer satisfaction. We are using new technologies, such as telematics, to provide feedback on the performance of our products. Using technology in a proactive way enables us to diagnose early indications of faults and actively contact customers before a fault occurs.

If something happens on the road, 24/7 support reduces the customer's downtime and associated costs.

## Getting a better understanding of customer needs

The Volvo Group tracks customer satisfaction and brand image perceptions in surveys worldwide. Performance is integrated into the Volvo Group's KPI reporting and is used to increase our understanding of customer needs.

Studies are carried out by leading international research organizations. Interviews are conducted with decision makers among Volvo Group customers and non-customers. Our research moves from general awareness and brand perceptions through to more detailed questions about customer service and recent purchases.

### Using market research results strategically

Our brand image surveys measure perceptions, such as quality, safety and environmental care, against key competitors. Among our satisfaction measures, we ask customers about various brand attributes that drive purchases and overall opinion, such as customer care, uptime, fuel efficiency, driver productivity and innovation.

There are a number of image and benchmark surveys conducted in different regions globally on behalf of each brand. Overall, the latest research shows that the Volvo brand occupies a leading position, or is among the best, in terms of quality, safety and environmental care, in all global markets and for all our business areas.



### Responding to customer feedback

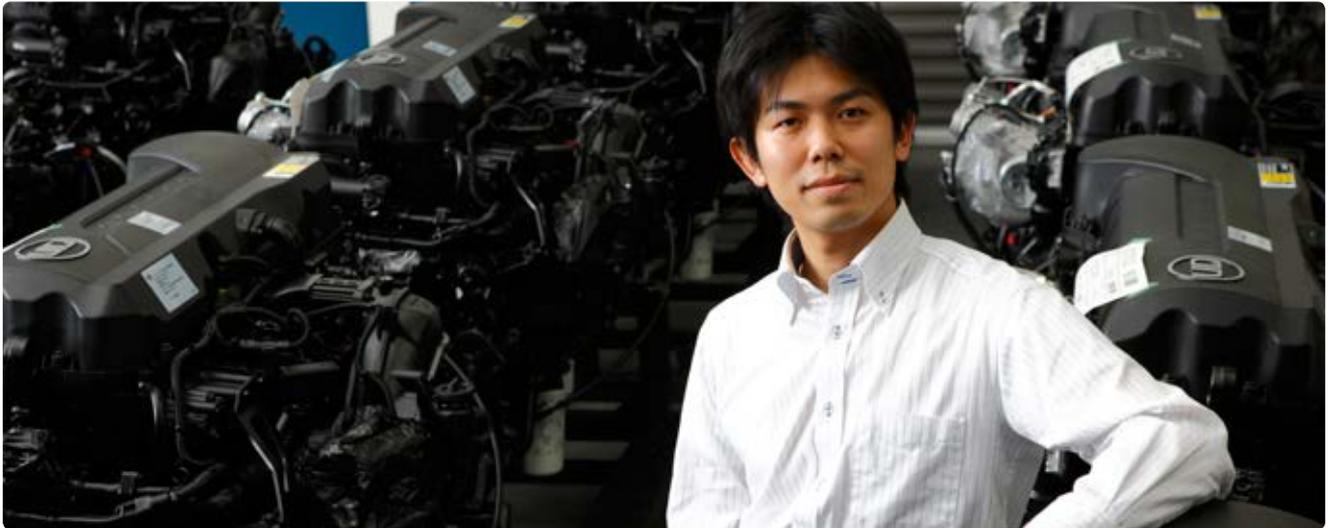
All our businesses and brands have strategic targets by markets. The data from various global image and benchmark surveys is used to produce a brand KPI dashboard that informs and supports continuous improvement work.

Once a customer satisfaction interview is completed, the market research company informs the dealer of any alerts. The dealer will contact the customer to follow up on any dissatisfaction within 48 hours. We have systems for handling complaints, market quality requests and dealers' quality requests for each brand and business in the Group. Issues registered in the customer database are also fed into product development, where relevant.

### Awards are a useful indicator of satisfaction

Finally, external awards are a useful indicator of satisfaction and can be a powerful argument for winning over customers.

- **International Truck of the Year 2015:** in September 2014, a jury made up of 25 journalists from the international trade press voted the Renault Trucks T-range the 'International Truck of the Year 2015'. The prestigious title was won on the basis of multiple criteria, including on-road performance, fuel savings, and total cost of ownership – criteria which mirror our definition of customer satisfaction. In total, the Renault Trucks T-range collected 129 points – 48 points ahead of its nearest rival. Within one year of its launch, the truck was judged to have made the greatest contribution to road transport efficiency during 2014.
- **Quality innovation of the year:** Volvo Trucks was awarded the 'Quality innovation of the year' prize, by a number of quality institutes in Europe, for the I-shift Dual Clutch. It represents industry-leading product innovation with strong improvement indicators that positively impact on drivers, transport companies, cargo owners and society.
- **Red Dot 2014 award:** The EC380E excavator was awarded the Red Dot 2014. This is one of the first excavators from the new generation of redesigned Volvo Construction Equipment machines. This heavy-duty production machine is built from the same DNA as previous models, but has a completely new exterior and interior. It is designed especially for work on tough job sites. Red Dot awards were also won for Volvo Construction Equipment's merchandise that meet customer needs and enhance site safety.



## Developing high-performing global teams

A knowledgeable and skilled workforce is a crucial factor in fulfilling the Volvo Group's vision. To outperform our competitors and achieve agreed objectives, we need people with the right competences across all of our businesses.

### **Restructuring for Group-wide efficiency**

The Volvo Group had 92,822 permanent employees and 11,749 temporary employees and consultants at the end of 2014, compared to 95,533 permanent employees and 14,794 temporary employees and consultants at the end of 2013.

We announced our Group-wide structural cost reduction program in autumn 2013, with approximately 4,400 white-collar employees and consultants affected by personnel reductions. The majority of reductions were implemented during 2014.

A substantial number of blue-collar employees were also affected by the Group's restructuring measures.

The restructuring and reorganizations were carried out in close dialogue with unions and local authorities. This was important and enabled the necessary structural changes to be carried out efficiently and as positively as possible for all parties involved.

### **Building for the future**

In a difficult year for our colleagues, levels of measured engagement inevitably dropped. The new workforce composition does, however, put the Volvo Group in a stronger position to build on for the future.

We have high ambitions and we are committed to developing a high-performing global team that acts with passion, energy and respect for the individual. To this end, we continue to invest considerable resources into our global workforce of today, and the future. Read more on page 48.

## Launching our own university

With employees in more than 190 markets working on everything from product development and assembly to finance, marketing and sales, the competence level and further education of all employees is a crucial success factor.

We also know that our employees value opportunities for further education during their professional lives. Every year, we allocate approximately half a million training days to our employees and retail organization worldwide.

Opening the Volvo Group University in April 2014 is a major milestone in supporting the development of a highly-skilled workforce. From now on, it will be the center of further education and competency activities for our entire global operation.

The university is currently comprised of five academies:

- **Volvo Group Fundamentals:** group-wide knowledge for all employees
- **Leadership and Management:** training and education for managers and leaders
- **Project Management:** to support major projects and people involved in new product launches
- **Operations:** safety, environment and quality training in manufacturing
- **Engineering and Purchasing:** knowledge sharing and competence development to support efficient product development

Having our own university is an efficient way to ensure that training:

- **Supports** our corporate strategy and transformation
- **Builds** the expertise that will help us achieve our vision
- **Increases** the quality of courses offered within the Group

The university is now running regular ongoing training and the new learning management system is up and running.

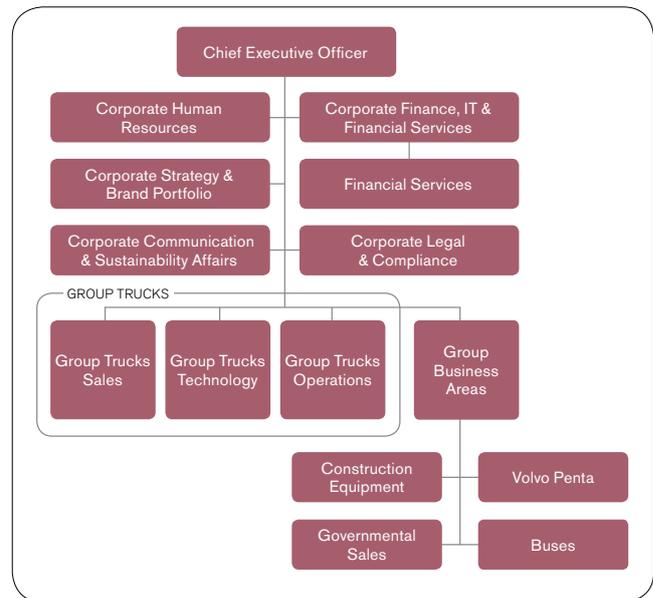
We are also establishing several local offices to improve the support to employees with training facilities in Greensboro in the US, Lyon in France and Bangalore in India.

Three more academies are due to open during 2015: Process and IT Academy, Sales and Marketing Academy and a Business Administration Academy.

## Enabling more efficient management

In conjunction with the release of the Q3 figures, a reorganization of the Volvo Group was announced to bring us closer to customers, facilitate swifter decision making and create a smaller, more efficient management team.

The changes came into force on 1 January 2015, creating opportunities for a more cost-effective global structure with an even clearer focus on customers, brands and product offers, enabling us to match the competition and be a market leader.



The key changes are:

- **One global organization** for Group Trucks Sales instead of the previous three
- **Fewer members** in the Group's executive management team
- **Transfer** of the purchasing function from Group Trucks Technology to Group Trucks Operations
- **Merging** of two staff units into Corporate Communication & Sustainability Affairs

### Consolidating into Group Trucks Sales

Following the change, the Volvo Group's truck operations will be gathered into the following three global organizations:

- **Group Truck Sales**, with global responsibility for all marketing and sales of trucks, plus associated products and services
- **Group Truck Operations**, with global responsibility for all production, logistics and purchasing linked to truck production
- **Group Truck Technology**, with global responsibility for the Volvo Group technology research, engine development, product design and all the technology and product development linked to truck operations

### Managing leadership capabilities

In an increasingly competitive environment, one of our main focus areas is on managing our leadership talent and developing leaders from within the Volvo Group. Diversity is key to our future and beyond our continued focus on gender, emerging and Asian markets are expected to see strong development of our leadership pipeline in the years to come.

The Volvo Group's leadership pipeline has been set up in collaboration with research institutes to develop and prepare current and potential leaders for future roles.

It is divided into four levels, each with a specific development program. Two new programs were launched in 2014: the Foundation for leading people advanced level, and the Individual Development Compass.

## Engaging employees to improve performance

We expect all Volvo Group employees to have a personal business plan that translates our corporate strategic objectives into individual objectives and contributions. It includes business-related and competence development targets, and provides essential feedback for both short and long-term individual development. All employees review their plan annually with their manager to ensure everyone clearly understands their role in the team and what is expected of them.

### Measuring engagement and performance

We have carried out the Volvo Group Attitude Survey (VGAS) every year since 1999, with the exception of 2010. The overall VGAS 2014 result shows lower employee engagement compared to the year before. Engagement has dropped four percentage points, from 76% to 72%.

The performance excellence index (PEI), which indicates whether the Volvo Group has the right structures and processes to support customers, fell one percentage point to 74% (75). The 2014 leadership effectiveness index also fell to 70% (71).

The Volvo Group measures itself against an international database of approximately 15 million employees, representing over 80 countries, and our results remain above the global norm of the 400+ companies that use this survey. Our target for 2015 is to be one of the world's top 25% companies and we plan to do our utmost to achieve this objective by implementing targeted action plans.

### Rewarding performance

Substantial progress was made during 2014 in implementing a harmonized approach to job evaluation and developing salary structures on a country level. Eighty-five percent of white collar positions across all the businesses have been evaluated using a common methodology, and linked to market data. This has resulted in a global, common job evaluation and locally-competitive pay structures. These are being finalized and implemented during 2015.

In addition, an automated system for administering performance-related pay has been selected to provide a common streamlined process that supports better control and reporting. It is currently being piloted in Sweden.

Bonus schemes have been available for several years for employees in different organizational categories. These are based on variable financial criteria, such as operating margin and cash flow, and on improved business performance.

## Attracting talent and developing competences

The Volvo Group's ambition is to offer interesting opportunities and a unique company culture that help us attract and retain the best people, whoever they are and wherever we do business.

Multiple global challenges influence the availability of talent. These included diminishing interest in science, technology, engineering and mathematics in some developed markets, limitations in the educational system in some emerging markets and the long-term decline in the number of people of working age in developed markets.

We regularly map out strategic competence needs, and annually aggregate findings on a Group level to identify our most important future needs. Our reduction in personnel numbers during 2014 was a strategic measure to improve efficiency, achieve the right workforce composition and improve our competitiveness for the long term.

### Attracting the best talent in the world

- **International Graduate Program:** in September 2014, a group of 26 graduates from Sweden, China, Japan, Belgium, Brazil, Thailand and the US, selected from a pool of 2,500 applicants, embarked on the latest round of the Volvo Group International Graduate Program. This 12-month training program aims to develop future leaders through a variety of avenues, such as job rotation, international work experience, common training modules and project work.
- **International Internship Program:** a third round of the Volvo Group International Internship Program started up during autumn 2014, as part of the Preferred Talent Partnerships under our Academic Partner Program with selected top universities.

### Recognizing and valuing specialists

The objective of the Volvo Group's Specialist Recognition Program is to raise visibility and offer career opportunities to engineers with extensive experience and expertise in their field. Specialists are appointed for three years with the aim of developing their field of expertise, supporting the Group's strategies and transforming discoveries into increased business value across the Group. Specialists take a lead role as an internal and external technology consultant, partner and mentor, and are encouraged to give lectures, seminars and training courses in their field of expertise.

**Benefitting from mentoring**

Mentorship is strongly encouraged at the Volvo Group and is considered an important development tool for leaders. Mentoring is used as a long-term, tailored development aid for an individual, which also benefits the organization. It builds a visible talent pool, increases loyalty and commitment and supports organizational development. The Group has published an online guide to support both parties. The mentor is, in general, senior in the organization and helps a mentee outside their normal line management duties by sharing his or her professional and personal knowledge, skills and experience.

- **Female Mentoring Program:** our new mentoring program for the top 100 positions held by female managers was launched in May 2014. Sixty-six female leaders chose to participate in the program, meeting with male and female internal mentors. Over 95% report that the program has been beneficial.
- **Talent Talks:** as part of our key talent development activities, 35 Talent Talks have been organized for a selected group of talented leaders since 2013. A Talent Talk is an informal meeting between a senior leader and an assigned Group Executive Management Team (GET) member, creating an opportunity for more visibility and exposure to the GET, discussion of viewpoints and experience, and a broader perspective on the Group's key challenges and opportunities.



## Generating and distributing economic value

The Volvo Group is dependent on various stakeholders and economic factors to develop our competitiveness and generate revenue. At the same time, a great number of stakeholders are dependent on the value that the Group creates and distributes to them.

The Volvo Group Sustainability Report 2014 contains summary information relating to key financial performance indicators. Full financial data and information for the year ending 31 December 2014 can be found in the **Volvo Group Annual Report 2014**.

### Generating revenue more efficiently

Following the most comprehensive product renewal program in the Volvo Group's history, which culminated in 2013, the focus in 2014 was on implementing measures to strengthen our internal efficiency and reduce the Group's costs.

During 2014, net sales increased by 4% to SEK 282,948 M (272,622). After currency exchange rate adjustments, net sales were up 2% compared to 2013. The Group's operating income, excluding restructuring costs, improved slightly to SEK 8.4 billion corresponding to an operating margin of 3%. Total income was negatively affected by a number of large exceptional items such as provisions for an EU investigation, expected credit losses in China and litigation in the US. However, underlying profitability improved because we succeeded in our work to increase gross margins on both new trucks and the products and services offered in the after-sales market. The measures to enhance our efficiency and reduce our costs implemented in our 2013–2015 strategic program also contributed to improved underlying profitability. As planned, the program generated savings at a clearly increasing rate during the year. The combined savings in cash spend on research and development and costs for sales and administration amounted to SEK 2.2 billion compared with 2013.

| Key ratios  | 2014              | 2013    |
|---|-------------------|---------|
| Net sales, SEK M  | 282,948           | 272,622 |
| Operating income excl. restructuring charges, SEK M   | 8,393             | 7,854   |
| Operating margin excl. restructuring charges, %   | 3.0               | 2.9     |
| Restructuring charges, SEK M  | (2,569)           | (715)   |
| Operating income, SEK M   | 5,824             | 7,138   |
| Operating margin, %   | 2.1               | 2.6     |
| Income after financial items, SEK M   | 5,089             | 4,721   |
| Income for the period, SEK M  | 2,235             | 3,802   |
| Diluted earnings per share, SEK   | 1.03              | 1.76    |
| Dividend per share, SEK   | 3.00 <sup>1</sup> | 3.00    |
| Operating cash flow, Industrial Operations, SEK bn  | 6.4               | 1.5     |
| Return on shareholders' equity, %   | 2.8               | 5.0     |
| Number of permanent employees   | 92,822            | 95,533  |
| Share of women, %   | 18                | 17      |
| Share of women, Presidents and other senior executives, %                                     | 21                | 19      |
| Employee Engagement Index, %  | 72                | 76      |
| Energy consumption, MWh/SEK M   | 7.9               | 9.6     |
| CO <sub>2</sub> emissions, tons/SEK M   | 0.8               | 1.1     |
| Water consumption, m <sup>3</sup> /SEK M  | 18.1              | 21.9    |
| Share of direct material purchasing spend from suppliers having made a CSR self-assessment, % | 80                | 72      |

<sup>1</sup>) Adopted by the AB Volvo Annual General Meeting 2014.

### Government grants

In 2014, government grants of SEK 425 M (400) were received, and SEK 503 M (467) was recognized in the income statement. The amount includes tax credits of SEK 255 M (245) related to product development, which were primarily received in France and the US. Other grants were received mainly from Swedish, Chinese and US governmental organizations, and from the European Commission.

### Distributing value to stakeholders

| SEK M  | 2014               | 2013    |
|--|--------------------|---------|
| To suppliers - Purchases of goods and services         | 199,484            | 192,198 |
| To employees - Salaries and remunerations <sup>1</sup> | 37,533             | 36,212  |
| To society - Social costs <sup>1</sup>                 | 8,118              | 8,262   |
| To society - Pension costs <sup>1</sup>                | 4,133              | 4,144   |
| To society - Income taxes paid                         | 3,304              | 2,823   |
| To creditors - Interest paid                           | 1,846              | 2,437   |
| To the Volvo Group - Investments in tangible assets    | 7,093              | 8,281   |
| To shareholders - Dividend                             | 6,090 <sup>2</sup> | 6,084   |

1) For further information, please see note 27 to the consolidated financial statements.

2) According to the Board's proposal.

### Income taxes

The Group's Code of Conduct states that "The Volvo Group shall comply with the tax laws and regulations of each country in which it operates. Where tax laws do not give clear guidance, prudence and transparency shall be the guiding principles." The Volvo Group does not take part in aggressive tax planning by placing subsidiaries in tax havens.

The tax expense for the year amounted to SEK 2,854 M (919) corresponding to a tax rate of 56 % (20). The provision made for the EU anti-trust investigation is not tax deductible, which partly explains the high tax rate.

In 2014, approximately SEK 1.8 billion or 55% of current taxes were paid in emerging markets.

### Creditors

Net interest expenses decreased to SEK 1,666 M (SEK 2,429 M) due to lower financial liabilities and lower interest rates on outstanding debt.



# Moving business and society forward

The Volvo Group has supported various societal engagement activities for many years. Working collaboratively with key partners, we have shared our expertise, made philanthropic donations, volunteered in communities and sponsored activities to enhance societal development and create business benefits.

## Launching our new program of societal engagement

Our new program for societal engagement is called Moving Society Forward, and it is based on the principles of Creating Shared Value. The aim is to adopt corporate policy and practices that enhance the competitive advantage and profitability of the Volvo Group while simultaneously advancing social, economic and environmental conditions in the communities where we operate and sell.

To create the most shared value requires our societal engagement activities to be clearly connected to our business goals, vision and core competences. Our program therefore specifically aims to:

- **Remove** obstacles to future business success, turning threats into opportunities that mitigate risks
- **Engage** in activities with both business and societal benefits
- **Utilize** the Volvo Group's unique assets and knowledge
- **Clearly support** our vision and core values
- **Encourage** employee involvement

## Aligning societal engagement with business strategy

The new Moving Society Forward program will be rolled out globally during 2015. It focuses on the following three areas where our business significantly interacts with society, and the highest potential for mutual benefit exists:

- **Traffic and worksite safety**
- **Environmental sustainability**
- **Education and skills development**

By focusing on these three prioritized areas where Volvo Group's business naturally interacts with society, we will be able to add economic, social, and environmental value, and strengthen our reputation as a responsible business.

We can also focus the Group's expertise and resources more efficiently and effectively, and our clear strategy of connected activities will yield greater impact by maximizing the outcome from local initiatives in our global program.

## Creating strategic partnerships

We believe it is more efficient to work in partnership with key stakeholders, and that our social impact will be increased by working together with partners sharing mutual goals. Over the years, we have developed partnerships with customers, government officials, non-governmental organizations, local decision makers, educational and community groups.

We will continue to strengthen our existing relationships with organizations as WWF, Oxfam, the United Nations, the Swedish International Development Cooperation Agency (Sida), and the US Agency for International Development (USAID).

We have also developed a set of criteria for selecting new partners, who should share our values, be willing to contribute to our vision, have a strong track record and the expertise in relevant areas of activity, and benefit from using the Volvo Group's knowledge, capabilities and employee involvement.

## Swedish Leadership for Sustainable Development

The Volvo Group is a member of the Swedish Leadership for Sustainable Development (SLSD) network. Hosted by Sida, the network consists of more than 20 Swedish companies joining forces to demonstrate leadership in global sustainable development by integrating social, environmental and economic sustainability into their business models and core operations. Through the network, industry partners commit additional resources to tackling various development challenges in countries where Swedish development and cooperation initiatives are active.

The SLSD is an important network for increased dialogue and collective action that contributes to the implementation of the post-2015 UN sustainable development agenda.

There is a clear correlation between economic growth and demand for transport solutions. New markets are emerging and to seize business opportunities, we need to be ahead of the projected growth curve.

The Volvo Group is actively exploring new opportunities and business models that create value for our business and society and support the development agenda. Conducting societal development projects that support economic growth, demonstrates our long-term commitment to a market, and places the Volvo Group in a strong position to maximize growth opportunities.

## Improving traffic and worksite safety

Through educational programs and sponsorship, the Volvo Group participates in different initiatives to increase safety and reduce the number of traffic accidents in countries where we operate.

In various parts of the world, our award-winning safety programs focus primarily on professional drivers as well as schools and community safety. For more information on driver training look at page 36.

In Brazil, our long-running Volvo Traffic Safety Program targeting professional drivers was a key factor in the Volvo Group being named Brazil's 'Most sustainable company in the automotive sector.'

We stood out among 200 participating companies in the Sustainability Guide 2014 for business publication, Exame Magazine. Alongside energy efficiency, we obtained a good score in the social dimension thanks to our community activity and traffic safety investment.

### Taking safety messages into schools and communities

The Volvo Group conducts a wide range of traffic safety campaigns geared towards children and local communities in diverse countries including Latvia, Russia, Sweden, Denmark, the US, South Korea, Singapore, China, South Africa and India.

- **In South Korea**, the 2014 Volvo Trucks road safety for kids program involved 13 sessions with 200 elementary school students, sharing important road safety lessons. Another campaign used a mobile exhibition trailer to deliver the lessons. In total, approximately 600 students took part in the activities.
- **In India**, our innovative road safety campaign for children and women in Bangalore – launched with the non-profit HOPE Foundation during 2013 – was rolled out. Using street plays as a means of instruction, the campaign reached 5,000 women in low-income groups. 13,000 children learned about traffic etiquette through interactive audio-visual presentations.
- **In Singapore**, Volvo Trucks participated in a road safety program implemented to help curb accidents involving children and heavy vehicles. Targeting primary school children, a number of roadshows were conducted at schools, providing information and advice to encourage safe behaviors. The program ran in four schools during the first week of Singapore Road Safety Month and reached out to more than 700 primary school children in the initial run.

- **In China**, the Traffic Safety Class was started in 2014 in partnership with Road Traffic Safety Research Center of the Ministry of Public Security. More than 30 volunteers from the Volvo Group gave safety advice to over 300 primary school children in Beijing to increase safety awareness and reduce traffic accidents. The program will gradually be expanded to other cities where the Group is present, like Shanghai, Jinan, Tianjin, and Linyi.
- **In South Africa**, there are more than 30 traffic fatalities per 100,000 inhabitants. So in 2014, we used the opportunity of a stopover for the Volvo Ocean Race in Cape Town to hold a traffic safety seminar with the theme 'Working Together for Safer Mobility'. Participants from private and public organizations, including the World Bank, USAID, the Global Road Safety Partnership and the University of Cape Town, agreed that road safety is not just a transport issue, and that partnership and concerted effort between government, civil agencies and the private sector is required to achieve a sustainable reduction in traffic fatalities and injuries.
- **In the US**, Mack renewed its commitment to safety with continued Share the Road sponsorship. The American Trucking Association's program sends professional truck drivers with exemplary safety records across the country to conduct driving demonstrations for students, motorists and other groups. The program's drivers cover topics such as safe stopping distances and potential blind spots in an effort educate the public on how best to share the road with large trucks.

## Contributing positively to environmental sustainability

The Volvo Group's long-standing partnership with WWF and its Climate Savers program has committed us to taking urgent action to combat climate change.

An important element of our new 2015–2020 commitment is to act as a 'magnifier' for Climate Savers. This means focusing on activities that enhance environmental development within the transport and infrastructure sectors. Read more on page 37.

### Celebrating 25 years of the Volvo Environment Prize

The Volvo Environment Prize foundation was established in 1988 and has become one of the world's most prestigious environmental awards. It is given annually to people who have made outstanding scientific discoveries within the area of the environmental sustainability. The prize consists of a diploma, sculpture and cash sum of SEK 1.5 M.

The 2014 winner was Professor Eric Lambin – a remote sensing pioneer who uses advanced data collection and satellite images to understand land use and man's influence on the planet. For decades, Professor Lambin has been developing methods for analyzing the satellite images captured every hour, day and night, and linking them to socio-economic data.

His research has effectively bridged two disciplines – remote sensing and human ecology – and makes it possible for businesses, NGOs and governments to monitor in almost real-time the environmental impacts of human activities.

For example, deforestation was previously perceived as an impact of population growth, but Lambin's research has demonstrated that it is not that simple. In reality, forests and other natural resources are affected by intricate, complex and even cascade effects of human activity.

The understanding gained from his work will contribute to the UN's proposed Sustainable Development Goals on halting and reversing land degradation.

### **Organizing seminars focusing on the marine environment**

In 2014, we used our sponsorship of the Volvo Ocean Race (VOR) as an opportunity to magnify our commitment to tackling climate change.

Working together with the Swedish Ministry of the Environment and WWF, we organized seminars at key stopovers on the race. Focusing on climate and the marine environment, we were able to discuss and address environmental issues related to VOR and the UN's proposed Sustainable Development Goals, such as the conservation and sustainable use of oceans, seas and marine resources.

## **Educating and developing skills**

The Volvo Group conducts a variety of professional training programs in emerging and established markets worldwide that support Sustainable Development Goals, facilitate employment opportunities within the local community, and secure the long-term development of our business.

In many countries, the transport and construction industries face a shortage of people with the right skills and competencies. The Volvo Group's professional training for technicians, drivers, operators and factory workers increases people's experience and equips them with the rights skills for roles in these sectors.

### **Pioneering vocational training in Africa**

In November 2013, the Volvo Group signed a Memorandum of Understanding with USAID and Sida. Our aim is to work in partnership to support achievement of key development objectives in areas of mutual concern such as workforce development and vocational training, traffic and road safety, workforce wellness, and the promotion of sustainable economic growth.

Together, we aim to provide vocational training schools in 10 countries within five years, mainly in Africa and South East Asia. Training is to be provided for around 4,500 young people, enabling them to be employed within the transport industry as mechanics or drivers.

We work with local education authorities to develop curriculum materials. To increase the reach of the program, we share the materials and best practice with other colleges.

The Volvo Group has established a school for technicians in Ethiopia and we are now using that experience in the development of a new school in Morocco. We have been commercially present in Morocco since the 1950s and the Volvo Group enjoys a high share

of the truck market. This, combined with the country's investment in infrastructure, makes it a strategic growth market.

Morocco is also a country with high unemployment among young people, where the existing education system focuses on theoretical education, which does not reflect the needs of industry. The consequence is a shortage of adequate competence that is impeding growth in the country.

In 2014, the Volvo Group, UN agency UNIDO, USAID, and the OCP Foundation, jointly agreed a vocational training school for mechanics in the city of Settat, at the existing national vocational school, Ecole des Métiers du Bâtiment et Travaux Publics. The school is supported by the Moroccan Ministry of Education and Vocational Training.

In collaboration with local authorities, we will train 150 students from Morocco, the Ivory Coast and Senegal every year, beginning in 2015.

The training program will enable local manpower to develop skills and expertise that can be directly applied in the heavy duty equipment industry. The Volvo Group will gain access to the trained service technicians that we require to support expansion in Africa.

We are also working on establishing schools in Zambia and Indonesia, and extending the training delivered in Ethiopia to include drivers.

### **Bridging the gap between academia and industry**

- **In India**, the Resource Center for Asphalt and Soil Training Academy (RASTA) is a Volvo Group-supported initiative aimed at bridging the gap between academic learning and industry needs, with a focus on the application of knowledge and hands-on experience. RASTA offers post-graduate and research programs in road technology, and master of technology programs in infrastructure and construction management.

### **Taking young people out of unemployment**

- **In Sweden**, the Volvo Step is a one-year, paid vocational training program in industrial production created specifically for unemployed young people aged 18 to 22. The Volvo Step takes place at 13 sites across Sweden, providing both theoretical and practical learning experience. Representing an overall investment of SEK 450 M, the program is a long-term investment for the Volvo Group which aims, among other things, to secure access to skills and competence and awaken young people's interest in working in industry. Starting in 2012, this three-year initiative will support a total of 1,200 young people. So far, 800 participants have received professional training and work experience. Successful participants receive a certificate of qualification for work in industrial production. It does not guarantee employment with the Volvo Group, but it does improve young people's chances in the labor market overall. Outcomes from the first program include nearly 70% had a job six months after finishing the program. Of these, over half worked in the production industry and one in ten had chosen to continue studying production-related subjects. Read more at: [www.volvosteget.se](http://www.volvosteget.se)

# RESPONSIBLE BEHAVIOR

## VOLVO GROUP MATERIALITY MATRIX 2014



### RESPONSIBLE BEHAVIOR

- |                                 |                                     |                                |
|---------------------------------|-------------------------------------|--------------------------------|
| 2 Legal compliance              | 12 Human rights                     | 15 Risk management             |
| 5 Business ethics and integrity | 13 Operational environmental impact | 17 Diversity and inclusion     |
| 9 Workplace health and safety   | 14 Supply chain                     | 18 Product use and end of life |

#### Responsible behavior: our material issues

The Volvo Group aims to increase trust and gain long-term strength for our company by managing and mitigating risks and behaving in a responsible manner across our entire organization, operations and value chain.

• **Corporate trustworthiness:** the Volvo Group enjoys an invaluable reputation for corporate trustworthiness around the world,

based on conducting business in compliance with laws and regulations, managing risks, and demonstrating business ethics and integrity in our daily operations.

• **Value chain sustainability:** What we produce and how we produce it is at the core of the Volvo Group's sustainability commitment. Responsibility and sustainability throughout the value chain are vital components at every stage of our product lifecycle.

#### CONTENTS

|                             |    |                            |    |                                   |    |
|-----------------------------|----|----------------------------|----|-----------------------------------|----|
| Corporate trustworthiness   | 56 | Risk management            | 62 | Operational environmental impacts | 68 |
| Legal compliance            | 56 | Diversity and inclusion    | 62 | Distribution and service          | 71 |
| Ethics and integrity        | 58 | Value chain sustainability | 64 | Product use                       | 72 |
| Human rights                | 60 | Product development        | 65 | Reuse and recycling               | 73 |
| Workplace health and safety | 61 | Supply chain               | 67 |                                   |    |



## Increasing trust with responsible business conduct

Realizing our vision requires the trust of all our stakeholders. Trust comes from reputation earned by consistently conducting business in the responsible manner described in the Volvo Group Code of Conduct.

For us, behaving responsibly is the only foundation upon which we can build a truly sustainable business. Strengthening our processes and increasing transparency helps to establish our company as a reliable business partner and good employer. We earn trust by integrating corporate responsibility and sustainability into our policies and demonstrating it in our everyday business practices.

### Compliance as a driver

The risks of non-compliance include significant monetary fines, as well as personal and financial risks for individuals. The Volvo Group sees legal compliance as a driver of business as well as a driver of risk mitigation activities.

Compliance empowers us to go out to the market and compete vigorously on the quality and value of our products, without fear of infringing competition or anti-corruption laws. It means our customers can be confident that we are supplying the best products at the best price. It enables us to effectively manage risk and gain the trust of financial institutions, protects our reputation and helps to attract and retain high-performing employees who want to work for an ethical and sustainable company.

The Volvo Group's compliance journey can be divided into three different steps: awareness, acceptance, and embedding. Having completed the first two steps, we are now ready to take the third, moving beyond policies and processes to embedding compliance in our company culture so that compliance is taken into account in all business activities and decisions.

### PRACTISING GOOD GOVERNANCE

The Volvo Group structure for governance encourages close monitoring, as well as rapid and efficient decisions and early adjustments, when necessary. The structure aims to involve all employees, by clarifying how each individual is important for achieving the targets.

#### Fulfilling corporate governance requirements

AB Volvo is regulated by the Swedish Corporate Governance Code. The CEO of the Volvo Group, Olof Persson, is in charge of the daily management of the Group in accordance with guidelines and instructions provided by the Board of Directors of AB Volvo.

For the Group's complete corporate governance report, see the **Volvo Group Annual Report 2014**. In this report the focus is on reporting on governance and decision-making relating to our economic, environmental and social sustainability impacts.

### Demonstrating good sustainability governance

Throughout 2014, the Volvo Group's corporate function Sustainability and Public Affairs was responsible for CSR and sustainability matters, including:

- **Establishing** strategies, direction and following up on performance
- **Supporting** and developing the Volvo Group's businesses in areas related to its corporate core values, CSR and sustainability, public affairs and relevant emerging issues

The function was chaired by Niklas Gustavsson, Executive Vice President Sustainability & Public Affairs – a member of the Volvo Group Executive Team with responsibility for decisions on sustainability and ensuring their implementation throughout the organization.

Following the Volvo Group's structural reorganization, taking effect on 1 January 2015:

- Responsibility for the two corporate functions, Corporate Communication and Corporate Sustainability & Public Affairs was merged into the new corporate function – Corporate Communication & Sustainability Affairs
- Henry Sténson was appointed Executive Vice President Corporate Communication & Sustainability Affairs and member of the Volvo Group Executive Team
- Niklas Gustavsson took up the position of Volvo Group Chief Sustainability Officer

### CSR Committee

The Volvo Group CSR Committee supports and develops the Group's CSR work. This committee focuses on work related to responsible business practice and the implementation of the principles in our Code of Conduct into daily operations. The CSR Committee is chaired by Malin Ripa, the Volvo Group's Senior Vice President, Corporate Social Responsibility Management. The committee's members include CSR managers from across the Group who represent different relevant processes for the implementation of the principles in our Code of Conduct.

### CSR supply chain

The Volvo Group CSR Supply Chain Steering Group oversees the work of the CSR Supply Chain Network. The steering group is comprised of management team members from the Group's different purchasing organizations as well as the chair of the Group's CSR Committee.

The CSR Supply Chain Network reports to and implements the decisions made by the steering group. The network includes representatives from all the Group's purchasing organizations. Each representative is responsible for reporting to their organization's decision-making forums to ensure all CSR sourcing requirements are applied by each organization.

### CSR country manager network

During 2014, the CSR country manager network was established to ensure delivery of an effective societal engagement program. The

members of this group co-ordinate CSR activity in their country and share experiences of their work on the Volvo Group's societal engagement program.

### 2014 performance highlights

Highlights of the Volvo Group's CSR and sustainability work throughout 2014, include:

- **Moving Society Forward** program developed. Read more on page 52.
- **CSR Africa** agenda implemented. Read more on page 54.
- **Customer CSR Assessment** project piloted. Read more on page 71.
- **Code of Conduct** training continued. Read more on page 59.
- **Responsible Supply Chain** management program reviewed. Read more on page 67.
- **Stakeholder dialogues and materiality** process further developed. Read more on page 14.

### EMBEDDING COMPLIANCE

The Volvo Group Compliance Programs were updated during 2014 to include policies and procedures, face-to-face training, e-learning, counselling and support.

Corporate Legal & Compliance are responsible for developing the programs, running the training, providing support, and taking the lead on auditing and investigations.

### Complying with competition legislation

The Volvo Group's work to ensure fair competition is guided by principles contained in our Code of Conduct.

Our Competition Law Compliance program outlines our principles of behavior towards competitors, distributors, customers and suppliers and relates to both the Volvo Group's employees and the company. All employees in contact with the Group's competitors are expected to be familiar with the policy and apply it at all times. Responsibility for compliance rests with line management.

The Group's Competition Law Compliance program aims to provide employees with an overall understanding of acceptable behavior, and to promote free and open competition in the markets where the Group is present. It includes detailed guidance, handbooks and related tools aimed at supporting all employees and preventing the Volvo Group from participating in activities that are contrary to competition law.

The Chief Compliance Officer, under the supervision of the General Counsel of AB Volvo, supports the Volvo Group management on compliance with competition law. Each division and business area is responsible for following the program and complying with competition laws. The General Counsel of each division or business area is responsible for counseling on the law for program activities in their respective area.

- **Training:** In 2014, over 4,000 employees completed the competition law compliance e-learning course and 630 employees were trained face to face, bringing the total trained since 2012 to 28,800 and 7,454 respectively

### Complying with anti-corruption and bribery legislation

The Volvo Group conducts business on a global scale and consequently operates in a number of countries where corruption risks are higher. The Volvo Group does not tolerate corruption in any part of our business. We have robust systems in place to ensure we respond and adapt our business practices and activities to address higher-risk areas.

Our work on anti-corruption is guided by the principles contained in our Code of Conduct and responsibility for compliance rests with line management.

The Volvo Group has an Anti-Corruption Compliance program that has been approved by the Audit Committee of the AB Volvo Board, and aims to prevent the Volvo Group or any of its business partners from participating in corrupt activities.

The program is continuously developed to detect and mitigate emerging corruption risks faced by our business. The program is designed to the strictest standards and is aimed at ensuring that the Volvo Group meets all legal requirements in the countries where we do business.

The majority of our sales are made through third-party distributors who represent the Group and our brands in the marketplace. A major part of our anti-corruption efforts are thus directed at ensuring we choose distributors who share our views on business conduct. This is done through anti-corruption due diligence and similar measures.

• **Training on anti-corruption** is continually updated to take account of new legislation and issues. Between 2012–2014 40,447 employees completed the anti-corruption e-learning and approximately 1,700 employees had face-to-face training.

### Reporting on compliance

The Audit Committee of the AB Volvo Board monitors compliance with our anti-corruption program. The Chief Compliance Officer is responsible for overseeing the implementation of the program, leading and participating in training and audits, and leading investigations into alleged non-compliance.

The Chief Compliance Officer reports to the Audit Committee three times a year on current incidents and investigations. In addition, annual reports are submitted to the Audit Committee on activities in the Anti-Corruption Program. Regular reports are made to Group management. The General Counsel of each division or business area is responsible for the program activities in their respective area. During 2014, two investigations into potential corruption were carried out. Other on-going non-compliance claims are as follows:

- **In the EU** in 2011, the Volvo Group and a number of other companies in the truck industry became part of an investigation by the European Commission regarding a possible violation of EU anti-trust rules. On 20 November 2014, the European Commission issued a Statement of Objections stating its preliminary view that the Volvo Group and several other European truck companies may have violated European competition rules. In the fourth quarter of 2014, the Volvo Group made a provision of EUR 400 M (SEK 3.8 bn as per 31 December 2014) which negatively impacted the Group's operating income. The proceedings are still at an early stage and we continue to fully cooperate with the authorities. There are a number of uncertainties associated with the final outcome and amount of potential fine. The Volvo Group will regularly reassess the size of the provision following the development of proceedings.
- **In the US**, the US Court of Appeals for the District of Columbia Circuit rendered a ruling on 18 July 2014 in the dispute between Volvo Powertrain Corporation and the US Environmental Protection Agency regarding a Consent Decree on emission compliance of diesel engines. It affirmed the District Court's ruling of 2012, ordering Volvo Powertrain to pay penalties and interest of approximately USD 72 M. Volvo Powertrain has appealed the ruling and is expecting a response from the Supreme Court of the United States on whether a review will be granted. For further information, see Note 24 in the Annual Report 2014.

## Meeting and exceeding corporate requirements

To become a world leader in sustainability, business must not only act in compliance with all laws and regulations, but see them as minimum requirements. Responsible businesses go beyond legal compliance, practising ethics and integrity throughout their organization.

For the Volvo Group, responsible business behavior requires consistently:

- **Implementing** the business principles contained in our Code of Conduct
- **Working** according to the Volvo Way
- **Bringing** our corporate core values to life

Our Code of Conduct details minimum requirements and sets out the Volvo Group's principles of business ethics, human rights and social justice, and environmental responsibility. It is supported by our corporate core values, company culture and a suite of policies, giving the Volvo Group a very clear roadmap for achieving our vision.

The Volvo Way defines our company culture. Our corporate core values are quality, safety and environmental care.

## CONSISTENTLY APPLYING OUR CODE OF CONDUCT

The Code of Conduct is the Volvo Group's mandatory, Group-wide policy for appropriate business behavior and responsibility towards our stakeholders. Its content is based on international norms, including the UN Global Compact and the OECD's guidelines for multinational companies.

The code is adopted by the AB Volvo Board of Directors and includes the business ethics, human rights, social justice and environmental principles to be applied in all our policies, decisions and activities, and outlines the Group's principles and minimum standards for conducting business in an appropriate, responsible and transparent manner.

### An umbrella for best practice

The Volvo Group Code of Conduct is complemented by around 20 other policies – relating to areas such as accounting and reporting, anti-corruption, anti-discrimination and environmental care – that describe in more detail how to address the code's minimum standards.

Our Code of Conduct is reviewed annually and was updated in 2012 to reflect internal and external changes. It is publicly available on [www.volvogroup.com/responsibility](http://www.volvogroup.com/responsibility).

During 2014, we continued with the rollout of the Group-wide training program that accompanied the code. The training is available in twelve languages as an e-learning course and a workshop with open discussions. We have adapted it for specific target groups, such as purchasers and new managers. Since November 2012, over 22,790 white-collar employees – from a total of ca 48,000 – have completed the web-based training.

### Code of Conduct compliance

Compliance with our Code of Conduct is monitored through management systems, audits, assessments and the annual employee survey.

All employees are expected and encouraged to report suspected violations of our Code of Conduct to their superiors. If reporting to superiors is not feasible or possible, a whistleblower procedure is available, which gives employees recourse to the Head of Corporate Audit.

The Volvo Group does not tolerate retaliation against a person for making complaints of suspected improper behavior in good faith. All incidents are investigated and appropriate action taken.

In total, 41 cases were reported in 2014 via the Whistleblower procedure. All cases were investigated and reported to the Audit Committee of the AB Volvo Board of Directors. The cases cover different issues such as human resource matters and conflicts of interest.

Up to today, four cases are still under investigation, the rest were closed.

Compliance with our Code of Conduct is included in the annual Management Control Self-Assessment. Results are consolidated and analyzed. The 2014 assessment concluded that the Volvo Group's management teams have promoted and ensured compliance with the Code of Conduct through training and information. Where needed, necessary action has been planned for, or taken.

## THE VOLVO WAY AND CORPORATE CORE VALUES

The Volvo Way expresses the culture, behaviors and corporate core values shared across the Volvo Group. It shows what we stand for and aspire to, and it lays the foundation for realizing our vision.

- **The Volvo Way** is a fundamental Volvo Group policy that defines our company culture. It addresses business critical issues, including value creation, customer focus, and the way we work. Its purpose is to set a standard of excellence and build high commitment and performance across our organization. The values and principles it contains guide everyone's daily efforts to effectively realize the Group's business strategies. Every manager within the Volvo Group is responsible for sharing the Volvo Way with their team and discussing how our values and principles affect their daily work. The Volvo Way is publicly available at: [www.volvogroup.com/responsibility](http://www.volvogroup.com/responsibility)

- **Operational Development and Volvo Production System** are complementary and reinforce each other as a complete continuous improvement system. Operational Development (OD) is a system with clear steps that is used by management and employees to formulate a future position, set objectives, deploy targets and define an action plan. In times of crisis, OD helps teams react quickly and can shift the focus and activities of an entire organization. Volvo Production System is an improvement system based on lean principles. It was initially used to improve the production flow of the assembly line, but is now also used for many business processes throughout the organization, such as product development, business services, logistics flows, and dealerships.

### Acting on our corporate core values

When Volvo was founded in 1927, quality and safety were our core values. In 1972 we added care for the environment. In doing this, we put ourselves in the absolute forefront of our industry. It showed we took a holistic view of the world and the impact that our products and production processes have on society.

Our corporate core values are key to supporting the development of sustainable transport solutions, in the following ways.



**Quality** equals customer satisfaction and reflects our promise to deliver reliable products and services that add economic value to our customers.



**Safety** is about protecting the wellbeing of anyone coming into contact with our products, as expressed in our commitment to achieve zero accidents with the Volvo Group products.



**Environmental care** expresses our commitment to reducing the environmental impact of our operations and products.

Our corporate core values are at the heart of our business and in 2014, we developed a new Long Term Corporate Core Value Plan with short and long term activities.

Our policies state that the Volvo Group shall be a leader in the areas of quality, safety and environmental care to achieve our vision of becoming the world leader in sustainable transport solutions.

## Respecting human rights in business

The Volvo Group signed the United Nations Global Compact in 2001 and supports the aims of the UN's Guiding Principles on Business and Human Rights, also known as the Ruggie principles.

### CSR-related concerns

Over the course of 2014, the most common CSR concerns asked of the Volvo Group related to:

- **China, Dongfeng Commercial Vehicles (DFCV) joint venture:** since January 2015, the Volvo Group owns a 45% stake in DFCV, and the Dongfeng Motor Group Company Limited (DFMG) owns the remaining 55%. This joint venture has raised concerns among some stakeholders regarding human rights in China, as well as sales to the military. Many of the issues raised relate to the parent company's historical business activities and are outside our agreement with DFCV. Regardless of country or partner, Volvo Group applies similar ethical considerations and believes that cooperation and internal influence has more impact than abstaining from doing business and remaining on the outside.
- **Russia, armored personnel carrier:** in September 2013, Renault Trucks Defence signed a protocol of cooperation with UralVagonZavod for a feasibility study into the development of a new armored personnel carrier (APC). To date, this has resulted only in a full-scale mock-up version of the APC. Due to the political situation in Russia, the agreement has been on indefinite hold and if not renewed, it will soon expire. The Volvo Group has no obligations under the protocol and no binding agreement.

- **Israel/Palestine, product misuse:** for many years, the Volvo Group has sold standard products to Israel and Palestine. Questions related to this have been raised by some stakeholders, and it has been brought to our attention that some of these products have been used for destructive purposes. Wherever we do business, we adhere to all international laws and regulations, including boycotts and sanctions agreed by inter-governmental decision-making bodies. We manufacture commercial products used to build and maintain communities around the world, and such products are sold openly and without restrictions. Although we regret any usage for destructive purposes, such practices are exceptional and beyond our control.
- **South Africa, minerals extraction:** in 2013, a report highlighted human rights issues in the platinum extraction industry in South Africa. The report aimed to investigate stakeholder responsibilities based on the UN guiding principles on Business and Human Rights. The Volvo Group's responsibility as one part in the value chain was investigated. The report concluded that we have limited opportunity to affect the human rights situation in and around mining operations, but more could be done in the form of collaboration with various networks and trade organizations to try to influence the situation. The Volvo Group has since initiated activities based on these recommendations.

### Practising positive labor relations

The Volvo Group respects the right of all employees to join an association to represent their interests as employees, to organize and to bargain collectively or individually. An employee's right to refrain from joining a union is equally respected.

We give our employees a voice through various business platforms, as follows:

- **AB Volvo Board:** there are three ordinary members of employee representatives on the AB Volvo Board of Directors and two deputies appointed by employee organizations.
- **Volvo Global Works Councils (GWC):** was created in 2013 as the global version of the Volvo European Works Council (EWC), which had been running since 1991. The GWC is chaired by Board Director, Mikael Sällström, and includes union representatives from the existing EWC and from wholly-owned Volvo Group companies in countries outside Europe with more than 500 regular employees. This forum confirms our overall commitment to involving employees in all parts of the world and treating them with the same respect. In addition, the EWC meets once a year focusing on European issues and sharing best practices. An EWC working group is currently involved in a project to improve information processes between management and employees regarding special topics, such as restructurings.

- **Volvo Global Dialogue (VGD):** gives employee representatives from the Volvo Global Works Council the opportunity to meet with senior Group Management. The forum is led by our President and CEO, Olof Persson. It has existed in its current format since 2013 and is held once a year. Volvo Global Dialogue does not replace normal escalation or the Whistleblower procedures. It is a forum for information and dialogue, and to discuss our global observance of the principles on human rights and social justice contained within our Code of Conduct. The 2014 VGD was held on 9 September in Gothenburg, Sweden, and gathered together 45 representatives from 17 different countries. The agenda included the year of efficiency, the current market situation and workforce flexibility, which led to good and deep discussion by the whole forum.

### Supporting freedom of association

The Volvo Group respects recognized unions and maintains a close relationship with employee representatives. The Group now reports on collective bargaining agreements in 16 countries, up from 14 in 2013. The latest study covered nearly 90% of all regular employees. Overall, 77% of regular employees in these countries were covered by collective bargaining agreements, and we estimate that around 50% of regular employees were members of an independent trade union.

During 2014, less than 0.1% of available working days were lost through walkouts or strikes within the Volvo Group. Strikes related to negotiations about compensation and benefits affected France and Brazil. In Belgium, it was part of a national strike against governmental changes. All issues were resolved through close communication and partnership with our employee representatives.

### Consulting and collaborating over job losses

In response to economic conditions and sales volumes, we made redundancies among 2,100 regular Volvo Group employees globally during 2014. Compulsory redundancies accounted for less than 2.4% in total.

In accordance with our Code of Conduct and legal requirements, we always notify employees' representatives and relevant government authorities about major changes in our operations. Labor organizations are informed via formal forums and are also represented in board meetings.

The Volvo Group enters into consultations and negotiations with trade unions and/or works councils about changes that affect their members, and appoints labor relations specialists in the largest countries to support the consultations and ensure we follow all legal requirements.

In accordance with the spirit of the Volvo Way and Code of Conduct, the Volvo Group works to find reasonable solutions for employees who are laid off. This includes internal mobility forums, which support the establishment of new enterprises, and outplacement support. The Volvo Group works closely together with local agencies or governmental offices to support affected employees in finding new employment.

## Promoting health, safety and wellbeing at work

We believe that increased employee health and wellbeing leads to raised productivity, reduced costs and increased competitiveness. As part of the Volvo Group strategy, we therefore strive to eradicate workplace risks and promote a safety culture by taking a holistic approach to workplace safety, health and wellbeing.

Safety is one of our corporate core values and a strong part of our company culture. We aim for zero accidents with our products and in our operations. Our workplace health and safety system is dedicated to improving the working conditions of all employees.

### Managing health, safety and wellbeing

In accordance with the Volvo Group's Code of Conduct, all employees have the right to a safe and healthy working environment as well as access to information, support, tools and training to reduce or eradicate work-related physical and mental health risks.

Managers at all levels share the responsibility of ensuring employee health and safety. They are responsible for adherence to the Volvo Group Health and Safety policy, as well as national requirements and regulations.

During 2014, we introduced a new structure for workplace health and safety across the entire Volvo Group. Workplace health and safety is now organized according to a single three-year roadmap that aims to standardize roles, responsibilities and processes.

The new system delivers common standards for the Group on ergonomics, industrial hygiene and machinery, as well as mental health and wellbeing. We use the Volvo Production System and OHSAS 18001 (Occupational Health and Safety Assessment Scheme) to assess our efficiency and effectiveness.

Prevention is our main target and we deploy various methodologies to protect employees. Whenever an accident occurs, we systematically analyze it to identify and eradicate known and potential causes.

The Volvo Group's global health and wellbeing programs cover various initiatives including medical examinations, ergonomics and rehabilitation support, and health promotion programs such as smoking cessation activities. These programs and activities sometimes extend to the employee's family members.

There are further initiatives in some countries on sport, eating well, relaxation and mindfulness. Many sites provide sports facilities for employees and have health coaches that develop wellbeing activities, such as half marathon participation.

### Measuring health, safety and wellbeing

- **OSHAS 18001:** in 2014, over a third (37%) of our production sites were OSHAS 18001-certified, including all Volvo Construction Equipment plants, two Penta sites, three in cab and vehicle assembly, four in buses, and one in logistics. The Volvo Group believes that there are many ways to measure improved workplace health and safety and in 2014 we took the strategic decision to

focus on achieving zero accidents. Over the year, we achieved zero accidents at 13 plants, compared to 11 in 2013. There are economic as well as social benefits of being accident free. For example, Changwon Volvo Construction Equipment in South Korea has achieved zero lost time accident rates for three consecutive years. As a result, it has benefitted from SEK 4.8 M annual savings in its industrial injury insurance premium.

- **LTAR\***: In 2014 the Volvo Group's Lost Time Accident Rate (LTAR) measurements covered 85% of all employees and resulted in a rate of 1.6. This compares favorably with 2013, when the measures covered only 40% of employees and the rate was 2.0. This improvement is due to the implementation of standard ways of working and increasing awareness of our employees and managers in our production facilities.
- **Fatalities**: three fatal accidents occurred during 2014, which all involved complete vehicles. A service mechanic at one of Volvo Construction Equipment's service outlets in California was killed while working under a front loader that that fell. An audit was performed and new guidelines have since been put in place about working under raised equipment and vehicles. A supervisor in Japan was run over by a truck while he was guiding another reversing truck into a parking position. Guidelines regarding the movement and parking of complete vehicles have since been deployed. An employee in the readjustment area in our Brazilian assembly plant was run over when a truck moved forward on ignition and hit the truck that he was working under. A global audit is currently being carried out and safe operating practices regarding these areas will be deployed.
- **VGAS**: the 2014 employee survey results related to Health and Safety dropped one point, in line with the overall VGAS results.

### Recognition for health and safety

Many locations received official external as well as Volvo Group internal recognition for their workplace health and safety work in 2014.

- **In India**, a team won the 'Health & Safety Award 2014' for achieving zero accidents during the 3-year rebuilding of the entire Hosakote plant, which involved 8000 temporary workers from 30 different agencies, working a total of 2.5 M hours. Many were migrant workers, living and working far from their hometowns. As part of the project, onsite accommodation and health and safety awareness was provided for workers and their families. Also, Volvo Construction Equipment won the India Manufacturing Excellence Award (IMEA) in the 'Breakthrough Project of the Year' category for its project entitled 'Safety as our Business Driver – Zero Incident, Zero Accident'.
- **In Japan**, the Ministry of Health, Labor and Welfare awarded the Ageo Plant the 'No Accident Record Award' for 35,000,000 hours with no fatal accidents, severe injuries, permanent damage, or plant closures between June 2008 and the end of August 2014.
- **In Brazil**, Volvo Group Brazil in 2014 received the award for 'Best Company to Work for' in the automotive sector by Guide Você S/A for the fifth time.

## Managing business risks

Work is carried out daily to identify, measure and manage risk. In some cases the Volvo Group can influence the likelihood that a risk-related event will occur. In cases beyond our control, we strive to minimize the consequences.

### Practising robust risk management

The Volvo Group classifies its risks into three main categories:

- **External-related risks** including the cyclical nature of the commercial vehicles business, intense competition, commercial vehicle price changes and government regulations
- **Financial risks** including currency and interest rate fluctuations, market value of shares or similar instruments, credit risk and liquidity risk
- **Operational risks** including market reception of new products, reliance on suppliers, protection of intangible assets, complaints and legal actions by customers and other third parties, and risk related to human capital.

A full description of the Group's risks, can be found in **the Volvo Group's Annual Report 2014**.

The Volvo Group has worked with enterprise risk management (ERM) for many years. ERM is a systematic and structured process to identify, understand, aggregate, report and mitigate the risks that might threaten the Volvo Group's strategic objectives.

The aim of ERM is to improve business performance, optimize the costs of managing risk, protect and enhance the Group's enterprise value, and contribute towards meeting high standards of corporate governance as reflected in the Swedish Corporate Governance Code.

## Recognizing the benefits of diversity and inclusion

Being an attractive employer with a global and diverse team of high-performing people, with more women and minorities in leadership positions, is part of our long-term ambitions.

The Volvo Group's aim to offer interesting opportunities and a unique corporate culture that attract and retain the best individuals from diverse backgrounds. Our long-term target is for all levels and operations of the Group's employee and management pool to reflect the diversity of the world in which we do business.

We seek to recruit and retain a broad spectrum of employees with different backgrounds, experience and perspectives.

\* LTAR = (number lost time injuries x 200, 000) / number hours worked

The rate of accidents is measured by the number of accidents people had in the company during their working hours that required them to stay away from work. The LTAR measure enables us to compare Volvo Group figures to external companies.

### Promoting a culture of diversity and inclusion

Diversity and inclusion are promoted in the Group's Code of Conduct and in our Diversity and Inclusion Policy, which underlines managerial responsibility for working to increase diversity and create an inclusive environment. Diversity is a key factor in business performance and work is coordinated on a global scale. Targets are set at corporate level and broken down by division. Tailored plans are enacted at country and local level.

The Volvo Group does not tolerate discrimination on the grounds of gender, gender identity, race, religion, age, sexual orientation, nationality, political opinion, union affiliation, disabilities, social or ethnic origin.

- **Diversity and Inclusion Week:** the first Diversity and Inclusion Week was celebrated across the Volvo Group in September 2014. Launched with a video from our CEO, management messages and bottom-up creativity were used to celebrate diversity within the Group and raise awareness of progress. Initiatives included a converted phone booth in France playing recorded testimonials from employees with disabilities. Dramatizations illustrated gender issues in India. Employees in Brazil learned sign language. A guest speaker highlighted challenging multicultural issues in Sweden.
- **Diversity training for managers:** the Group Executive Team takes ultimate responsibility for diversity and inclusive leadership (DIL), ensuring it is part of business as usual. Our target is to train all managers down to CEO-3 level in DIL by the end of 2015. In-house training facilitators are responsible for running internal DIL seminars and supporting our daily work on highlighting the importance of inclusion to realize the benefits of diversity. In 2014, we trained 39% of managers and an additional 36 training facilitators from five different countries. In total, we now have 180 DIL facilitators worldwide, including 16 additional facilitators in Asia.
- **Employee diversity networks:** help to empower minorities and provide feedback to management on how best to improve inclusiveness and remove roadblocks. Since 2011, the number of groups has increased from eight to 11. Working either locally or globally, the Volvo Group diversity networks have addressed multi-cultural and generational issues, inclusion of women employees, women managers, women in technical fields and LGBT (lesbian, gay, bisexual and transgender) employees. In 2014, the Volvo India Women's Inclusive Network was created to support women and improve gender balance in our organizations located in India. In October, all network leaders met with Volvo Group's CEO to launch a drive to increase network connections with senior management.

### Measuring progress towards our goals

On an aggregated level, we currently track gender, nationality, age and internal experience when managing our talent pipeline. We focus on adjustments and programs to ensure equitable treatment and equal career and development opportunities.

On a country level, based on possibilities afforded by local legislation, we track and have proactive initiatives to increase the inclusion of employees with disabilities and ensure equal opportunities for all ethnic backgrounds.

We use two key performance indicators to measure diversity – the Balanced Team Indicator and the Inclusiveness Index:

- **The Balanced Team Indicator** is a quantitative diversity measure covering nationality, gender, age and experience across different Volvo Group companies
- **The Inclusiveness Index** is more qualitative, gauging the extent to which employees judge their workplace to be inclusive

The KPI results for 2014 show a need for improvement in terms of diversity in the Group Executive Team (GET), especially with regard to nationality. In the level below the GET, average diversity scores increased.

The Inclusiveness Index was lower in 2014, showing a need for improvement as we complete the challenging efficiency programs initiated in 2014.

- **Gender balance:** at the end of 2014, women accounted for 18% of the Volvo Group's global workforce, compared to 17% in 2013. The share of women on the board in senior executive positions increased slightly.

### Gender diversity of the Volvo Group workforce

| Gender diversity  | 2014 | 2013 |
|---|------|------|
| Share of women, %   | 18   | 17   |
| Share of women, presidents and other senior executives; % | 21   | 19   |

It is a challenge for the entire automotive industry to attract women in sufficient numbers. The Volvo Group has a long-term ambition to increase the number of women in executive teams, while taking into account all other important diversity parameters.

The Volvo Group believes that one way of overcoming the industry's gender imbalance is to focus on diversity at the recruitment stage. Group policy requires all white-collar positions to be openly posted for at least ten business days to prevent recruitment through exclusive networks, and at least one woman and one man to sit on each recruitment panel.

Recently we put the spotlight on our female talent pipeline and provided mentoring opportunities to women in higher level positions. Read more on page 49.



## Taking a strong value chain approach

As one of the world's leading manufacturers of heavy commercial vehicles, the Volvo Group bears a responsibility for responsibly managing sustainability throughout our value chain.

The Volvo Group takes a full value chain approach to sustainability, extending our influence beyond the immediate scope of our own operations to drive economic, environmental and social sustainability through our supply chain, distribution and service networks, customer base and commercial partnerships.

Close collaboration with our key stakeholders strengthens our company and value chain, helping us to achieve our vision of becoming the world leader in sustainable transport solutions.



## Considering sustainability from the start

The Volvo Group's future success depends on our ability to continue to deliver innovative and sustainable transport solutions that can be converted into financially viable products and services.

There are six stages to the Volvo Group product development cycle, as shown in the 'Product development cycle' diagram below. Each stage has different quality, safety and environmental objectives that need to be met before proceeding to the next stage. Developing a completely new vehicle can take up to four years, sometimes longer if a new powertrain is included.

In 2014, we operated from a strong product portfolio following the Group's most extensive product renewal during 2013.

### Investing in sustainable R&D

2014 investments in research and development (R&D) amounted to SEK 16.7 billion, (15.1 bn).

R&D expenditure was lower than in 2013, but was offset by lower capitalization, thereby contributing to an overall increase in cost. The decreased expenditure level for R&D was planned following the launch of the new ranges for the Volvo and Renault brands, and implemented cost saving measures.

To stay at the forefront on fuel economy, the Volvo Group works to improve the performance of our products and to fulfill our development objectives:

- Each new product shall have less environmental impact than the product it replaces
- New products and major updates shall implement state-of-the-art technologies that make them better than those they replace

### Areas of focus

Our product development is driven by the cost and availability of fuel, environmental legislation and new technologies. We have therefore chosen to focus our long-term research and development, advanced engineering and technology on solutions that improve the sustainability of our products and the transport industry, with significant investment in:

- **CO<sub>2</sub> and energy efficiency**
- **Vehicle and traffic safety**
- **Transport solutions**

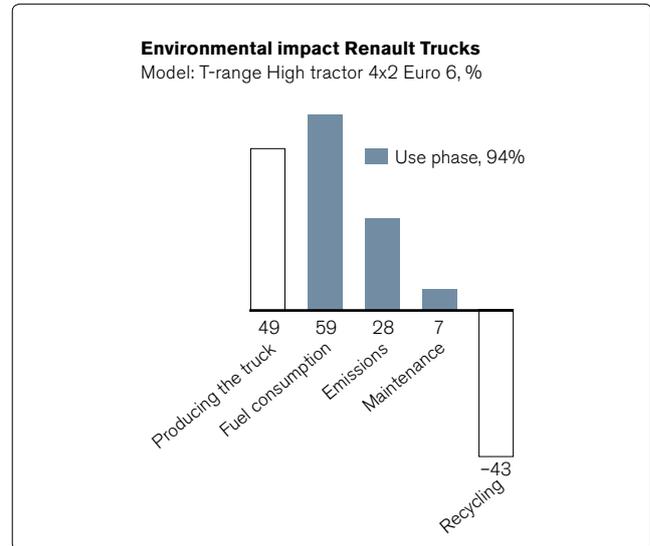
Read more in the **Sustainable Transport Solutions** section of this report.

### FOCUSING ON ENERGY AND RESOURCE EFFICIENCY

Focusing our product development on using resources and energy more efficiently simultaneously reduces the overall environmental footprint of our products while supporting our customers' profitability.

## Assessing the whole lifecycle of our products

We conduct whole lifecycle assessments (LCAs) for our products, taking into account all environmental impacts from the production and use of raw materials, energy and water consumption and the creation of waste, as well as emissions to air and water.



Our environmental impact is calculated according to the EPS 2000 (Environmental Priority Strategies in product development) method, where environmental impact is calculated as the willingness for an average OECD citizen to pay for the damage to five safeguard subjects: human health, biological diversity, eco-system production, natural resources and aesthetic values.

The Volvo Group's LCAs clearly demonstrate that the vast majority of a product's environmental impact results from its use – more than 90%.

The total weight of a truck, such as a Volvo FH tractor, is approximately 7,000 kg. It is estimated that 45% of a typical Volvo truck is produced from recycled material. Despite the high amount of recycled content, virgin material is still needed to ensure quality and solidity.

In addition, the use of scarce metals, such as platinum and palladium, constitutes a high environmental impact during production that is offset through recycling at the end of the product's lifecycle.

### Considering all critical materials

The European Commission has listed 20 raw materials as 'critical' in terms of risks for future supply. In the short and medium term, changes in the geopolitical economy carry the highest risks for market shortages, together with growing raw material demand, triggered by growth in developing economies and new emerging tech-

### Product development cycle



1. Definition of the project's scope
2. Choice of concept
3. Technical feasibility study

4. Development phase including building, verifying and validating the product solution
5. Industrialization and commercialization phase to enable production
6. Launch of the product and aftermarket products and services

nologies. Geological scarcity is likely to become an important determining factor over the long term for some precious raw materials.

To minimize risks related to environmental, social and supply vulnerability, the Volvo Group strives to reduce the quantity of critical and scarce materials in our products.

### Greater fuel efficiency by design

The Volvo Group believes we will contribute more to environmental sustainability by reducing the environmental impact of our products during the use phase, which results in a priority for product development to focus on fuel efficiency and emissions.

Renault Trucks has calculated that the fuel consumption of a typical long-haul truck has been reduced by around 30% over the past 30 years. Today, a truck that meets the Euro 6 standard can consume up to 5% less fuel than the previous generation of heavy duty trucks. Additional fuel savings of up to 15% can be achieved by using Renault Trucks' complete package of Optifuel solutions, including;

- **Optimized drivelines** and aerodynamic accessories
- **Training** for drivers and supervisors in eco-driving
- **Software** to measure and analyze fuel consumption and lifecycle performance
- **Servicing and maintenance checks** using genuine spare parts, accessories, and eco-lubricants

Read more about the Volvo Group's development of fuel efficiency solutions on page 22.

## REDUCING EMISSIONS FROM OUR PRODUCTS

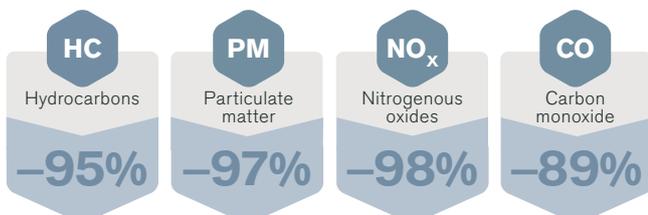
Over the past two decades, a significant proportion of the Volvo Group's investment has been allocated to product development to ensure compliance with increasingly stringent emissions regulations.

### Emissions of pollutants

Governmental regulations have focused primarily on reducing the emissions of pollutants, such as nitrogen oxides (NO<sub>x</sub>) and particulate matter (PM).

#### Reduction of truck engine emission

between 1990 (Euro 0) and 2014 (Euro 6)



- **EU:** adherence to the Euro anti-pollution standards for heavy commercial vehicle engines has seen the level of emissions from a truck being considerably reduced between 1990, the year of the first Euro 0 standard, and 2014 when Euro 6 came into force, as shown in the illustration. The Volvo Group has a complete Euro 6 engine program ranging from the smallest medium-duty 5-liter engine to the heavy-duty 16-liter version. Volvo Construction

Equipment and Volvo Penta were among the first to certify engines compliant with Stage IV in Europe and have reduced NO<sub>x</sub> emissions by 80%, compared to previous regulations.

- **US:** With the implementation of EPA 2010 in North America, emission levels for particulates and NO<sub>x</sub> from trucks are lowest they have ever been. Our Volvo and Mack-branded trucks are all certified in compliance. Volvo Construction Equipment and Volvo Penta were among the first to certify engines compliant with the Tier 4 final emissions regulation in the US. Volvo Penta has also finalized the introduction of engines compliant with the most stringent marine emissions regulation, EPA Tier 3.

### Greenhouse gas emissions

Having reached these low levels of NO<sub>x</sub> and PM emissions, regulation and product development in this area is forecast to flatten in most regions. New trends in legislation are increasingly focusing on CO<sub>2</sub> emissions that are a product of fuel consumption.

The Volvo Group is aligning its product development investment to take account of the following regulations.

- **US:** Starting with model year 2014, greenhouse gas emissions and fuel consumption have been regulated to target considerable improvements against a 2010 baseline. All of the Volvo Group's truck models in the US are certified in accordance with the 2014 fuel efficiency and greenhouse gas regulations.
- **EU:** In May 2014, the European Commission presented a strategy for reducing CO<sub>2</sub> emissions from heavy-duty vehicles (HDVs), which they calculate as representing about 25% of EU road transport carbon emissions. A computer simulation tool for calculating of CO<sub>2</sub> emissions from new HDVs – VECTO – has been developed in collaboration with the Volvo Group and other manufacturers. The plan is to bring forward proposals for legislation during 2015 which would require CO<sub>2</sub> emissions from new HDVs to be certified, reported and monitored. The overall EU target is for greenhouse gases to be reduced by a total of 20% between 2008 and 2030, and by at least 60% by 2050, with 1990 as the base year. The target for city transport is largely carbon-neutral logistics in major cities by 2030. The EU plans will require the transport sector to consider new vehicle technology, engines, materials and design, traffic planning and the use of purer forms of energy through new drivelines and alternative fuels. All of these are priority areas in the Volvo Group. Read more on page 22.

### Limiting noise emissions

Noise is a growing problem in urban areas. The EU estimates that some 20% of its population suffers from noise levels that scientists and health experts consider unacceptable.

The Volvo Group is continuously working to measure noise and vibration characteristics in engine and driveline components. Sound engineers use both insulation and alternative design solutions to make everything from engines and transmissions to axles, fans and air intakes quieter.

However, at speeds above 50 km/h, noise created from the contact between tire and road is higher than noise emissions from the driveline. This means that effective control of road traffic noise requires a holistic approach with coordinated efforts between vehicle and tire manufacturers, road builders and infrastructure architects.

## Improving our responsible purchasing practices

Responsible purchasing involves managing risks, encouraging correct behaviors, and building long-term relations with our suppliers to improve social, environmental and business ethics in our supply chain.

### Managing our supplier base

In 2014, the Volvo Group purchased goods and services worth SEK 199.5 billion. Our suppliers can be divided into two groups:

- Suppliers of automotive parts and components
- Suppliers of other services and parts

In 2014, more than 36,000 suppliers delivered products and services to the Volvo Group, of which approximately 6,000 supplied automotive products.

Generally we source close to our production sites to ensure efficient flow of supplies. This means that most suppliers are located in Europe and North America. At the same time, the Group's expansion in Asia has led to an increased number of new suppliers located in Asia.

As a general rule, we stipulate that sales to the Volvo Group should account for less than 30% of a supplier's turnover. This approach decreases a supplier's exposure when delivering to a cyclical industry such as ours.

### Pursuing responsible sourcing principles

We believe that responsible sourcing results in high productivity and stable long-term relationships, which benefit all parties. Our Code of Conduct sets out the principles and minimum standards. Since 1996, our responsible sourcing program has consistently increased supplier requirements on environmental issues, business ethics, human rights and social issues.

All suppliers are requested to appoint a senior executive as their contact person for the Volvo Group.

Environmentally, the Volvo Group requires most suppliers to be certified by a third-party environmental management system. More than 94% of Volvo Group spending on automotive products comes from suppliers that are certified in accordance with ISO 14001 or its equivalent.

In the EU, our suppliers must also comply with the Volvo Group's position on chemicals and harmful substances, in accordance with REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) legislation.

Full information of our requirements for suppliers is available on the **Volvo Group Supplier Portal** website.

### Training colleagues and suppliers on responsible sourcing

During 2014, we continued the rollout of our series of CSR roadshows. The vast majority of the Volvo Group's purchasers and quality engineers have now had training on the business ethics, social justice and environmental issues affecting our supply chain. In early 2015, we will finalize the training with sessions in Lyon and Gothenburg.

In 2014, CSR training was held with suppliers in Turkey and Poland. In 2015 we will extend this training to India and China.

### Developing ethical assessment

In line with general automotive industry practice, the Volvo Group uses a self-assessment approach to evaluate supplier performance and compliance with our ethical requirements. As a member of the European Automotive Working Group on Supply Chain Sustainability, the Volvo Group contributed to work carried out in 2014 to harmonize automotive supplier evaluation. A harmonized process will facilitate accuracy and transparency. We will implement the new way of working during 2015.

The Volvo Group uses the Supplier Evaluation Model to evaluate our potential and current suppliers. An ethical self-assessment is part of the application process completed by all potential suppliers. Core suppliers and especially those in high-risk countries or segments are required to update their assessments on the Volvo Supplier Information Base before new contracts are signed.

Our supplier assessment poses approximately 40 questions relating to the principles in our Code of Conduct, including:

- **Social performance**
- **Work environment and conditions**
- **Human and labor rights**
- **Environmental care**
- **Business ethics**

Since 2009, most new suppliers to our company have to be approved by the Group's Global Sourcing Committee. Potential suppliers of automotive products are also evaluated by a quality engineer, using the Group's Supplier Evaluation Model.

In addition, we conduct regular site visits during product development, which gives us more direct control over our existing supply chain.

| Category            | Definition   | Scope   | Completed 2014 assessment | Passed 2014 assessment  |
|---------------------|--|---|---------------------------|---|
| Core suppliers      | Automotive product suppliers   | 100% of global spend                                    | 80% of spend              | 72% of spend  |
| High risk countries | Perceived by internationally recognized organizations to pose risks over human rights, labor rights and corruption               | 12% of automotive product suppliers                     | 92% of spend              | 75% of spend  |
| High risk segments  | Suppliers of indirect products and services including: merchandise, safety equipment, construction services and waste management | 4.3% of all suppliers of indirect products and services | 100% of spend             | 1,000 high-risk segment suppliers were evaluated in 2014<br>63% were approved |

### How we deal with non-compliance

The CSR assessment includes a requirement for an action plan where a supplier does not achieve a pass on a critical aspect. Among the most common causes for not passing are a lack of adequate compliance processes, and systems to enforce the Volvo Group's CSR and sustainability requirements down to supplier's own sub-contractors.

We work with non-compliant suppliers to help them resolve issues and ensure that our requirements are met.

## Minimizing our environmental footprint

The Volvo Group has 66 production sites in 19 countries around the world. In 2014, the Group delivered 203,100 trucks, 8,800 buses, 61,300 units of construction equipment, 17,400 marine engines and 15,300 engines for industrial applications.

In addition to our production sites, our industrial operations worldwide include several product development centers, and a large number of parts distribution centers and logistics centers.

### Management systems

Environmental care is one of our corporate core values and is an integral part of the Volvo Group's vision, business strategy and daily work.

Our work is governed by a common environmental policy, which mandates that the Volvo Group shall comply with legal and other applicable requirements as a minimum standard. To realize our vision of being the world leader in sustainable transport solutions, we must go beyond compliance and demonstrate best practice.

All the Volvo Group's wholly-owned production facilities and distribution centers are audited by third-party assessors who have certified the following as being in accordance with international quality and environmental standards:

- **ISO 9001 Quality management system:**

100% of production facilities and 90% of distribution centers

- **ISO 14001 Environmental management system:**

98% of production facilities and 90% of distribution centers

- **ISO 50001 Energy standard:**

Macungie, Hagerstown and NRV plants

### Key performance indicators

The Group has reported detailed environmental data since 1991 and we have continually developed indicators and tools in that time. Our full audited environmental data for 2014 will be available in May 2015. The latest quantitative data is shown here.

On the following pages, we present the latest information about the many strategies we have in place to manage and mitigate the environmental impacts of our operations.

### Environmental performance of Volvo production plants, Industrial operations

| Absolute values related to net sales                             | 2014         | 2013          | 2012 <sup>1</sup> | 2011         |
|--|--------------|---------------|-------------------|--------------|
| Energy consumption (GWh; MWh/SEK M)                              | 2,176; 7.9   | 2,536; 9.6    | 2,518; 8.6        | 2,471; 8.1   |
| CO <sub>2</sub> emissions (1,000 tons; tons/SEK M)               | 231; 0.8     | 280; 1.1      | 235; 0.8          | 255; 0.8     |
| Water consumption (1,000 m <sup>3</sup> ; m <sup>3</sup> /SEK M) | 4,982; 18.1  | 5,815; 21.9   | 7,372; 25.2       | 7,970; 26.2  |
| NO <sub>x</sub> emissions (tons; kilos/SEK M)                    | 332; 1.2     | 347; 1.3      | 413; 1.4          | 474; 1.6     |
| Solvent emissions (tons; kilos/SEK M)                            | 2,387; 8.6   | 2,221; 8.4    | 2,358; 8.1        | 2,554; 8.4   |
| Sulphur dioxide emissions (tons; kilos/SEK M)                    | 18.3; 0.1    | 23.4; 0.1     | 26; 0.1           | 34; 0.1      |
| Hazardous waste (tons; kg/SEK M)                                 | 24,944; 90.4 | 28,395; 107.0 | 32,547; 111.4     | 25,943; 85.5 |
| Net sales, SEK bn  | 276.0        | 265.4         | 292.2             | 303.6        |

<sup>1</sup> Restated according to new accounting rules.

## IMPROVING OUR ENERGY EFFICIENCY

The Volvo Group's ambition is to increase energy efficiency to reduce costs and lower emissions.

### Energy consumption

The Group's 2014 total energy consumption amounted to 2,176 GWh, down from 2,536 GWh in 2013. This was achieved in large part through the implementation of an effective energy reduction program in truck manufacturing. Most of the recorded energy usage is for heating and production processes, with approximately 20% used at our engine and driveline production facilities.

- **In Brazil**, the Volvo Group was named the 'Most sustainable company in Brazil's automotive sector' in the 2014 Sustainability Guide published by the country's leading business magazine, Exame. Our energy efficiency performance helped us stand out among 200 participating companies. Over the past 10 years, the operations in Brazil have cut energy consumption in vehicle production by 63%, and reduced CO<sub>2</sub> emissions by 48.5%. Several measures have helped us achieve this, including the reuse of heat generated by machinery in the Curitiba plant to produce hot water for the plant, the installation of systems that automatically shut down machines when not in use, improvements to lighting systems and further recycling of solid waste.

- **In Sweden**, we invested EUR 5 M during 2014 in a geothermal cooling facility at our transmission factory in Köping. It will reduce electricity and heating use by 5,000 MWh per year, equivalent to the annual energy consumption of around 300 homes with district heating. As well as reducing energy consumption, it will also create a more comfortable working environment for employees, which was a key consideration in our investment.

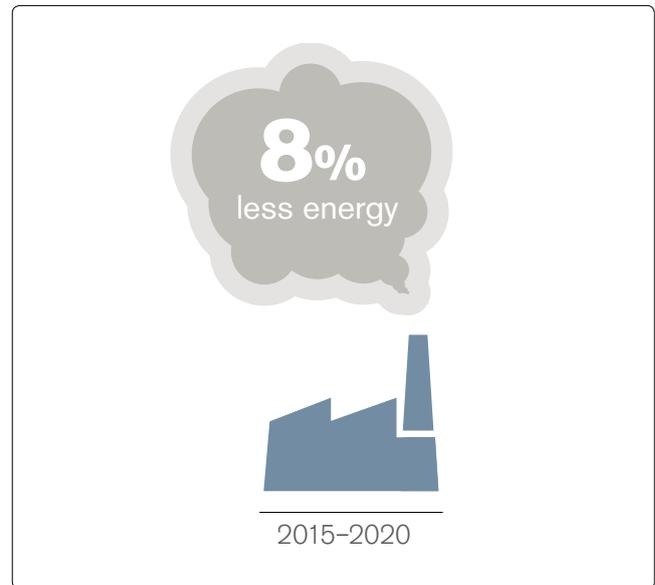
In 2014, energy savings activities at truck manufacturing plants resulted in a net saving of around 38,000 MWh of energy, with three Swedish truck manufacturing sites contributing 46% of net savings.

- **In the US**, the Volvo Group holds the top three performing plants within the US Department of Energy's Superior Energy Performance (SEP) certification program. The Hagerstown powertrain production plant joined the New River Valley truck plant and Macungie truck plant at the very top of the Platinum category for SEP certification. Hagerstown improved its energy performance by 21% from 2010 through 2013, New River Valley by 26% from 2009 to 2011, and Macungie by 42% from 2002 to 2012.

### Energy intensity and efficiency

Reducing energy usage per manufactured unit – energy intensity – is a priority target, as it means both reduced costs and lower emissions. Between 2004 and 2014, the Volvo Group has decreased energy consumption in our own production processes by roughly 23% per produced unit.

Our energy efficiency index – comparing energy consumption with net sales – was 7.9 MWh/SEK M, compared with 9.6 MWh/SEK M in 2013. The 2014 efficiency index has fallen compared to previous years due mainly to ongoing energy efficiency programs.



### Launching our ambitious new target

Our new WWF Climate Savers 2015-2020 commitment is to improve energy efficiency in production by identifying and executing energy saving activities, reaching a level of 150 GWh by 2020. Assuming constant production conditions, our energy use will decline from 1,900 GWh in 2013 for production sites included in the Climate Savers commitment, to approximately 1,750 GWh in 2020.

This is equivalent to an 8% energy saving, compared to the baseline year 2013.

### FOCUSING ON CARBON AND NOISE EMISSIONS

Emissions of carbon dioxide and noise are the two main focus areas regarding our production-related impacts. We have ambitious plans to make all our production facilities carbon neutral and targets to ensure noise levels are kept very low.

#### Carbon dioxide emissions

In 2014, CO<sub>2</sub> emissions from the Volvo Group's production facilities decreased from 279,900 tons to 230,700 tons. This was due to a lower energy use and the ongoing increased use of renewable energy.

About 800 GWh, or almost 37%, of our total energy consumption came from low-carbon renewable sources, including hydropower electricity and biomass heating.

#### Carbon neutrality

The Volvo Group has carbon-neutral facilities in Ghent, Belgium, as well as Vara, Tuve and Braås in Sweden. We achieved another significant milestone in 2014, when our New River Valley (NRV) plant in Virginia, US, switched from electricity produced with fossil fuels to electricity produced from landfill gas. All electricity purchased by NRV is now 100% carbon neutral.

Our long-term ambition is to make all our production facilities carbon neutral. We have produced an internal guideline detailing the Volvo Group's requirements for a CO<sub>2</sub>-neutral facility and the kind of energy sources we consider CO<sub>2</sub> neutral, as well as other related topics.

We aim to use energy sources that are sustainable in the long term, offer high energy efficiency and have low environmental impact. This means energy produced from renewable sources, such as solar, hydro, wind and biomass. We do not regard nuclear power as an energy source that is sustainable in the long term and therefore a switch to nuclear power must not be done solely to reduce CO<sub>2</sub> emissions.

### CO<sub>2</sub>-neutral Asia facility

Under our new WWF Climate Savers 2015-2020 program, we will perform a study of Volvo Group sites in Asia to establish the opportunities for switching to renewable energy use. The study will include discussions with governments about regulations and the availability of renewable energy. In themselves, these activities will act as a magnifier to push the development of more renewable energy.

Closely connected to this, the Volvo Group will also participate in a WWF initiative to increase knowledge of the problems and possibilities in renewable energy investments.

### Noise emissions

Noise levels from most of the Volvo Group's production plants are generally very low. Permitted emissions vary between countries and different land use, including industrial areas.

Our target is to ensure that the external noise level from plant operations, measured at the nearest residential property, does not exceed 60 dB(A) in daytime, also in areas where no regulation exist. There were no reported violations in 2014.

### MANAGING CHEMICALS AND HARMFUL SUBSTANCES

To restrict the use of chemicals and harmful substances, the Volvo Group closely monitors all parts and components used in the vehicles produced.

#### Our global processes for chemicals

The Group's global environmental standard for production plants requires processes for health and environmental assessment of all chemicals, paying attention to our 'black list' and 'grey list'.

Since 1996, to restrict the use of chemicals, the Volvo Group has maintained a 'black list' of prohibited chemicals and a 'grey list' of products whose use must be limited. The lists are revised annually and serve as tools for substituting harmful substances from our production processes. We use databases with detailed information on more than 6,000 chemical products and aim to make it easier to choose chemicals.

The Volvo Group has a process in place to fulfill the EU REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) legislation, and has conducted projects to ensure compliance with it. REACH aims to evaluate and limit the risks of chemicals to health and to the environment through the implementation of con-

trol measures, including registration, restrictions, prohibitions and communication requirements. The Volvo Group is continuing its work to streamline the internal processes for REACH compliance and adapt existing tools to reflect the content of REACH.

### Keeping track of harmful substances

In addition to the Volvo Group's basic requirements on our black and grey lists of chemicals, we are also required to comply with regulations covering the automotive industry.

In 2009, we adopted the Global Automotive Declarable Substance List (GADSL), which was devised between global automotive manufacturers and subcontractors. The GADSL list includes substances designated as prohibited and/or declarable within the industry.

Substances present in parts and components are controlled through a system called Substrack, under which Volvo Group suppliers can report the material composition through the International Material Data System. Using the Substrack system, the Volvo Group can secure compliance with global material and chemical regulations.

### AIMING FOR ZERO LANDFILL AND A SUSTAINABLE WATER FOOTPRINT

New River Valley, in the US, is one of our largest manufacturing facilities in the world and our first plant in North America to achieve zero landfill status in 2013.

### Managing our waste

The Volvo Group's minimum requirements on production plants include:

- **Sorting** and quantifying all waste at source
- **Implementing** measures to reduce the quantity of waste, increase reuse, material recycling and energy recovery
- **Reducing** the quantity of waste consigned to landfill

Waste is usually classified as either hazardous or non-hazardous, although definitions vary from country to country and change over time.

The Volvo Group's total amount of waste has decreased over time, although changes in definitions have resulted in an increase in the amount of hazardous waste in recent years.

The total amount of hazardous waste in 2014 was 24,944 tons, compared with 28,395 tons in 2013 – a decrease of 12%. Hazardous waste sent to landfill amounted to 996 tons.

### Measuring water consumption and emissions

At the Volvo Group, we have measured water consumption and emissions to water since 1990. The main environmental issues include inefficient water use and industrial wastewater treatment systems.

Water is also included in the Group's minimum environmental requirements for production. This refers to substances in process water, where process water with organic content must be treated chemically or by an equivalent method. The standard also requires all plants to address sustainable usage of water resources.

Compared with net sales, water consumption continues to decrease every year, from 21.9 m<sup>3</sup>/SEK M in 2013 to 18.1 m<sup>3</sup>/SEK M in 2014.

- **In India**, we have successfully implemented a rainwater harvesting initiative at the Volvo Construction Equipment plant in Bangalore. This will reduce demand on the local bore holes and water table, while securing our long- and short-term water needs. A large-capacity rainwater harvesting tank has been installed and rainwater is collected from the roof resulting in any excess flowing back into the local water system. It now satisfies up to one fifth of the plant's annual water demand. The grey water is used for the parts paint shop sludge tank, gardening, floor washing, rest room toilets and fire hydrants.

## REDUCING OUR TRANSPORT CO<sub>2</sub> EMISSIONS

Carbon dioxide emissions resulting from freight transport and deliveries to customers are more than double the CO<sub>2</sub> emissions from our production plants. This is something that the Volvo Group aims to reduce.

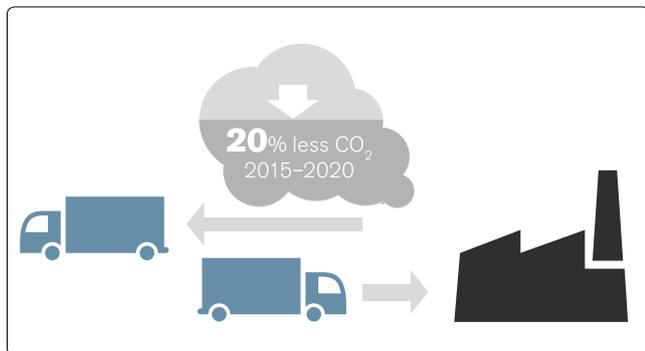
### Setting a new target for Group Logistics emissions

Volvo Group Logistics Services is responsible for the material logistics flow from suppliers to our plants, the storage and distribution of aftermarket products, and the distribution of new vehicles from our plants to dealers.

Seventy-five percent of the Volvo Group's major transport suppliers are certified in accordance with ISO 14001, or equivalent.

The total volume transported in 2013 was more than 18,500 million ton kilometers, with a carbon footprint totaling 775,000 tons. The results for 2014 will be calculated and available in the second quarter of 2015.

The Volvo Group's freight transport services have been included in our new WWF Climate Savers 2015-2020 commitments. The majority of freight is transported between material suppliers, Volvo Group plants, warehouses and dealers by sea and road, and a smaller proportion by air and rail. By 2020, our target is to reduce CO<sub>2</sub> emissions from all modes of freight transport for the Volvo Group by 20%, compared to 2013.



### Road transport efficiency and emissions

We require suppliers of road transport to comply with minimum engine class requirements and have their drivers trained in fuel-efficient driving. These requirements are followed up by an annual supplier survey.

### Rail transport efficiency

In Europe, the Volvo Group's freight train makes 10 journeys per week, travelling from the cabplant in Umeå, Sweden to the Group's truck plant in Ghent, Belgium. On the outbound journey it is fully loaded with truck components, but only 10% of the load capacity is used during the return trip to Sweden.

In 2014, we reached an agreement with our logistics partner to sell surplus capacity in rail transport from Belgium to Sweden. The agreement will produce benefits in terms of costs and environmental impact.

### Business travel efficiency

The new Volvo Group Travel policy addresses the necessity to consider environmental issues when travelling, and encourages use of the enhanced and increasing number of on-line facilities, such as video conferencing.

In 2014, the Volvo Group continued to closely monitor carbon emissions from business travel, including flights, hotels, rental cars, trains and virtual meetings. Travel booked through Volvo Group's online booking system informs employees about CO<sub>2</sub> emissions for selected flights.

In 2014, we reduced CO<sub>2</sub> emissions from business air travel by 32%, compared to 2013. Reasons for the decrease were a reduced number of trips as well as lower average emissions per trip. Contributing factors were the increased use of on-line tools together with improved availability of rooms equipped for video conferencing.

Together with our major global car rental provider, we have an agreement regulating the type of car allocated. If an environmentally-enhanced model is available within the car group booked, this will be offered to the renter. In eight of our major European markets, the number of environmentally-enhanced cars delivered during 2014 increased by 12% compared to 2013.

## Investing in dealer and workshop sustainability

The Volvo Group's customers are professionals dependent on reliable products and service, which we provide in more than 190 markets. To support the Group's customers, we have an extensive network of wholly-owned and independent dealerships, as well as workshops available along main routes.

One of our long-term sustainability goals is to be our customers' closest business partner where success is based on being the best at solving customers' problems and strengthening their operational performance.

### Customer CSR Assessment

In 2014, we began a CSR Customer Assessment pilot following the introduction of stricter requirements from the Swedish Government related to Business and Human Rights on the Swedish Export Credit Agency, EKN. The aim is to develop, pilot and implement a Customer CSR Assessment process to facilitate and secure export financing.

The pilot is centered on customer financing for Volvo Construction Equipment and Trucks in Africa and the Middle East. If the results prove satisfactory, the process will be implemented in other parts of the organization.

### Environmental product information

Information about our CSR and sustainability performance increasingly influences customers' decisions to do business with the Volvo Group, especially fleet owners. Clear and open product, marketing and sales information is essential for customers to be able to make an informed choice about our products and services.

Customers receive an Environmental Product Information (EPI) for many of our products, based on the results of life cycle assessments. Our EPI is divided into three sections:

- **Production:** information about energy consumption, emissions and waste arising during production
- **Use:** information about fuel consumption, emissions and spare parts during the use phase
- **End of life:** information about the scrapping and recycling of products

### Sustainable dealerships

A strong dealer network is essential for fulfilling expectations and providing our customers with the best information, availability, service and parts. Significant investment in our dealership network has been made over recent years to provide tailored solutions, combinations of combinations of products, and services that meet customer needs.

All Volvo Group-owned dealers work according to the Group's environmental requirements and towards fulfillment of the ISO 14001 standard. This means they receive, for example, detailed instructions on how used oils and other fluids are to be handled.

### Improving aftersales knowledge and performance

The aftersales support our customers receive makes a significant contribution towards customer satisfaction. The Volvo Group runs several local, regional and global competitions for our aftermarket personnel. The competitions increase knowledge and skills and encourage the sharing of best practice. This results in higher levels of customer service excellence.

- **The VISTA World Championship** for Volvo Trucks and Buses is the largest competition for aftermarket personnel in the world. It is held every two years and has been running for over 50 years, attracting thousands of participants globally.
- **Volvo CE Masters** is a global competition for our construction equipment aftermarket personnel. The competition's goal is to increase the interest, knowledge and skills of service and parts technicians worldwide about Volvo Construction Equipment products. The winner of the final, held in Eskilstuna, Sweden, in May 2014 was the team from Volco Construction Equipment GB, England.
- **In Europe**, Renault Trucks has launched an aftersales challenge for its entire European dealer network. The Road To Excellence Championship aims to develop skills and highlight the network's expertise in providing aftersales services to current and future customers. It also gives competitors the opportunity to compare experiences from one country to another and share expertise.

- **In North America**, the inaugural Mack Masters competition got underway in 2014 with 991 dealership participants making up 263 teams. It tests knowledge and requires teamwork to research and solve problems related to every aspect of the service experience: products, systems and diagnostics. Teams in five regions will compete in rounds of online challenges through to March 2015. Winners from each region will compete in a real-time, on-site final at the Mack Customer Care Center in June 2015.

## Reducing downstream environmental impacts

As a manufacturer of commercial transport solutions, our products are important components of the transport and infrastructure systems and play a positive role in socio-economic development. However, their use creates negative environmental impacts.

Our lifecycle assessments show that more than 90% of our products' environmental impacts occur during the 'in use' phase, with fuel consumption and emissions as the main contributors.

More than two million trucks and 100,000 buses manufactured by the Volvo Group in the past ten years operate on roads globally, and more than half a million units of construction equipment are in operation across construction sites worldwide.

We strive to mitigate the environmental impacts of our products arising from their usage in multiple ways, including:

- **Product development** focused on CO<sub>2</sub> reduction and energy efficiency
- **Alternative and renewable fuels**
- **Transport solutions**

### Eco-driving and fuel challenges

We can also improve fuel efficiency and lower emissions through eco-driving initiatives and fuel challenges. After participating in a course on fuel-efficient driving, drivers can, on average, reduce fuel consumption by 5 to 10%. This reduces customers' costs and environmental impacts, while better route planning can also reduce the risk of accidents. The societal lifetime gain from the reduction in CO<sub>2</sub> through eco-driving a truck is estimated to be worth approximately EUR 10,000.\*

The Volvo Group has launched several fuel challenges and eco-driving initiatives around the world. We offer a variety of training programs to optimize the skills of drivers and operators of our products.

- **Globally**, we launched a new competition in 2014: the Drivers' Fuel Challenge. This builds on the success of the former APAC Fuelwatch competition and encourages maximum fuel efficiency when operating a truck or a fleet of trucks. It is also a competence development effort, providing truck drivers with the opportunity to improve safety as well as efficiency skills.
- **In Europe**, more than 106,000 days of eco-driving courses have been delivered to Volvo and Renault Trucks customers since 2010.

\*Data calculated from the updated EPS 2000 method, to be published, with new data from IPCC (2014).

- **In Japan**, UD Trucks has been running Eco Driving Seminars since 2007. In total, around 20,000 drivers have been trained. The results are usually very impressive, with improved accelerator, gearshift operations and speeds resulting in average fuel savings of some 18%. During 2014, UD Trucks introduced a bus specially designed and built for holding eco-driving seminars. It plans to have five customized training vehicles by 2015 up from three during 2014.
- **In China**, Volvo Construction Equipment's Operator Idol competition continues its success. Participants take part in fuel-efficient driving skills training online and at competition sites. The competition's Ultimate Fuel-saving Driving Challenge simulates actual operating conditions to test operators' construction and fuel-efficiency techniques.

## Supporting the circular economy

Reuse and recycling minimize the need for raw materials and limit depletion of the earth's resources. We offer refurbished spare parts as a way of extending the useful life of our products and resources, and to reduce costs for our customers.

### Growing our remanufacturing business

Remanufacturing engines and spare parts is a growing industry trend and a growing part of the Volvo Group's activities. In 2014, total Volvo Group sales of remanufactured components increased by 18%, compared with 2% in 2013.

The Group has more than 50 years' experience and seven remanufacturing centers worldwide handling used components from our whole range of products. The first center opened in Flen, Sweden. Other centers are located in France, Japan, Brazil and the US, with the newest one opened in Shanghai, China, 2013. The inauguration of a new Reman centre in Bangalore, India, is scheduled for the first quarter of 2015.

Remanufactured components are offered to Volvo Group customers worldwide. Engines, gearboxes, exhaust filters and rear axle transmissions can all be renovated to the same condition as new parts, and our range continues to increase. Customers benefit from the same quality and a full warranty, delivered at a considerably lower price.

Environmentally, remanufacturing minimizes the need for raw materials. It also significantly reduces energy consumption and emissions. For example, a remanufactured engine saves up to 80% of the energy needed to build a new engine and dramatically cuts the emissions of nitrogen oxides and carbon dioxide.

In order to work efficiently, recycling and remanufacturing activities have to be considered during the new product planning phase. The Volvo Group's remanufacturing function therefore works closely together with product developers.

### Enabling disassembly and recycling

A truck produced by the Volvo Group is largely recyclable, since almost 85% of its weight consists of metal – mostly iron, steel and aluminum. The additional materials are mainly plastic, rubber and material from electronics components.

The Volvo Group has manuals and other tools to assist disassembly workers extract the most material, and value, from used vehicles.

# ABOUT THIS REPORT



The aim of the Volvo Group Sustainability Report 2014 is to present our CSR and sustainability work in a transparent way. It is based on the principles of the Global Reporting Initiative (GRI) G4 reporting framework and our Communication On Progress report to the United Nations Global Compact.

## CONTENTS

---

|                                  |    |
|----------------------------------|----|
| Reporting scope and boundary     | 75 |
| Accounting principles            | 75 |
| Data collection and verification | 76 |



## Reporting scope and boundary

The Volvo Group's Sustainability Report 2014 describes how we address economic, environmental and social challenges and opportunities to contribute to sustainable development. Our aim is to present our work in a straightforward, transparent and informative way for a wide audience.

This report is structured in accordance with the Volvo Group's CSR and sustainability model – visualized as a pyramid – which is based on the ten principles of the United Nations Global Compact initiative, other internationally recognized norms of behavior, and on interviews with internal and external stakeholders. The model is included in the 'Strategic approach' section of this report.

This report contains standard disclosures from the GRI Sustainability Reporting Guidelines, which are listed on the web-based version of this report. The Group's Sustainability Report 2014 provides greater detail than the Volvo Group Annual Report on our CSR and sustainability progress. Unless otherwise stated, the Sustainability Report 2014 encompasses companies fully consolidated in the Volvo Group.

### Accounting principles

The financial statement of the Volvo Group is included in the Annual Report 2014, with accounting principles detailed in note 1. In this section, we give further guidance on some of the data described in the Annual Report 2014.

#### **Employee data**

The HR data is based on principles described in the Annual Report.

#### **Number of employees completing e-learning**

The Volvo Group has an IT-based system for providing and monitoring employee training. The results of this training, presented in this report, are collected from our internal IT system which reaches approximately 48,000 employees. Employees without access to our IT system have received training from their managers in other ways. We have not included these results in the statistics.

#### **Supplier assessment data**

We have based our assessment of supplier performance on data logged on the VSIB IT-support system (Volvo Supplier Information Base). The assessment is carried out on a plant level – on the actual location to which the supplier delivers. The volume performance is calculated on the purchased value of goods used in the products, unless otherwise stated. The Volvo Group's risk assessment is based on indices and data from internationally recognized institutions.

#### **Environmental data**

At the end of 2014, the Volvo Group had 66 majority-owned production plants around the world included in environmental data reporting. In addition to our production sites, our industrial operations worldwide include several product development centers, and a large number of parts distribution centers and logistics centers. The environmental performance for industrial operation is reported in absolute values related to net sales. All environmental consumption is based on meter readings and invoices.

#### • Energy consumption

Energy consumption (direct and indirect) is measured on both direct and indirect supply of energy (energy produced by parties other than the Volvo Group). We include all energy used at a plant, except for internally-recovered energy.

#### • Carbon dioxide emissions

The total amount of energy – including energy used for heating and cooling, processes, product testing and internal transportation – is used to calculate the energy index. Carbon dioxide emissions from inbound and outbound transport and business travel are not included.

#### • Emissions of sulphur dioxide and nitrogen oxides

These emissions are based on the use of energy and the amount of product testing in test rigs.

#### • Water consumption

Water consumption includes drinking water, industrial water and steam.

#### • Hazardous waste

National regulations in the countries where we operate are used to divide generated waste into hazardous and non-hazardous.

## Data collection and verification

The process for collecting environmental data is audited by a third party and certified in accordance with ISO 14001. Due to the re-organization of the Volvo Group, some data on an aggregated level for the Group is unavailable.

The Volvo Group Sustainability Report 2014 has not been audited by a third party. Although we acknowledge the value of sustainability report auditing, we have opted to give priority to developing our in-house process in an effort to further improve our work. Parts of the data in this report are also presented in our **Annual Report 2014**.

## Standards

The Volvo Group's Sustainability Report 2014 adheres to the following internationally recognized voluntary standards and principles:

- Global Reporting Initiative G4 guidelines
- United Nations Global Compact principles for Communication On Progress for the implementation and reporting of the Group's sustainability work

A table with full GRI indexing for this report can be found at [www.volvogroup.com/sustainabilityreport](http://www.volvogroup.com/sustainabilityreport)

## References

### Annual sustainability reports

The Volvo Group has published annual sustainability reports since 2007. The Sustainability Report 2014 was published 25 March 2015 on [www.volvogroup.com/sustainabilityreport](http://www.volvogroup.com/sustainabilityreport). More information on sustainability and previous reports are available on the **Volvo Group's website**.

### Annual Report

The Annual Report 2014 was published on March 11, 2015 and includes the **Corporate Governance Report**. The report is available on [www.volvogroup.com/investors](http://www.volvogroup.com/investors).

## Disclaimer

Any links to external or third-party websites in the Volvo Group Sustainability Report 2014 are included solely for the reader's convenience. You make use of any links, and rely on the information contained on such external websites at your own risk. The Volvo Group does not give any representation regarding, nor accepts any liability for the quality, safety, suitability or reliability of any external websites or any of the content or materials contained therein.

This report contains forward-looking statements. Such statements reflect management's current expectations. Although management believes such statements to be reasonable, no assurance can be given that such expectations will prove correct. Such statements are subject to risks and uncertainties and such future events could differ materially from those set out in the forward-looking statements as a result of, among other factors (i) changes in economic, market and competitive conditions, (ii) success of business and operating initiatives, including research projects, (iii) changes in the regulatory environment and other government actions and (iv) business risk management. This report does not imply that the company will revise the forward-looking statements.



## Contact

For questions about this report or the Volvo Group's CSR and sustainability work, please contact:  
Eva Lindebäck Brandt, Director CSR Stakeholder Management, Corporate Communication and Sustainability Affairs, Volvo Group Headquarters.  
E-mail: [csr@volvo.com](mailto:csr@volvo.com)

Contact details for Volvo Group Headquarters:  
AB Volvo (publ)  
SE-405 08 Gothenburg, Sweden  
Phone: + 46 31 66 00 00  
**[www.volvogroup.com](http://www.volvogroup.com)**

Responsibility for the publication of the Sustainability Report 2014 is taken by Niklas Gustavsson, Chief Sustainability Officer, Volvo Group Headquarters.

# **VOLVO**

**AB Volvo (publ)**  
SE-405 08 Göteborg, Sweden  
Telephone +46 31 66 00 00  
[www.volvogroup.com](http://www.volvogroup.com)