

# Sustainability Policy

# Vision:

We want to have a leading position in our sector while acting responsibly

Many global challenges influence the environment, society and our company. We acknowledge our responsibility resulting from these challenges. This involves developing solutions to those challenges and thereby contributing to sustainable development. This orientation is crucial to ensuring our customers' future business success and our own future viability. We want to create long-term value by integrating environmental and societal issues into the business units of Linde Material Handling. Our employees are an important success factor for sustainability. They actively contribute to our company achieving a leading position for responsible action within our industry through innovation and ideas for optimising our organisation and our solutions. Conducting our business in a responsible way is part of our self-perception and ensures that we include our stakeholders' expectations and provide the products that fit the best our customers' requirements.

# Our approach involves ...

- performing a comprehensive assessment of our sustainability impacts,
- applying international best practice for sustainability in material handling,
- striving for perfection and continuous improvement of our sustainability performance,
- demanding responsibility from all employees of LMH especially top management and employees in managerial positions and ensuring they take responsibility for implementing this policy,
- fostering dialogue with our stakeholders, especially customers and employees.

# Our way of doing business in a sustainable way means

 acting with high standards of business ethics and integrity and complying with the UN Convention Against Corruption (UNCAC),

- respecting and protecting international human rights and complying with the UN human rights declaration and fundamental ILO conventions,
- integrating sustainability criteria into decision-making and performance management,
- having a positive social and economic impact in the communities everywhere we do business,
- having a fair, equal and non-discriminatory relationship with our employees, providing a safe and decent workplace and helping them realise their full potential,
- improving our environmental impact by striving for sustainable solutions and improving efficiency,
- expecting our business partners to act responsibly and continuously improve their sustainable performance.

# Our products...

- are sustainable and are setting benchmarks for perform- ance, user-friendliness, robustness and versatility,
- provide best solutions for ergonomic design and safety,
- are exemplary for efficiency and longevity,
- are continuously improved to enhance their environmental, ergonomic and safety characteristics,
- support the development of economies and markets.

# Report profile

Linde Material Handling gives an account of its corporate responsibility in the first Sustainability Report. The report describes the impact of the Company's activities on the environment and society, documents key performance indicators, as well as targets and measures which the Company uses to manage its activities.

The content of the report relates to Linde Material Handling GmbH and its consolidated units. 175 production and sales locations in 13 countries worldwide are included in determination of sustainability indicators. The data covers a total of 12,144 employees and therefore 87% of the entire Linde segment. The long-term objective is to extend the reporting boundaries to all consolidated units. All indicators relating to the entire segment are indicated (\*).

The reporting period is the business year 2014 (1 January to 31 December). Important developments that occurred during the course of 2015 are included in reporting. The report was prepared in accordance with the currently valid G4 Guidelines of the Global Reporting Initiative (GRI). Before the report was written, Linde Material Handling carried out a materiality analysis. The prioritised sustainability issues highlighted by the analysis determine the content of this report.

The editorial deadline was 31 October 2015. A follow-up report is currently planned for 2017. The Sustainability Report is available in German and English. The German version can also be accessed on the Internet at bericht.linde-mh.de, the English report at report.linde-mh.com. The values presented in the report are rounded on a case-by-case basis to improve readability.

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# "How can we do things better, more successfully and more sustainably?"

Interview with the members of the Management Board of Linde Material Handling

Andreas Krinninger has been a Member of the Management Board and Chief Financial Officer (CFO) since 2014. The graduate engineer held management positions in Germany, the USA and the UK for many years and in 2011 he moved from Kohlberg, Kravis & Roberts (KKR) to the KION Group. On 1 January 2016, Andreas Krinninger will become the Chief Executive Officer of Linde Material Handling GmbH.

Sabine Neuß has been Chief Operating Officer (COO) at Linde Material Handling since 2013. The industrial engineer has a long track record of leadership experience from Germany and abroad, with her last position being in the TRW Automotive Group.

Christophe Lautray has been Chief Sales Officer (CSO) on the Management Board of Linde Material Handling since 2009. The business economist from Paris was previously Managing Director at Fenwick-Linde in France.







# What does sustainability mean for you from a business perspective?

Andreas Krinninger: Many of our activities as a company exert an influence directly or indirectly on the living conditions of people in the areas around our locations whether they are customers, business partners, employees or the community at large. We have to act sustainably here and this means that we have to be aware of our responsibilities – for example by developing reliable, efficient and safe products, services and solutions, by being assiduous in applying ethical principles in our routine daily business or expecting sustainable standards from our suppliers throughout the branches of the supply chain.

Sabine Neuß: Our products help customers to become more sustainable by using our energy-efficient products and guaranteeing safety within their operations. This is one side of the issue. But today we also need to meet expectations which relate to the rationale of our business. What impact does the production of our vehicles exert on the environment? What working conditions do we offer our employees? Much of this may appear to be self-evident but we need to demonstrate how we address these issues.

# What opportunities do you perceive in sustainable corporate governance?

Christophe Lautray: Our sustainability strategy allows us to demonstrate to existing customers that we are a responsible partner and to impress new customers with integrity and cost efficiency. We are convinced that we are able to expand existing competitive advantages further with enhanced commitment to sustainability. Products from Linde enjoy a first-class reputation for efficiency and reliability. It is not always a well-known fact that they rank among the most cost-efficient in the marketplace, when the entire package, including service, operating costs and personnel expenses, is taken into account.

**Neuß:** I anticipate that the investments in environmental management and in energy supply will also deliver operational advantages for our own operations if we succeed in identifying and eliminating unnecessary cost factors. We require information and controlling instruments in order to achieve this potential and we achieve this through our management approach to sustainability.

# However, the fact is that sustainability is not just a fairweather topic where you can demonstrate your prowess with efficient products and successful savings. Where do challenges have to be overcome?

Lautray: Our customers are increasingly asking for concrete information in areas where in the past we never really thought about everything down to the last detail. For example, the total energy balance of a forklift might be a case in point. Some years ago, we therefore made an early start by joining forces with leading research partners to draw up life-cycle assessments for our major product series. They demonstrate that an environmental impact is primarily created during the service life. Our intention is not therefore to pass the buck to customers but to take this finding as the motivation to develop more and more efficient products.

**Krinninger:** We are continuously working on further improving the efficiency of our vehicles. Alternative drives such as hydrogen-powered fuel cells or new battery concepts are gaining increased importance also with a focus on productivity. Some very dynamic research is being carried out in this area and Linde itself is proactively driving this research forward, often in direct collaboration with major industry partners and customers. Disposal or sale of preowned forklifts is also on the agenda. Here we will offer more service.

## And how do you regard your position in your own organisation?

**Krinninger:** Efficiency is naturally not just important in our products. We also need to develop our internal workflows and infrastructure. Ultimately, we want to be state-of-the-art and remain at the cutting edge.

**Neuß:** We are currently carrying out work globally on obtaining certifications for our management systems relating to the environment, energy and safety. Undoubtedly, there is still a need for a catch-up exercise in some areas and it is necessary to harmonise standards. However, we are making good progress here and I am therefore already looking forward to the next sustainability report in which we will be able to report on our progress.

### Mr Krinninger, do you have a statement to conclude our discussion?

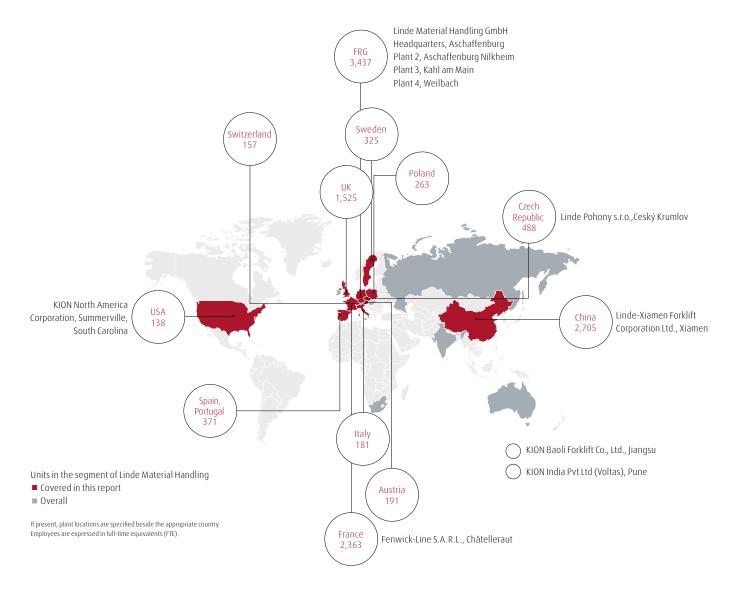
**Krinninger:** The motto of the founder of our Company, Carl von Linde, was "How can we get better?" I believe we need to keep asking ourselves this question every day. Then we will not only become better and better but inevitably also increasingly successful and more sustainable.

# Many thanks!



# Sustainably innovative

Forklifts trucks and warehouse trucks to the highest technical standards, for maximum productivity at low energy consumption – this is the hallmark of Linde Material Handling. As market leader in Europe, we strive to occupy key positions in all the important industrial markets.



Linde Material Handling is a global premium manufacturer of fork-lift trucks and warehouse trucks. As one of the three segments of KION Group AG, Linde Material Handling is the market leader in Europe. In 2014, the segment generated 59% of revenue and 77% of EBIT in the KION Group.



<sup>\*</sup> Linde and Fenwick are constituent elements of this report.

The segment comprises the brands Linde, Fenwick, Baoli and Voltas. Linde as the global premium brand and technology leader is famous for the robustness, user-friendliness and performance of its products. In France, Linde products are marketed under the Fenwick brand. Fenwick-Linde is the biggest national material handling provider. The Baoli brand covers the economy segment in China and in other growth markets in Asia, Eastern Europe, the Middle East and Africa, as well as South and Central America. In China, the brand has been represented by Linde (China) Forklift Truck Corp. Ltd for over 22 years, and it is also positioned in the top segment there as the most important international supplier. Voltas is the brand of KION India Pvt. Ltd. with head office in Pune, India. Alongside KION segment Linde Material Handling, the Company Linde Material Handling GmbH provides operational management for the Linde and Fenwick brands – this forms the focus of this report. There were no significant changes for the company during the year under review.

#### More than 110 years of experience

Linde Material Handling was founded in 1904 by the entrepreneurs Dr Hugo Güldner, Dr Carl von Linde and Dr Georg von Krauss under the name Güldner Motoren-Gesellschaft. In 1929, Linde purchased all the shares in this company and the Company grew organically and through acquisitions over the subsequent decades. In 1959, Linde switched from diesel engines and tractors to industrial trucks and hydraulic components. The takeover of Baker Material Handling Corporation in 1977 enabled the Company to strengthen its position in North America. Other takeovers included France's biggest forklift truck manufacturer Fenwick in 1984 and British manufacturer Lansing Bagnall in 1989.

Since 1993, Linde Material Handling has been operating in China with its own production. In 2006, the material handling business was hived off from conglomerate Linde AG and was sold to Kohlberg Kravis Roberts & Co. and Goldman Sachs Capital Partners. The new owners launched it on the stock exchange under the name KION Group AG in an initial public offering. Since September 2014, the KION share has been listed in the MDAX Index. The head office of Linde Material Handling and the biggest plant are located in Aschaffenburg.

# Active worldwide

As a company operating on the international stage, Linde Material Handling now has production and assembly plants in all the important regions of the world and a global sales and service network with representative offices in more than 100 countries. During the business year 2014, Linde Material Handling generated revenue of € 3.1 billion\* (2013: € 2.9 billion\*) with a workforce of just under 14,000 employees\* – this represented an increase of 6.8%. EBIT grew by almost 10 % to €339.6 million compared with 2013\*. In 2014, the biggest share in revenue growth was generated by the sale of electric forklift trucks and warehouse technology products, as well as a strengthened service and spare parts business. Europe is the core market for Linde Material Handling. The main markets here are Germany, France, the United Kingdom and Spain. Outside Europe China is the most important sales market. Growth markets in South America, Asia and Eastern Europe are increasingly important.

#### "Strategy 2020"

The KION Group is pursuing a multi-brand strategy. Within the framework of "Strategy 2020", the mission of the Linde brand is to strengthen its presence in North America and some emerging markets while continuing to strengthen its leading market position in Europe. The vehicles are produced close to the relevant sales markets within a global production network for these and other brands of the KION Group.

#### Linde Material Handling – strong brand values

Alignment with the established brand values of Linde will continue to play a key role in ensuring technology leadership over the long term in the context of these diverse challenges. Technological development, the changed purchase behaviour and new requirements of customers resulting from digitisation of industry and logistics will continue to define research and development work at Linde Material Handling in the future. Moreover, the demand for environmentally friendly products is undergoing tangible growth within the framework of "Green Logistics". This trend will continue to intensify when the new EU Emission Directive for Forklift Trucks comes into force in 2019.





Tow tractor P 30 C



Pallet stacker L 14 - L 20



Reach truck R 14 - R 25



# Brand values - Engineered for your performance

Performance Profitability for customers	<ul> <li>High productivity and closeness to customers through</li> <li>outstanding handling capacity</li> <li>integrated and efficient service</li> <li>very dense service network</li> <li>comprehensive service packages</li> <li>integrated customer support</li> </ul>		
User friendliness The operator has top priority	Safe and fatigue-free work through  sensitive controls  optimum manoeuvrability  maximum operating comfort at automobile level  uncompromising health protection		
Robustness Safe, resilient and long-life products	Extraordinary quality surpassing the scope of any standard for  • vehicle design  • materials  • processing		
Versatility Solutions for all requirements	The most comprehensive product range on the market with <ul><li>large variation within series</li><li>special equipment and customer-specific bespoke production</li></ul>		
Trust A reliable platform	Customers build their businesses on  vehicles that are innovative, high-performance, long-life and a sound investment  experience with a track record over decades  personnel with outstanding training  very dense sales and service network		
Pride of ownership Unique, in demand and popular	The products are impressive on the back of  innovative technologies  excellent design  great robustness, high level of operator comfort and manoeuvrability		
Passion Fascinating products	At least one step ahead of the competition through  technical excellence  inimitable design  high performance, robustness and agility		



Electric truck E 20 - E 35



Diesel and LPG truck H 40 - H 50



Heavy truck H 100 - H 180



Order picking truck

# Innovative technology and environmental protection

# **Key products**

Linde supplies a wide range of industrial trucks for deployment in the internal logistics of companies in industrial and commercial businesses. The spectrum ranges from pallet trucks through forklift trucks to reach trucks and large order pickers as well as automation solutions.

The hydrostatic drive defines the profile of Linde trucks in the marketplace. It is the epitome of smooth driving, precise positioning to the millimetre, and minimal wear and tear. By contrast with mechanical drives, this system delivers power with virtually no loss by means of a closed, maintenance-free oil circuit. The oil pressure applies the power uniformly from the hydraulic pump to the two hydraulic motors of the drive wheels. This innovative form of power transfer gives Linde vehicles their unique sensitivity and efficiency. Linde rose to assume market leadership in Europe with this invention, which was first manufactured on an industrial scale in 1960. The engineers in the Company have succeeded in transferring these outstanding features to the electric trucks launched in 1970 as well as to the warehouse trucks.

# Safe and environmentally friendly

Innovations at Linde Material Handling have always been directed towards safety and environmental friendliness and not simply geared to productivity and efficiency. The vehicles help customers to save energy, reduce emissions and comply with high safety standards. Substantial synergies are used through organisation of research and development across brands within the KION Group. A sector comparison reveals that development costs are in themselves very high, and additionally result in unique products and solutions.

In the technologically advanced markets with very exacting standards for vehicles, the reduction of the customers' overall costs – for procurement, maintenance, repair and energy consumption – is a top priority without compromising a high level of productivity. Linde primarily develops and produces bespoke products for specific markets based on cost-efficient platforms in the emerging economies of Asia and South America. In general, the vehicle configuration and equipment are tailored to the technical requirements of the customers there.

## Expansion of electric forklift trucks

Tighter emission standards for vehicles powered by internal combustion engines and the sustained trend towards electric drive technology have pushed up demand for electric forklift trucks and

consequently also for the development of electric trucks with larger load capacities (up to 8 tons). Together with these large electric trucks, Linde launched new electric forklift trucks with load capacities of 1.2 to 2 tons in 2014. They have 17% lower energy consumption by comparison with the previous models. One current focus of R&D activities in the Company is on the introduction of lithium-ion batteries for electric vehicles, which are superior to rechargeable lead-acid batteries in many respects. The first models were introduced in October 2014. Pilot projects for the market launch of forklift trucks and warehouse trucks powered by fuel cells are currently being carried out.

## Pre-owned and hire vehicles

Apart from new vehicles, Linde also offers its customers a large selection of used industrial trucks through its sales partners. The vehicles supplied under the label "Approved Trucks" are refurbished in conformity with global standards and present an attractive and



# 1st place in "Logistra Reader Survey"

In July 2014, Linde won a readers' vote in the trade journal "Logistra". The innovative fuel-cell powered trucks of Linde Material Handling were designated "best innovation" in the "industrial truck" category.

# Award for Linde Safety Pilot

As already in the previous year, Linde UK was granted the FLTA Award by the British Forklift Truck Association (FLTA) in the category of safety. FLTA Managing Director Peter Harvey said "Linde plays an important role when it comes to reducing the risk of accident and injury to drivers and those people who work together with them."



cost-effective alternative for less intense applications or occasional use. Even large fleet operators make use of this savings potential and do not exclusively order new vehicles. Used trucks are generally former fleet vehicles which have been maintained right from the start in conformity with the manufacturer's recommendations under a leasing or full-service contract.

Linde and its dealers maintain one of the largest rental fleets in the market. Rental trucks – from compact small trucks to heavy trucks – offer opportunities to increase productivity of operational workflows in logistics quickly and flexibly when order peaks occur. The service packages include delivery, return, driver training and machinery failure insurance.

# Fleet management and automation

IT-based fleet management and automation enable Linde to help customers enhance their profitability and structure by deploying vehicles more efficiently and therefore more sustainably. Modern fleet management with Linde Connected Solutions allows customers operating several Linde vehicles to record the usage data of their vehicles, transmit the data by wireless and evaluate it using software.

This means that they are continuously informed about the status of their logistics in production or in warehouse buildings, the deployment of the fleet becomes safer and more profitable, and the availability of the vehicles increases.

Depending on customers' needs, Linde Material Handling achieves automated material handling on the basis of different management and navigation technologies. The "Linde robotics – driven by Balyo" product range launched in 2014 uses laser-based geonavigation for driverless transport. This allows customers to make use of the most economical solution for automated systems currently available without having to install a technical infrastructure. Linde Material Handling GmbH holds a 10 % stake in Balyo SA.

# Sustainability in our products

# Active for more sustainability

Linde Material Handling actively promotes more sustainability in the sector and with customers through a series of initiatives. The Company has been cooperating with the Fraunhofer Institute for Building Physics (IBP) to develop a methodology for assessing the environmental impact of its forklift trucks and warehouse trucks throughout the product life-cycle. In addition, life-cycle assessments for the Company's seven main product groups were prepared (see from p. 33 for more information).

The safety-relevant innovations from Linde Material Handling include the Linde Safety Pilot launched in 2014. The intelligent driver assistance system helps forklift truck drivers to avoid operating and driving errors and thereby minimises the risk of accidents.

Linde BlueSpot is an innovative optical warning system for industrial trucks. It ensures more safety, particularly in aisles and at confusing intersections in a warehouse (more on safety and environmental features of products in the section "Products and Solutions" from page 28).



#### **UKWA Technical Innovation Award**

In July 2015, Linde Material Handling received an award from the Warehousing Association in the United Kingdom. The core idea was for "Dynamic Mast Control" to balance out the swaying of the mast by slight countermovements. This enables the driver to work safely and more efficiently at higher levels. Stacking pallets can also be carried out faster and damage to goods is also reduced.

# "VerkehrsRundschau" Image Award 2015

In February 2015, Linde once again earned the Image Award from trade magazine "VerkehrsRundschau". A market research company surveyed 196 managers from logistics service providers, industry and commerce, and asked them about the image and public awareness profile of the most important providers of forklift trucks and warehouse trucks







As part of the KION Group, Linde Material Handling has a leading position worldwide in the industrial truck sector and defines benchmarks for quality, innovative capability and earnings strength. The vision of the Company: being the leading provider in all relevant markets worldwide. The roadmap for realising this vision is created by a development programme and clearly defined objectives for regulating relationships between management and employees, and for cooperation with customers, suppliers and business partners.

# Sustainability targets Corporate governance<sup>1</sup>

Raising the awareness of sustainability in the corporate culture and consolidating it there Definition and implementation of sustainability standards in the supply chain

## Group-wide principles and quidelines

Not least on account of its global market position, Linde Material Handling as part of the KION Group has a special responsibility towards its customers, business partners and employees, as well as to the environment and the community at large. The most important reference standards for governance are developed at Group level and with the involvement of individual companies in the KION Group. They apply throughout the Group. An overview of the most important guidelines is provided below and they also apply to Linde Material Handling:

- Code of Compliance: Code of conduct defines the framework for lawful and ethical activity of all employees in the KION Group.
- Compliance Principles for Independent Sales and Service Partners: Code of conduct along the lines of the Code of Compliance, defines the framework for sales and service partners of the KION Group.

- Principles of Anti-Trust Compliance: Principles of free and fair competition, regulate the behaviour of the KION Group in relation to the market and competition.
- **Principles of Supplier Conduct:** Principles for supplier relationships form the platform for taking account of environmental and ethical standards in supplier management.
- Health, Safety and Environment Policy: Guideline for health, safety and the environment relating to employees, customers and the community at large.
- **Employment Standards:** Explanation of the underlying social rights and principles, excludes child labour and forced labour.
- **Diversity Principles:** Commitment of the KION Group to diversity within the Company.
- Donation Policy: Principles for social engagement, define the focuses and objectives for donation and sponsorship activities.

 $^{1}\textsc{Operationalisation}$  of the sustainability targets defined in 2014 can be found on p. 18

Criteria related to sustainability inform all decisions at Linde Material Handling on investments such as corporate acquisitions. These include information on compliance with workplace standards (such as collective agreements, working hours, information on accidents at work and sickness rates, employee turnover, health insurance) and environmental standards (including the handling of waste and hazardous substances, consumables and emissions). This comprises in particular precise auditing of guidelines and complaints, and legal disputes on the issues outlined above.

# Best of the best worldwide

In 2010, a corporate development programme was worked out involving executive managers at Linde Material Handling. As a uniform global orientation framework this strategy harmonises people and corporate culture and creates the prerequisites to achieve the vision set out by the Company: to be the best worldwide. The programme is based on the three core elements and it primarily describes the approach towards making the vision a reality (see overview). It is based on a high level of individual responsibility from all employees, and their willingness to work continuously on improvement and advanced development. The resulting projects and measures are coordinated and promoted worldwide by a network of local endorsers acting as facilitators. Comprehensive internal communication, including the provision of information on the Intranet and the company magazine "move", in turn raises the profile of target attainment, individual projects and best practice models for all employees.

## German Corporate Governance Code as a foundation

The companies of the KION Group are committed to recognised standards of good and responsible corporate governance. The foundation for this is provided by the German Corporate Governance Code in the version dated 13 May 2013. As part of the Group, Linde Material Handling complies with all the recommendations of this

# Corporate development programme

Clear and agreed targets. Cooperation Guidina principles Each employee knows between managers for decision-making what has to be achieved and employees is in projects and in and is aware of their own implemented on the routine daily work. personal contribution basis of clearly defined to this endeavour. requirements.

code with only one exception (excess in D&O insurance for Members of the Supervisory Board and the Management Board). The Declaration of Compliance with the German Corporate Governance Code is renewed each year and is published on the Internet site of KION Group AG.

# Compliance and risk management

## Compliance focus: prevention

The code of conduct defines clear standards for the management and all employees of the KION Group in respect of ethical, value-based and lawful business practices. The objective is to avoid legal and economic risks for the Company, as well as any damage to the reputation of the brands. The Code of Compliance is continuously reviewed and updated in order to achieve a "best-in-class" standard here as well.

The focus of compliance work is on prevention by providing guide-lines, information, advice and training. All employees are kept regularly updated on a timely basis through provision of comprehensive and comprehensible information with respect to the issues relevant to compliance, for example about competition law, data protection, communication, anti-corruption and IT security. In 2014, around 20 % of all employees worldwide took part in compliance training or training sessions on human rights. Employees who do not have a PC workstation are given attendance training sessions on site. All employees with a PC workstation undergo mandatory training on the basis of e-learning tools. In 2014, Linde Material Handling carried out compliance training sessions on this platform in all countries with at least 1,000 employees. During the year under review, no breaches of compliance quidelines and no case of corruption were identified.

#### Compliance organisation

The Management Board of the KION Group AG bears overall responsibility for the smooth operation of compliance management within the Group. The Compliance Department is responsible to the Chairman of the Executive Board of KION Group AG. The Chief Compliance Officer and the Chief Executive Officers of the Management Boards of the sub-groups, including Linde Material Handling, are responsible for the implementation of compliance. Operation of all the functions is supported by the KION Compliance Department, the KION Compliance Team – in which the local and regional compliance contacts of the Group are represented – and the KION Compliance Committee. Notifications about actual or suspected compliance breaches can be communicated anonymously, using the compliance hotline if desired. The Compliance Department works closely together with the Legal Affairs Department and the Internal Audit Department of KION AG in the course of carrying out its duties.

<sup>\*</sup> See also section on "Good employer"



#### Risk management

Dealing with risks and controlling them are important elements of sustainable corporate governance. The overarching objective here is to make comprehensive use of entrepreneurial opportunities while controlling risks at all times. The KION Group and therefore also Linde use the group-wide risk management system in order to establish appropriate measures and make adequate provision for limiting all the major risks identified. This ensures that any projected burdens arising from these risks if they actually occur are essentially covered and the continuing existence of the Group or any individual companies as going concerns is not in danger.

The guidelines for risk management are defined in a group-wide risk guideline. The organisation of risk management is based directly on the Group structure. The risk management process is essentially arranged on a local basis. Accordingly, risk owners and risk managers working for them are appointed at the level of the individual companies and the segments.

These officers initially record the risks at the level of the individual companies on the basis of a risk list defined group-wide. Alongside strategic and financial risks, they include risks relating to compliance with safety at work and environmental standards. At the level of Linde Material Handling and at the Group level of KION, a central risk manager is responsible for implementation in accordance with the guidelines.

# Sustainable procurement

Linde Material Handling manufactures important components for its forklift trucks and warehouse trucks at its own production facilities. This relates in particular to lift masts, axles, counterweights and chassis. Customers are therefore able to rely on a high level of quality and certainty of supply, as well as reliable availability of spare parts. Other components – such as electronic modules, rechargeable batteries, engine components and industrial tyres – are purchased through a global procurement system. Linde Material Handling purchases components with an annual value of more than €1,3 billion\* worldwide from more 3,000 suppliers. Less than 10% of these components come from emerging economies or developing countries. Depending on the business location, Linde sources 15 to 100%\* of its components locally, in other words from the country where it is located.

#### Code and audits for suppliers

Monitoring compliance with fundamental human rights and minimum social standards has always been a top priority in the purchasing function for companies in the KION Group and Linde Material





# **EcoVadis Certification**

Linde Material Handling was itself certified – as a supplier – in 2014 in accordance with the independent Audit Eco-Vadis and received the level of "Silver". The sustainability analysis system underlying the audit comprises 21 criteria from the four topic areas of environment, fair working practices, ethics and fair business practices, and procurement chain. The methodology is based on international sustainability standards such as the Global Reporting Initiative, the United Nations Global Compact and the ISO 26000 sustainability guideline.

Handling. This is also expected from our business partners. To satisfy its own requirements and the wish of many key accounts customers for end-to-end monitoring of the supply chain, the Group developed the Principles of Supplier Conduct in 2013. This framework for suppliers forms the platform for integrating environmental and ethical measures in supplier management.

This also contains the requirement for suppliers to comply with international social standards. These include the prohibition on child labour and forced labour in accordance with the conditions of the International Labour Organization (ILO) and minimum standards for workplace safety. A standardised process for implementation and follow-up measures after audits is currently being worked out by Linde purchasing. The first audits are scheduled to take place in 2016.

# Compliance in purchasing and procurement

The Code of Compliance of the KION Group includes a section with specific rules on conduct for the area of purchasing and procurement. These state that purchasing decisions must be made strictly in the interests of the Company.

Such decisions should be based solely on objective criteria like quality, engineering, price, production requirements and logistics. Personal benefits for employees involved in purchasing activities in return for preferential treatment are explicitly prohibited, and the acceptance of gifts and invitations is restricted to an absolute minimum.



# A systematic management approach

In 2014, Linde introduced a sustainability strategy and launched the implementation of the corresponding management system so that it would also be a pioneer in responsible corporate governance. By 2016, a comprehensive roll-out of sustainability organisation and programme will have taken place.

# Sustainability targets Sustainability Strategy<sup>1</sup>

Continuous improvement in transparency and data quality

Definition of targets and key performance indicators for implementation and quantifying of sustainability

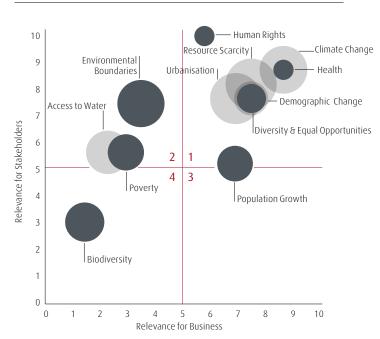
# Key challenges

The starting point for the development of the new sustainability strategy of Linde Material Handling was a materiality analysis carried out at the beginning of 2015 (see diagram). The materiality analysis covers core business activities and takes account of stakeholder expectations in order to help secure the future capability of the Company. 22 executive managers from across Europe and all business lines of the Company took part in this process. They also adopted the Sustainability Policy (see front flap) at Linde within this framework.

The underlying systematic approach: A listing of twelve global challenges such as climate change, resource scarcity and human rights was used to identify those challenges that exert the biggest influence on the business activity and secondly, are most relevant regarding challenges in the view of the stakeholders. The challenges were assessed on a scale of zero (low) to ten (high). The areas with the highest values in relation to the two perspectives are those which are most relevant and that are focussed on by sustainability management. In concrete terms, these are the following for Linde Material Handling:

- Climate Change and Resource Scarcity
- Human Rights
- Health and Demographic Change
- Diversity and Equal Opportunities
- Urbanisation

# Key challenges for Linde Material Handling



12 challenges were evaluated on the basis of their relevance (0=low, 10=high) for stake-holders and for business activity. The size of the circles shows the assessed uncertainty of the topics (the bigger the circle, the more uncertain). The most relevant topics define the content framework for future sustainability management and reporting (see table on p. 17).

Sustainability targets and fields of action were then derived from these challenges and these are presented on the following pages. Together with the issue of human rights, they determine the selection of key content and GRI indicators in this report.

# Development of a sustainability strategy

Linde Material Handling is anchoring responsible corporate governance along the entire value chain by means of its sustainability policy and strategy, targets and fields of action. The Company is assuming a pioneering role within the KION Group on the basis of this strategically founded approach.

# Sustainability policy

Linde Material Handling makes a commitment to its sustainability policy in a separate declaration. This includes a commitment by the Company to make a dedicated contribution to the solution of global challenges and in this way make a proactive contribution to sustainable development. In concrete terms, the content includes the key principles for action, approaches and social standards which form the platform for Linde to make sustainability a reality within the Company, in its business practices, with its products and in relation to stakeholders. (The formulated sustainability policy is provided on the inside cover).

## Principles and quidelines

Linde Material Handling has formulated its own principles for sustainable corporate governance. The Company here makes a commitment to take responsibility for its impact

- on the economic position of its stakeholders,
- on the environment and the use of natural resources, and
- on people and the community.

These principles are based on the "KION Group Code of Compliance" and on other guidelines of the group of companies (see also section on "Corporate Governance").

Furthermore, Linde Material Handling ensures through company-specific standards and instruments that the criteria of sustainability are well-established in operating business. These include a life-cycle assessment, which facilitates reliable calculation of the environmental impacts of products, and externally certified management systems for health, safety and environmental protection (in conformity with ISO 9001, ISO 14001, OHSAS 18001 and ISO 50001) at the production locations and in the national companies.

# Holistic approach: targets, effect and fields of action

Linde Material Handling used the results of the materiality analysis to define strategic sustainability targets. In addition, a model for the fields of action (see figure) was developed with the aim of highlighting the point along the value chain – at suppliers, within Linde Material Handling or with customers – at which these targets exert an effect. Linde uses the model as a controlling tool and as an orientation framework for all future activities relating to sustainability and sustainability communication.

# Go-ahead for implementation

In July 2015, the Management Board of Linde Material Handling adopted the key building blocks of the sustainability strategy – targets, fields of action and organisational structure (see following pages). The sustainability programme of the Company for the coming years constitutes the next stage and is based on these parameters. It contains appropriately prioritised concrete goals, measurement parameters, and target attainment measures for all the fields of action.

# Fields of action along the supply chain of Linde Material Handling

Communication		Corporate Citizenship		
Suppliers	Linde Mater	ial Handling	Customers	
Collaborative Development	Good Governance	Resource Efficiency	Innovative Solutions and Customer benefit	
Social and Environmental Standards	Good Employer	Climate Protection	Energy and Resource Efficient Products	
	Health and Safety	Environmental Protection	Product Responsibility	
Sustainability Strategy and Management				



The detailed sustainability strategy of Linde is scheduled for rollout in 2016. This defines milestones such as company-wide implementation of the organisational structure, introduction of sustainability reporting and controlling, and implementation of the first concrete measures based on the sustainability programme that has been adopted.

# Overarching organisational structure

Professional management with clearly defined roles and responsibilities is the enabler for successful implementation of the sustainability strategy by Linde Material Handling. A new gouvernance structure controlled directly by the Management Board creates the necessary framework for this.

# Material challenges and associated GRI aspects<sup>2</sup>

	_	
Challenges	Aspects	
Climate Change	<ul> <li>Emissions [i, o]</li> <li>Energy [i, o]</li> <li>Products and Services (en.) [i, o]</li> <li>Supplier Environmental Assessment [o]</li> </ul>	
Human Rights	<ul> <li>Supplier Assessment for Labor Practices [o]</li> <li>Supplier Human Rights Assessment [o]</li> <li>Assessment (Human Rights) [i, o]</li> <li>Forced or Compulsory Labor [i, o]</li> <li>Child Labor [i, o]</li> <li>Investment [i, o]</li> <li>Freedom of Association and Collective Bargaining [i, o]</li> <li>Diversity and Equal Opportunity [i]</li> </ul>	
Resource Scarcity	<ul> <li>Effluents and Waste [i, o]</li> <li>Water [i, o]</li> <li>Materials [i, o]</li> <li>Products and Services (en.) [i, o]</li> <li>Supplier Environmental Assessment [o]</li> <li>Compliance [i, o]</li> </ul>	
Demographic Change	<ul> <li>Diversity and Equal Opportunity [i]</li> <li>Occupational Health and Safety [i]</li> <li>Training and Education [i]</li> <li>Employment [i]</li> </ul>	
Health	<ul> <li>Occupational Health and Safety ([i]</li> <li>Customer Health and Safety [i, o]</li> <li>Compliance [i, o]</li> </ul>	
Diversity and Equal Opportunity	<ul> <li>Training and Education [i]</li> <li>Diversity and Equal Opportunity [i]</li> <li>Employment [i]</li> </ul>	
Urbanisation	<ul> <li>Emissions [i, o]</li> <li>Energy [i, o]</li> <li>Products and Services (en.) [i, o]</li> <li>Supplier Environmental Assessment [o]</li> </ul>	

<sup>&</sup>lt;sup>2</sup> Significant inside [i] or outside [o] of the organisation. More than one can be selected.

# Sustainability programme

Sustainability strategy and management	<ul> <li>Continuous improvement of transparency and data quality:</li> <li>Expansion of sustainability reporting to all consolidated units in 2016</li> <li>Definition of targets and key performance indicators for implementing and quantifying sustainability:</li> <li>Developing a target list and determining measures within the framework of the action field model in 2016</li> </ul>		
Corporate governance	<ul> <li>Raising the awareness of sustainability in the corporate culture and consolidating it there:</li> <li>Nationwide training for all employees in the context of the compliance programme until 2016</li> <li>Training for all managers on sustainability issues until 2017</li> <li>Defining and implanting sustainability standards in the supply chain:</li> <li>Integration of sustainability criteria in purchasing conditions and standard supplier contracts by 2016</li> </ul>		
Environmental protection	<ul> <li>Continuous improvement in environmental management and environmental performance:</li> <li>External certification of the consolidated organisations in conformity with ISO 14001 or an equivalent standard by 2017</li> <li>Audit and conversion of the paint facilities in production plants to more environmentally friendly technology by 2017</li> <li>Definition of energy and climate targets:</li> <li>External certification of relevant consolidated organisations in conformity with ISO 50001 or an equivalent standard by 2017</li> <li>Derivation of potential savings in relation to energy and climate (continuous)</li> <li>Audit for the use of LED lighting concepts in all units by 2017</li> <li>Reduction of service journeys by increasing automation of the service processes</li> <li>Definition of a climate target in 2016</li> </ul>		
Products and solutions	Reduction of the environmental footprint and expansion of alternative drives:  • Updating and re-certification of the life-cycle assessment in 2016  • Expansion of the availability of lithium-ion batteries for all series by 2017  • Development of fuel-cell product range (continuous)  Improvement of safety and efficiency:  • Expansion of safety and automation solutions (continuous)		
Good employer	Improvement of occupational safety:  External certification of the consolidated organisations in conformity with OHSAS 18001 or an equivalent standard by 2017  Reduction of the accident rate (LTIFR) to 15.7 in 2015  Increase in the health rate to 97 % in 2015  Further development of corporate culture:  Implementation of an employee proposal scheme  Definition of a proportion of women at all management levels		
Community engagement	<ul> <li>Making community engagement systematic:</li> <li>Working out a concept that can be applied throughout the world for community engagement based on the objectives defined at the KION level</li> </ul>		

In 2014 Linde Material Handling launched its sustainability strategy and established the topic within the structure of the organisation. In an interview, Dr Holger Hoppe, Head of Sustainability Management, explained the background and the process.

**Dr Holger Hoppe** Head of Sustainability Management

# Has sustainability not been an issue for Linde Material Handling up to now?

Hoppe: Quite the contrary, sustainability has always been a guiding principle for our operations – whether this is in development, in production or indeed the use of our products, whether it has been in relation to the people who work for Linde or all the places where we are active. Customers, business partners, employees and the surrounding communities expect a market leading company like Linde Material Handling to have future-proof, responsible corporate governance – quite rightly so. And this is the hallmark of the brand Linde Material Handling.

# Why have you given the sustainability strategy a formal structure? What was the motivating factor for this?

Hoppe: Firstly, we wanted to give greater visibility to the concrete significance that sustainability has for us. Another factor was undoubtedly that our customers were increasingly enquiring about this issue and in many cases also demanding a rigorous sustainability strategy and effective sustainability communication as a basis for the partnership with them. However, we also perceive a big strategic opportunity in the process that we have initiated. By focussing on issues that are essential for the future capability of Linde Material Handling, we are strengthening our position within the competition. This new formal structure creates a good framework in order to achieve these targets. We are also thereby well placed to provide our customers with improved support for their own sustainability activities.

#### What does this mean in concrete terms?

Hoppe: The starting point for our sustainability strategy is provided by the key challenges and the fields of action based on the associated issues which we have defined. Two examples: We are committed to developing more energy efficient and alternative power units to enhance climate and environmental protection. We also want to promote diversity and equal opportunities within the Company in order to retain our appeal as an employer. This focus helps us to align all activities in the Company with a coherent strategy and initiate projects which contribute to the attainment of these targets. This secures the future-proof capability and competitiveness of Linde.

#### What is the scope of the new sustainability strategy?

**Hoppe:** It is certainly not restricted to our own "four walls". We are analysing the entire value chain from our suppliers to the entire life-cycle of our products with customers. In order to achieve this,

we have developed a model for the fields of action in which we highlight the points in the value chain where our sustainability targets exert their greatest impact. This model is an effective controlling instrument while at the same time providing a helpful reference framework for our sustainability activities. It demonstrates to us the points where specific projects are most effective.

# In 2015, you created the foundations for the new sustainability strategy. What is your perspective for the process of implementation?

Hoppe: A key component of the groundwork was also to create an organisational structure for the implementation of sustainability in the Company – with clear roles and responsibilities and penetration into the operational units. Naturally the sustainability committee within the area of responsibility of the Management Board forms part of this, as do the Sustainability Office headed by myself, the heads of the individual fields of action, and the regional sustainability coordinators on the ground. Soon, concrete appointments will have been made to all the functions for this new organisational structure and we will then be in a position to implement the new sustainability strategy successfully.

# And when will you roll out the operational implementation of the sustainability targets?

**Hoppe:** We have already begun the roll-out of our new sustainability strategy. We even launched some of the projects such as HSE certification and the preparation of life-cycle assessments in advance of this. The current projects will be transferred to the new structures. We will start to focus on the fields of action immediately. Our operational units will then be able to work towards achieving the targets even more efficiently and effectively on the basis of this platform and the individual targets, measurement parameters and measures.

# The change will also involve a great deal of resources. What does Linde hope to gain from the new content and structures?

**Hoppe:** Linde Material Handling has a leading global position in its sector for the areas of quality, innovative capability and earnings strength. Our new sustainability strategy and the associated focus on major challenges will contribute to safeguarding this position over the long term.

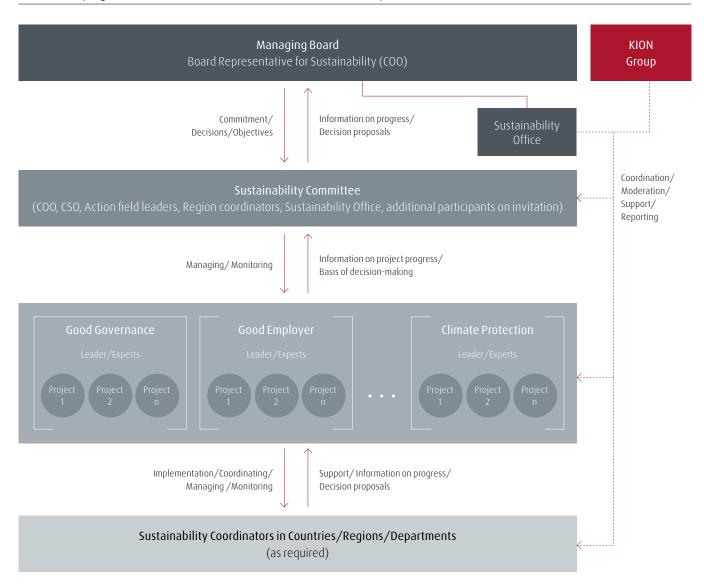
## Roles and responsibilities

When the sustainability strategy was adopted, Linde Material Handling also implemented a clearly defined organisational structure (see figure). It is crucial for successfully anchoring sustainability within the Company.

This structure gives ultimate responsibility to the entire Management Board. The Sustainability Committee headed by Sabine Neuß, Chief Operating Officer, forms the central committee for preparation of strategic decisions. Along with another Member of the Management Board, the committee is made up of the heads of the individual sustainability fields of action, the regional coordina-

tors and the head of sustainability management. The latter supports the work of the committee, coordinates all activities within the Company, and manages reporting and controlling. The Sustainability Office also acts as a motivator, developing and planning company-wide strategies and pilot projects on sustainability. The functions also include sustainability reporting, as well as networking and knowledge transfer between Linde and the KION Group. The operational units are responsible for implementation and target attainment of the measures defined in the sustainability programme. The individual projects are managed by the heads of the fields of action and in each case supported by the coordinators in the regions and areas.

## Sustainability organisation: Control and coordination of our sustainability activities





# Stakeholder dialogue

Linde Material Handling is in continuous communication with its stakeholder groups through direct conversations, by means of surveys and at events. Expectations and demands communicated to the Company can be identified at an early stage and taken into account when decisions are made.

# Relevant groups

The importance of the individual interest groups for the Company is measured by means of a number of parameters, notably their relationship to the Company's business or products, or the activities that can be influenced by them in the sales markets or in the area surrounding the locations.

The stakeholder groups influenced by the business activity of the Company are also relevant. The most important stakeholder

groups of Linde Material Handling are customers, suppliers, employees and shareholders of the KION Group.

Sector associations and international institutions are also included here. Linde has a total of some 100 memberships in this area. A special focus on sustainability is provided by a number of organisations including the International Organization for Standardization (e.g. ISO/TC 110/SC 5 Sustainability), the Comité Européen de Normalisation (e.g. CEN/TC 150/WG 15 Sustainability), the German Institute for Standardisation (Deutsches Institut für Normung) (DIN NA 060-22-45 AA) and the German Engineering Federation (Verband Deutscher Maschinen- und Anlagenbau) (Blue competence).

Linde also maintains a strong focus on dialogue with its customers. Numerous instruments ensure that proactive communication takes place here along its entire value chain (see also section on "Products and solutions").



# Participation in government subsidised projects

Linde takes part in various projects subsidised by the government with the aim of promoting highly innovative technologies that exert a beneficial effect on the environment. These include the "H2IntraDrive" research project financed by the German Federal Ministry of Transport. Since 2013, industrial trucks have been deployed in the bodyshop at the BMW plant Leipzig which are powered with green certified hydrogen. This project is continuing until 2016. The Department of Materials Handling, Material Flow and Logistics (fml) at Munich Technical University is evaluating the pilot project under production conditions (see www.h2intradrive.de).

www.h2intradrive.de

As partner of the "E-LOG-BioFleet" project financed by the Austrian Federal Ministry for Transport, Innovation and Technology, Linde provided ten pallet trucks from 2011 to 2014 which are powered by a hybrid system with fuel cells. The successful pilot project in the materials handling warehouse operated by DB Schenker in Hörsching was successfully completed in 2014 and the plan is to extend the project.

www.klimafonds.gv.at









# Clear guidelines for environmental protection

Environmental protection at Linde covers not only environmentally efficient products but also operational environmental management, energy consumption and material purchasing.

# Sustainability targets Environment and resources<sup>1</sup>

Continuous improvement in environmental management and environmental performance

Definition of energy and climate targets

# Environmental protection in the processes

The sustainable alignment of Linde Material Handling is primarily demonstrated by the environmentally friendly and safe products of the Company. They help customers to save energy, reduce emissions and guarantee high safety standards. However, increasingly demanding targets for environmentally benign production and a safe working environment are also being applied at the operational level. Linde has introduced comprehensive HSE management (health, safety, environment) to meet this demand (read more about safety in the workplace from page 43).

# Standards and management systems

As a company of the KION Group, Linde Material Handling is committed to group-wide standards and observes all relevant rules of conduct. The KION Code of Compliance also includes regulations and initiatives on the subject of HSE. These entail:

• complying with all relevant national laws, standards of conduct and industrial standards,

- ensuring a safe working environment and training for employees,
- avoiding the release of pollutants, discharges and emissions into the environment as far as possible,
- reducing the volume of waste by making better use of raw materials and using recyclable materials,
- using materials, products and processes that comply with best environmental practice,
- using resources, energy and raw materials efficiently.

An important focus is the requirement formulated in the HSE policy of Linde that all organisational units must establish appropriate management systems. A large proportion of these systems have already been certified in accordance with ISO 14001, OHSAS 18001 and ISO 50001. By 2017, external certification will have been implemented in all units of Linde throughout the world within the scope of the sustainability strategy. However, these standards are already exerting a tangible effect today. During the year under review, no fines or nonmonetary sanctions relating to compliance with environmental standards were imposed on Linde Material Handling.

 $^{1}\textsc{Operationalisation}$  of the sustainability targets defined in 2014 can be found on p. 18

Furthermore, key environmental data concerning matters such as energy and water consumption, and waste have been recorded for many years at all the production locations in Germany, France, the Czech Republic, the USA, China and India. Each location is pursuing targets for reduction and efficiency which are monitored by the HSE Manager responsible for the site. In the course of expanding Linde sustainability management, company-wide quantitative targets are being launched from 2016 and they will be monitored in a management review. Compliance with the HSE requirements is being ensured by regular audits at KION level. The implementation of environmental management at Linde Material Handling was reviewed by 125 internal and 29 external audits during the course of the year under review.

# Current focuses in environmental management

On business and environmental grounds, the focus of environmental management at Linde over recent years has been on the topics of energy and waste. Lower energy consumption in production has tangible impacts on the cost structure and on the generation of  $\mathrm{CO}_2$  emissions. Consistent recycling helps to reduce waste. Significant annual improvements have been achieved each year in these areas for each production unit. During the year under review, there were also no spills of waste, fuels or chemicals.

In order to make these successes even more beneficial for all the companies in the Group, the future will see relevant management processes and the associated savings targets being rolled out globally. These also include the incremental introduction of energy management systems in conformity with ISO 50001 in the relevant units. An important energy-savings measure relates to the conversion of sites to LED lighting.

A further target is stronger integration of suppliers into sustainability management. In 2014, the KION Group developed an appropriate guideline which includes environmental and ethical rules for purchasing materials.

# Systematic environmental management

Linde Material Handling makes sustainability a top priority not only in products and services but also in production. On the one hand, the Company has a strong conviction that the biggest lever for more sustainability lies in the products themselves. On the other hand, Linde wants to ensure that these products have been produced and maintained in a process that meets environmentally and socially acceptable standards. 60 % of all our global locations are currently applying reduction targets for energy consumption,  $\mathrm{CO}_2$  emissions and volume of waste.

## Certified management systems

A sustainable production process is based on many different building blocks. The premium approach of Linde is focused on all the individual measures, whether this relates to a closed cooling-water circuit, emulsion separation facilities, heat recovery or air heat exchangers.

Essential enablers are is reliable management systems which deliver stable processes and unambiguous indicators in order to implement this aspiration in operational business. All the strands in this process come together at Linde in HSE management. Internationally acknowledged management systems are applied here: ISO 14001 for environmental management, ISO 50001 for energy management and OHSAS 18001 for occupational health and safety. Compliance with these voluntary management systems is reviewed by means of internal Linde audits along with statutory regulations which govern the actions of the Company, although they vary from one country to another. External auditors have also already provided certification at many locations. The global group-wide certification of all locations is now going to be implemented. The plan is to complete this programme by 2017.

During the year under review, seven production facilities in various countries had already been certified in conformity with ISO 14001 or they are currently undergoing the process of certification. With respect to ISO 50001, this applies at five locations. 12 national companies providing sales and service have already been certified at a minimum of one location in conformity with ISO 14001, or certification is being carried out at the present time. Linde regards these certifications as an important investment in the future of the Company. They provide customers with orientation when they are looking for a reliable partner, for example in the context of ethically robust supply chains, and they help to optimise internal workflows.

# Energy and emissions

# Used and sealed surfaces

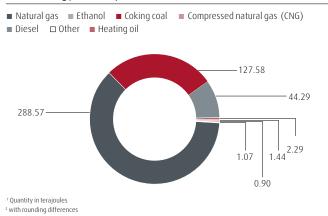
During the year under review, Linde Material Handling occupied a total of around 2 million m<sup>2</sup> of sealed land (incl. buildings 1.1 million m<sup>2</sup>) and unsealed land (0.8 million m<sup>2</sup>) with production, administrative, and sales and service locations in 13 countries.

# **Energy consumption**

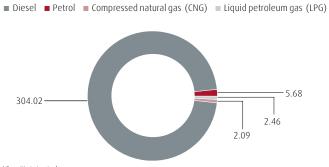
The area of energy is also a cost factor and a variable for environmental impacts. Increasing energy efficiency is one of the most important corporate targets – at the production level and within the company itself. The amount of energy consumption overall (direct and indirect) at our locations and for transport amounted to around



## Direct energy consumption 1,2 (properties, production, etc.)

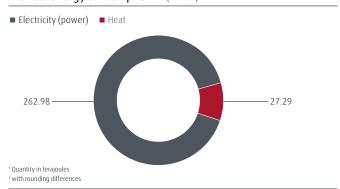


# Direct energy consumption 1,2 (transport, business trips, etc.\*)



- <sup>1</sup> Quantity in terajoules <sup>2</sup> with rounding differences
- only the Company's own vehicles or those controlled by the Company; only internal transport processes and business trips, not shipment

# Indirect energy consumption 1,2 (overall)



1,070.7 terajoules. Direct energy consumption at our locations accounted for 466.1 terrajoules, and 314.2 terrajoules were expended on transport. 62% of the energy used in our buildings is derived from natural gas, and diesel is used almost exclusively for transport. Indirect consumption includes purchased electricity and amounts to around one quarter of the total requirement.

# Using energy more efficiently

Certifications offer evidence-based insights into areas of weakness and issues offering potential for optimisation. For example, progress in lighting technology today offers a variety of opportunities to reduce electricity consumption. This is particularly relevant because to take just one example – the energy requirement for lighting at one of our German production locations represents a proportion of 20 % of the total energy requirement.

This is not just a substantial cost factor in an energy-intensive company like Linde. High levels of consumption also impact negatively on the environment by using up resources and generating associated emissions, even though these do not occur directly within the Company. In 2014, Linde therefore started to convert all the production locations throughout the world to energy-efficient lighting.

This fact is also considered for the construction of the factory in Stribro (Czech Republic). Potential savings of 60 % have been estimated for lighting energy at the Fenwick location in Châtellerault. The project being implemented here over a period of three years was launched in 2014. Around 650 mercury lamps of 400 watts each are being replaced with 200-watt halogen-metal vapour lamps, that can be dimmed.

A further very promising project has been brought on stream in France, where the Company has been cooperating with systems provider Schneider Electric to have start-stop solutions installed for truck production in automated operation. When there are breaks in production, at night or at weekends, the energy consumption is significantly reduced further in stand-by mode. Projections anticipate that the investment will have paid for itself by the savings in energy costs within the space of around two years.

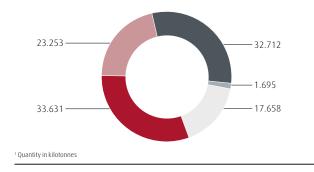
Linde is also playing a proactive role in working towards the improvement of energy efficiency at the paint facilities. Older equipment is being phased out and replaced by new systems which use less electricity and have low service requirements. Opportunities for savings are also being identified for commuting journeys by employees, albeit without restricting mobility. One of the ways these savings are being implemented is to restrict vehicles at the Essen service site to a maximum speed of 130 km/h if they are only used for business purposes. Linde Service in Sweden has introduced a dedicated vehicle guideline with reduced  ${\rm CO_2}$  emission values which automatically lead to lower consumption.

#### **Emissions**

Emissions of greenhouse gases result from the use of energy described above. They are recorded and presented in accordance with the internationally acknowledged rules of the Greenhouse Gas

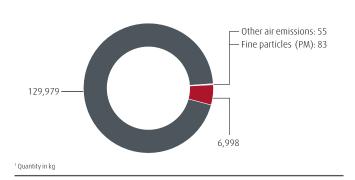
# Emissions of greenhouse gases 1

Direct greenhouse gas emissions (Scope 1): ■ Properties/production ■ Transport Indirect greenhouse gas emissions from purchased energy (Scope 2): ■ Electricity ■ Heat ■ Other indirect greenhouse gas emissions (Scope 3)



#### Other emissions into the air 1





Protocol (GHG Protocol). The emissions of volatile organic compounds are mainly generated in the paint facilities.

# Responsible use of raw materials

Linde Material Handling has particularly high production depth. Almost all core components apart from the engine are manufactured by the Company itself. Linde is the only company in the sector which also manufactures the counterweights for forklift trucks at its own facilities. The Company carries out manufacturing activities using advanced production technology.

# Materials and recycling

Iron and steel are the main materials required for the manufacture of industrial trucks. 95% of the total weight of a truck is made of steel. The rest of the vehicle is made up of tyres, batteries, electronics, lubricants, paint and varnish. Pallets and other packaging materials are used for shipment. As with ethical guidelines, Linde Material Handling also integrates ecological standards in its supplier management. As part of the KION Group the Principles of Supplier Conduct are valid.

Linde life-cycle assessments (see page 33) have revealed for environmental optimisation of Linde products that reducing the energy consumption during usage is a much more powerful lever for decreasing the burden on the environment than, for example, replacing materials with substitutes. Having said that, environmental factors also play a role in the selection of materials. For example, upto 90 % of the steel used in the counterweight is made of secondary steel. By the same token, components such as the driver's cab or the lift mast are manufactured from highgrade primary steels owing to the higher design requirements and operating safety.

At the end of the product life-cycle, Linde carries out a check to establish whether a vehicle can be included in the range of "Approved Trucks" for reconditioning and reuse. This programme and the general long service life of Linde products means that a vehicle seldom has to be disposed of after the first phase of use. However, if this is the case, a very significant proportion of the vehicles can be recycled.

The recycling programme at the French Linde subsidiary Fenwick has succeeded in significantly increasing the recycling rate over the past several years. Whereas the proportion of recycled materials was still 83 % in 2010. This percentage had increased to 99 % by 2014. It includes 95 % metals (steel and some copper from electronic components).

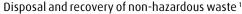
The other four percent cover scrap rubber from the tyres and waste oil from the hydraulic system and engine area. These are collected properly in cooperation with a disposal company and reprocessed almost without loss to form secondary raw materials. Reconditioning of batteries is also frequently part of the scheme for pre-owned "Approved Trucks".

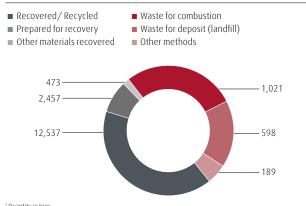
Responsible waste management and recycling also takes place at other Linde locations. In 2014, for example, waste recovery was environmentally optimised in collaboration with a new service provider in Sweden. Waste separation in Germany became even more differentiated and now includes e.g. aerosol cans (varnish, oils) as a recyclable material fraction.

#### Waste and disposal channels

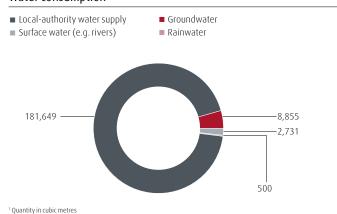
A variety of different types of waste are generated in the production facilities at Linde. They are separated into fractions and disposed of in accordance with the statutory regulations. Metals, paper and



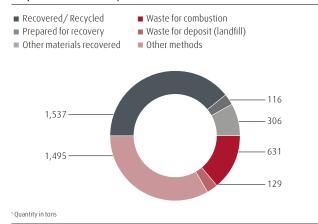




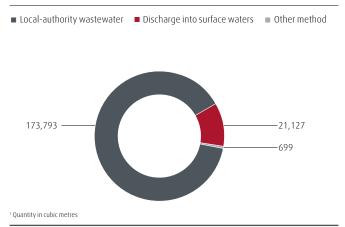
#### Water consumption 1



# Disposal and recovery of hazardous waste<sup>1</sup>



#### Wastewater volume 1



packaging material in particular can be recovered – on this basis, Linde has a recycling rate of more than 90% for non-hazardous wastes. Hazardous wastes at Linde mainly include used lead-acid batteries, old varnishes and solvents, waste oil, and packaging and filters contaminated with these materials. In total, in the reporting year there were 17,300 tonnes of non-hazardous and 4,200 tonnes of hazardous waste.

# Water and wastewater

The production facilities of Linde Material Handling are without exception in regions with generous water reserves and very good local infrastructure. Water is not therefore a significant environmental factor for Linde and savings are mainly carried out for reasons of cost. In total, processes at Linde consumed 194,000 cubic metres of water – 90 % of it from local supply, where also most of the wastewater went. The wastewater quality generally does not require any pretreatment before disposal.

# Environmentally friendly spare parts warehouse

Meaningful waste recycling and energy savings are the focus of an environmentally friendly spare parts warehouse at the British site in Basingstoke. Since a new warehouse was required in 2012 due to a shortage of space, the newbuild was designed right from the start on the basis of environmental principles. Firstly, the warehouse is now also used for the reconditioning of used trucks from recovered and recycled components. The warehouse has also been designed using an intelligent approach to lighting and heating, since different areas of the warehouse can be illuminated or heated independently of each other according to need, or indeed these systems can be switched off if required. Any necessary packaging requirements have also been optimised for the movement of goods such that packaging can be used several times. If this is no longer possible, metal, wood, plastic, paper and cardboard are recycled separately. The concept provides tangible protection for the environment and saves substantial costs for energy and disposal.





# Efficient and safe technologies deliver added value

The most important criteria for products of Linde Material Handling are performance, environmental friendliness and safety. The vehicles are regarded as particularly reliable and help customers to save energy and maintain high safety standards in the workplace.



# High-performance and versatile

Linde Material Handling ranks as one of the world's leading manufacturers of warehouse trucks and forklift trucks. In 2014, the Company sold about 105,000\* new vehicles. The product range currently includes more than 100 different series each with up to 19 model versions. The spectrum ranges from small vehicles like the electric manual forklift CiTi Truck with payload capacity of just under one ton right through to big heavy trucks that can master heavy-duty loads up to 18 tons.

Alongside the broad portfolio of electric warehouse trucks, counterbalance trucks with flexible applications powered by diesel, LPG or electric drives are the second major product segment in the Compa-

ny. Vehicles from Linde are used in virtually all industrial sectors, in retail and trade businesses, and in the freight-forwarding and transport industries. Linde is the only manufacturer to supply forklift trucks and warehouse trucks manufactured at its own production facilities for areas vulnerable to explosions. In general, virtually no two Linde vehicles are similar – apart from a large number of series options, customer-specific options are produced which ensure that customers receive the most efficient and most productive vehicles tailored to their particular application.

Linde is performance-driven. The products feature highest handling capacity, reliability and longevity as well as safety, eco-efficiency and robust resilience under tough working conditions (such as heat or continuous use). This performance standard entails a compara-

 $^{1}\textsc{Operationalisation}$  of the sustainability targets defined in 2014 can be found on p. 18

tively high purchase price for the products. However, the outstanding productivity of the vehicles reduces the personnel expenses of our customers, which represent the biggest cost factor in a total cost analysis over the entire service life. Low maintenance costs and high energy efficiency make our vehicles some of the most profitable vehicles in the sector.

#### Outstanding environmental characteristics

The sustainability concept has always been built into products manufactured by Linde. For example, the hydrostatic drive does not require any brakes and therefore no brake pads, which prevents the generation of fine particulates. Power is also transferred to the wheels without any gearbox. This means that the trucks need up to 70 fewer components than conventional trucks, and significantly fewer oil changes. Moreover, they have the lowest fuel consumption throughout the sector. Linde also has the highest handling capacity for electric trucks on a sector comparison and the lowest energy consumption. The research and development work carried out by the Company is directed towards continuous improvement in the environmental footprint of products.

#### Customer service to production

The broad range of product-related support services is fully integrated with the vehicles. In addition to advice and financial solutions, this also includes fleet management and deployment optimisation, training sessions and not least maintenance and service. A flexible rental package, modern financial services and service contracts tailored to customers are part of our concept of customer orientation. This also includes partnership project management and prototype development, as well as remanufacturing, i.e. replication of spare parts with a new-value warranty. The global availability of spare parts ensured by two Customer Services Centres in Kahl near Aschaffenburg and in Xiamen, China, is one of the major strengths of Linde, including a 24/7 emergency service.

# Safety and ergonomics

The truck driver is the focus of product development. The ergonomic design of Linde vehicles means that the machine is quite literally built around the person. All the control elements are tailored to the working requirements of the driver and can be operated intuitively. Active and passive safety systems protect the health of the driver and minimise the risk of accidents. Almost all the mobile work vehicles from Linde are electronic, i.e. they are controlled "by wire". All electronic transducers and control units are designed with redundancy in order to avoid problematic machine faults and guarantee the highest level of safety. Over the past three years, Linde has been working with an electronic error test procedure which tests for all eventualities – the development of this procedure alone took five years. The universal commitment to safety is paying off

with substantial dividends. During the year under review, there were no incidents relating to non-compliance with regulations or voluntary standards relating to the health and safety of products or services from Linde. We are also not aware of any financial penalties or fines relating to the support and use of products, and the provision of services.

# Focus on customer safety

The safety of the vehicle driver and accident prevention during operation has always been at the centre of the development work carried out at Linde Material Handling. As early as 1980, Linde developed its first truck with a floating and completely enclosed cab, known as the "Protector Frame".

The proven hydrostatic drive provides "installed safety functions" such as dual pedal control. The driver operates the pedal for forward motion with his right foot and the left foot is used to drive backwards. The pedals are linked together and the vehicle brakes automatically. Since the feet always have to remain on the individual pedal and the mandatory brake is not actually needed, it is impossible to get confused between the accelerator and brake pedals. Linde also transferred this control principle to electrically powered counterweight trucks and reach trucks.

# Innovations for customer safety

The most important innovations in the past several years include the Linde Safety Pilot – a form of Electronic Stability Program (ESP) for forklift trucks. This breakthrough means that trucks can only tip over if the driver deliberately fails to operate the truck properly or if loads are bulky and ungainly enough to significantly unbalance the equilibrium of the vehicle and the load. Although the Machinery Directive of the European Union makes this a requirement, to date it has not been technically feasible.

So far, Linde is the only manufacturer to implement these requirements in selected vehicles. Serious accidents involving personnel in connection with products from Linde are precisely recorded and analysed. Crashes involving people or other vehicles can also be prevented by the retrofitable Linde BlueSpot. A small searchlight shines an intensive blue light on the floor behind the vehicle and this provides a visual alert indicating the approach of a low-noise vehicle.

The new fleet management solution "connect:" also provides more safety and efficiency for customers. Vehicles equipped with "connect:" continuously record data from the controls and sensors and transfer this by wireless connection to the software. Drivers use a PIN or a RFID chip to log on to the vehicle. This enables vehicles and



drivers to be assigned to each other at any time. The software is able to administer and link up driving authorisations, driving licence categories, training status, maintenance planning and much more. The various function modules in the system can control vehicle functions such as speed with reference to the driver, place of deployment or shocks to the vehicle recorded via shock sensor. This permits optimisation of fleet deployment as well as increasing safety and documentation of operating workflows.

## Ergonomic product design

Ergonomic design for the specific workplace of an industrial truck driver is one factor in handling trucks safely. Linde has a long track record of innovations in this area. Most recently, one such example was the rotating driver's seat – up to 90° to the direction of motion. This innovation yields a significant improvement in vision and also reduces health risks by subjecting the body to less stress – and it is also recommended by the German Statutory Accident Insurance Federation (DGUV), the federation of the German employers' liability insurance associations, and the public accident-insurance institutions. An armrest with a reduced joystick is also among the measures that make steering significantly easier. All the instruments are within easy reach and they combine with modules like the Linde BlueSpot, the automatic speed throttle for driving round bends and many more to give drivers in Linde vehicles a sense of safety. This verifiably improves output by around 20 %.

# Handling product errors

Product errors that occur within production or with customers are systematically recorded and dealt with. The objective is to reduce the error rate and consequently the quality costs for the vehicles. This is why a team of employees from the areas of customer service, production, planning, development, quality assurance and the "Champion" (team leader) is responsible for each series. Reasons for a fault elimination process might be issues like warranty claims submitted by customers or complaints. If product errors occur resulting in personal injury, we carry out a risk and cause analysis in conformity with EU directives. The aim of this analysis is to identify critical risks and introduce appropriate measures for protection as necessary.

# Saving energy and protecting the environment

Linde Material Handling is working continuously on improving the environmental performance of its industrial trucks. The main focus is on reducing emissions for diesel trucks and developing efficient vehicles and alternative drives. The emissions standard Euro V of the European Union is currently being prepared in the diesel sector. It is



# ForkliftCup: Championship in safe driving

For the past ten years, Linde Material Handling has staged the ForkliftCup. Qualifying rounds take place in many countries – in Germany there are 26 regional competitions. Each year, more than one thousand truck drivers qualify for the big final. The best drivers demonstrate their manoeuvring abilities in the square in front of the palace in Aschaffenburg. Each country sends its three best drivers to the International Championship. The course of challenges they have to master driving different Linde vehicles provides a fun emulation of real workflows. Naturally, safety regulations have to be complied with in the ForkliftCup otherwise time penalties are imposed. Specialist symposiums are held in many places at the same time as the national competitions and these feature presentations of new safety developments and discussions. Sustainability in the area of logistics is also an ongoing topic at events like the German Material Handling Symposium or the Linde Open Safety Day in Spain.

www.staplercup.com





projected to apply from 2019 and will affect vehicles between 19 kW and 56 kW. Compared with the Standard III B currently still in force, it entails a reduction of 98% of the current emission thresholds for harmful substances.

In all load capacity categories, Linde diesel trucks are already among the vehicles with the lowest emissions in each category on the market. The harmful substances emitted by a diesel truck H25 to H35 EVO is 83% below the statutory threshold for particle mass (PT), 26% for hydrocarbons (HC) and nitrogen oxides (NOx), and an impressive 99% for the hazardous respiratory poison carbon monoxide (CO).

# Joint development work

Linde Material Handling is carrying out work on technical innovations at several levels. Research and development have been centrally organised in the KION Group since mid-2014. Linde itself employs several hundred employees in the area, including around 270 in Aschaffenburg, 80 in Châtellerault (France) and 300 in Xiamen (China).

For some years now, Linde has been developing the TruckClinic as a format for integrating customers more strategically into the product development process. The TruckClinic is part of a research-based stakeholder dialogue which channels customer needs directly into product innovations or implements them in innovations.

The process lasts several months and starts with market analyses and discussions with inhouse forklift-truck drivers, sales agents and suppliers. Customers then test vehicles from various competing manufacturers in a neutral environment for several hours before completing questionnaires. The feedback is exceptionally positive; customers are particularly keen on options for making direct comparisons and show a great deal of commitment when they take part. Efficiency benefits and safety features are in particular demand.

Customer feedback is also obtained through regular visits, the service helpdesk and in the course of complaints management. The "World of Material Handling" customer event lasts several weeks and is a very popular forum with customers. Linde Material Handling held this event for the first time in 2014.

Linde also works together with external partners in this area. An IT system was developed in partnership with software company Reknow to carry out visual field analysis of a forklift driver in conformity with ISO 13564. This generates a 3 D view of the vehicle and the development engineer is able to use data goggles to assess the visual conditions from the driver's position in a 360 degree allround view. Software-based test procedures were also used to develop the Linde Safety Pilot.



# **Linde Safety Pilot**

The "Human factor" is the most common cause of accidents at work. Incorrect operation of safe machines continuously causes industrial accidents and disruption to the logistic flow. In order to exclude, as far as possible, human error, Linde has developed a unique electronic driver assistance system, the Linde Safety Pilot (LSP). The system uses sensors to continuously record key vehicle and load parameters. On a monitor, the LSP shows the driver the current load weight, the maximum lift height taking account of the current load, the lift height currently reached, and the current tilt angle of the fork arm. If the maximum load limit is reached or the vehicle is cornering too guickly for the load it is carrying, the colour of the display changes and a warning alert sounds. The assistance system can optionally also intervene actively in the vehicle control. It is then no longer possible to lift the load any further, the vehicle brakes independently and cannot be accelerated until the limit range for the vehicle is no longer impinged.



#### **Energy savings**

Linde is well ahead of the competition for trucks powered by internal combustion engines (IC). However, demand is shifting in the direction of electric vehicles and this area is increasingly weighted towards alternative drive technologies like lithium-ion batteries and fuel cells.

Today, Linde electric forklift trucks already have the highest turnover of goods in the sector for the lowest consumption (based on a performance test by TÜV-Nord technical inspectorate). The latest



models have a new energy management system which provides optimum control for consumption, which is 16 % below that of previous models. Furthermore, Linde has launched bigger electric trucks in the market. Their load capacity is up to eight tons. In 2014, Linde also included two series in its range of electric tugger trains for moving materials around premises, the Logistic Train (LT) and the Factory Train (FT). The tow tractors for these trains also use less electricity. Linde even uses its own electric drive technology from the truck to convert service vehicles for electric mobility. The Linde E-Service Van is ideal for service journeys in built-up urban areas and is also permitted to drive in innercity areas where there are emission-based restrictions on entry – the vehicles are now being tested in the field.

In 2014, the first phase of field testing for ten pallet trucks powered by fuel cells came to an end. This was the "E-LOG-BioFleet" project. Since December 2013, BMW has been testing a fleet of four tugger train tow tractors and five forklift trucks with fuel-cell hybrid drives powered by hydrogen at its Leipzig plant in the "H2IntraDrive" project. The two research-led projects have taken Linde and its partners an important step towards production readiness for industrial trucks with hydrogen drive.

The environmental commitment of Linde Material Handling is not restricted to the Linde brand or to Germany. The Company promotes the environmental attributes of its products in France under the designation Fenwick Green Performances. A similar programme under the name Green Energy Carriers also exists for the British market. We additionally offer "Eco Lease" here. This is a programme for  ${\rm CO_2}$  emission mitigation in leasing contracts implemented in cooperation with the Gold Standard Foundation.

#### Pre-owned trucks on offer

Linde offers a product range of "Approved Trucks" providing an attractive, cost-effective alternative and a solution that is tailored to any application – from diesel and LPG-powered trucks, through electric trucks, warehouse trucks, tow trucks and system vehicles, to heavy trucks. These are generally former fleet vehicles which have been maintained under a contract right from the start in conformity with the manufacturer's recommendations. Stringent tests are applied to the engine to ensure that diesel trucks are also fully compliant with the applicable exhaust-emission standards. The batteries in electric trucks are also tested for performance and battery cells are replaced as appropriate. Damaged vehicle components are repaired or replaced, and Linde original spare parts are used exclusively. This means that the purchaser acquires a reliable, efficient vehicle. This package makes a significant contribution to the conservation of resources by extension of the service life.



#### E-LOG-BioFleet

"E-LOG-BioFleet" is a joint project between Linde Material Handling, Fronius International, DB Schenker, OMV, HyCentA Research and Joanneum Research. Ten pallet trucks powered by a hybrid system fitted with a fuel cell as a range extender are being put through practical tests at a logistics centre operated by DB Schenker in Austria with Europe's first indoor hydrogen refuelling station. An interim review of the government subsidised project was carried out in 2014. After a short introductory phase, the vehicles were fully integrated in shift operation. A high-power lithium-ion battery covers peak performance requirements in operation, while the fuel cell generates power for base-load requirements. An optimised operation strategy and the recovery of braking energy enables the system to achieve a high level of efficiency of up to 53 %. At the same time, a vehicle generated one third less greenhouse gases over its entire life-cycle than a comparable vehicle powered by lead-acid battery.



# Life-cycle assessments

# Environmental performance in black and white

How environmentally friendly are forklift trucks, lift trucks, etc.? Customers of Linde Material Handling who want to assess and optimise their own environmental performance are now able to obtain robust data for this endeavour. The Company joined forces with the Fraunhofer Institute for Building Physics (IBP) to carry out a sophisticated process and develop a life-cycle assessment methodology. This has now been certificated by the TÜV Rheinland technical inspectorate.

#### From cradle to grave

Linde Material Handling has been committed to improvement of performance and environmental efficiency in its products for many years now. The entire life-cycle of important product series has now been analysed in great detail in order to draw further conclusions about potential measures benefiting the environment and provide customers with evidence-based options for decision-making. The analysis has covered all stages in the life-cycle of the main product series, from the sourcing of raw materials, through production of each component, usage by customers to "end-of-life" of the product, including transport pathways and spare-parts service – truly from cradle to grave.

The methodology and the resulting life-cycle assessments for seven product clusters were tested and certified by the TÜV Rheinland technical inspectorate. This is because the process is not going to end with the areas that have already been investigated. In future, Linde will be able to use its own dedicated, externally methodology to analyse product sub-groups or new models on its own.

In the first stage, counterweight trucks powered by internal combustion engines (IC trucks), electric counterweight trucks, reach trucks, pallet trucks, pallet stackers, order pickers and tow tractors were analysed. A reference model was identified from each of these product groups and a detailed assessment was carried out. This was generally the vehicle with the highest sales volume in Europe.

#### Transparent methodology

The life-cycle assessment methodology is based on the requirements of the ISO standards 14040 and 14044. These standards guarantee a uniform approach and the necessary transparency for assessing the resulting environmental impacts. The GaBi software being used is established worldwide as the specialist software and material database for life-cycle assessments.

The assessment is carried out in four hierarchical stages: the definition of the target and the analysis framework, the generation of the life-cycle inventory, the impact assessment and the interpretation of the results. All incoming and outgoing material and energy flows are included in the life-cycle inventory and the emissions generated over the entire process chain are recorded. In the impact assessment, all the emissions generated over the life-cycle are then assigned to the observed environmental impacts (classification) and presented in the corresponding impact categories on the basis of their contributions, e.g. global warming potential (characterisation).

The results of the analyses provide the platform for integrating environmental aspects into the development process of future products

and strategically improving their environmental characteristics. The approach of the life-cycle ensures that optimisation of individual system modules cannot exert a negative impact on the overall life-cycle assessment.

#### The results in detail

The following charts show five selected impact categories which are in the area of greatest impact and are most easily verified by analysts. Beyond the individual product groups, the results demonstrate that the usage phase with the customer exerts the greatest impact on the environment. It has also emerged that the manufacture of the battery system plays a significant role with electrically powered trucks.

Furthermore, the manufacture of an industrial truck exerts almost the same impact on the environment as maintenance. Conversely, transport and service journeys only have a minimal impact. During the recovery phase at the end of the utilisation phase, environmental "credits" are generated by recycling, mainly from the metals and also from the battery in the case of electric vehicles.

Electric and IC trucks on average respectively account for 85 % and more than 90 % of the environmental impacts during the usage phase. Conversely, only very low values are incurred in the other life-cycle phases. The potential for optimisation is therefore with IC trucks, most particularly in relation to the reduction of fuel consumption and the associated decrease in exhaust emissions.

The top drivers in electric and reach trucks, and pallet stackers are electricity consumption, losses in the battery system, battery charging losses and the vehicle body. Consistent recycling in electric trucks is able to compensate for up to 50 % of the environmental impacts in the production phase.

The environmental impacts in low-lift order pickers and pallet trucks, and tow tractors are essentially distributed in the manufacture and usage phase. Depending on the impact categories for the manufacturing phase, the value varies between 10% and 32%. The value does not fall below 40% with any vehicle type during the usage phase. The higher value in the manufacturing phase for tow tractors, low-lift order pickers and pallet trucks is determined by the size of the vehicle. They are significantly smaller and lighter, and this also reduces the energy consumption compared with the counterweight trucks.

Because the usage phase is highly relevant for environmental impacts, the measures for electric vehicles concentrate on improving the level of battery efficiency and extending the life-circle of the batteries.



#### Diesel and LPG-powered trucks

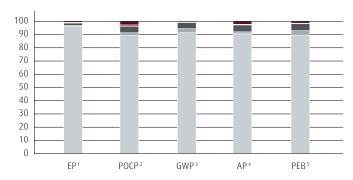


#### Top three drivers

- Forklift truck operation
- Diesel production
- Vehicle body

#### Life-cycle impacts (in %)

- $\blacksquare$  Manufacture (less end-of-life credit)  $\blacksquare$  Service (less end-of-life credit)  $\blacksquare$  Usage
- End-of-life credit\* Transport/logistics Transport/logistics (Negative value)



#### **Electric trucks**



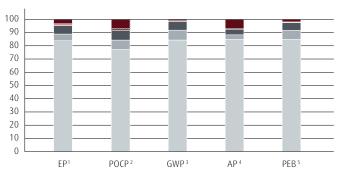
#### Top three drivers

- Electricity consumption per vehicle
- Losses for battery systems
- · Losses for charging unit

#### Life-cycle impacts (in %)

- $\blacksquare \ \ \text{Manufacture (less end-of-life credit)} \ \ \blacksquare \ \ \text{Service (less end-of-life credit)} \ \ \blacksquare \ \ \text{Usage}$
- End-of-life credit\* Transport/logistics 

  ▼ Transport/logistics (Negative value)



#### Tow trucks

#### Top three drivers

- Electricity consumption per vehicle
- Losses for the battery system
- Vehicle body

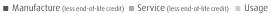
#### Pallet trucks



#### Top three drivers

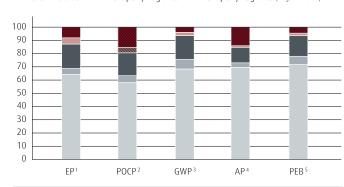
- Electricity consumption per vehicle
- Losses for the battery system
- Load lift system

#### Life-cycle impacts (in %)



■ End-of-life credit\* ■ Transport/logistics 

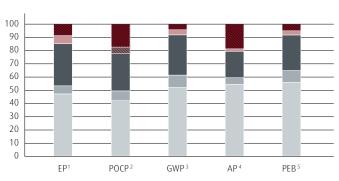
▼ Transport/logistics (Negative value)



#### Life-cycle impacts (in %)

■ Manufacture (less end-of-life credit) ■ Service (less end-of-life credit) ■ Usage

■ End-of-life credit\* ■ Transport/ logistics ■ Transport/ logistics (Negative value)



<sup>1</sup> EP: Eutrophication potential (kg phosphate equiv.), 2 POCP: Photochemical oxidant potential (kg ethylene equiv.), 3 GWP: greenhouse gas potential (kg CO, equiv.),

AP: acidification potential (kg SO2 equiv.), SPEB. Primary energy requirement from non-renewable resources (M))
Reduction of environmental impacts by product recycling. Truck transport results in negative values as a result of nitrogen monoxide emissions from exhaust gases. Nitrogen monoxide has the capability to form ozone near the ground and exceeds the other emissions in this presentation.









# Satisfied employees are the key

Engineered for your performance – supporting customers in improving their capability – is the brand promise of Linde Material Handling. The company strives to give customers the best possible performance through continuous improvement and further development. The platform for this is provided by clearly defined targets, unambiguous requirements for the managers and a corporate culture which fosters committed and motivated employees who are willing to embrace change.



# Identifying and managing challenges

The success of the KION Group and Linde Material Handling is based on the capabilities and the dedication and commitment of its employees. The human resource strategy of the Group is directed towards supporting advanced strategic development and international growth in the best possible way. Linde Material Handling intends to employ an adequate number of qualified and committed employees on all operational levels and at all times, and to offer them attractive working conditions and perspectives in an international group of companies.

#### Key challenges

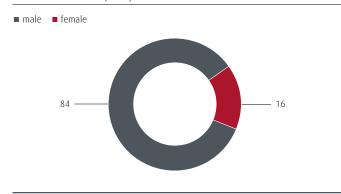
Key challenges for human resources are the increasing international nature and complexity of the Company. At the same time, the coming years will see the impacts of demographic change undergo a tangible increase, particularly in Germany and Europe. Appointment of qualified employees to specialist and management positions is therefore a factor that is critical to the success of the KION Group. Recruitment and development of the appropriate specialists and managers of the future is a focus of group-wide work in human resources.

The KION Group meets the challenges of demographic change with working conditions and healthcare programmes geared to different life phases, alongside models for phased-in retirement. This approach enables the valuable experience of older employees to be retained within the Company. In 2014, 16 % of the employees were female – a proportion that should be increased further in the future. This will be driven forward by family-friendly framework conditions and strategic promotion of female staff. During the year under review, 320 employees took parental leave (of which 63 % were male).

 $^{1}\textsc{Operationalisation}$  of the sustainability targets defined in 2014 can be found on p. 18

In 2014, 6% of our 126 executive employees were female – a proportion that will undoubtedly be expanded. In 2014, one out of five members of the Management Board were female, two out of 12 members of the Supervisory Board were women.

#### Gender ratio total (in %)



#### Principles and instruments for work in human resources

The principles applicable for work in human resources at Linde Material Handling across the world are anchored in the following reference standards:

- HR Policy Employment Standards: Define the minimum social standards for hiring employees based on the core working standards of the International Labour Organization (ILO).
- Health, Safety and Environment Policy: Guideline on workplace safety, health and environmental protection relating to employees, customers and the general public.
- Diversity Principles: Commitment to diversity within the Company.

Linde uses this platform to implement its targets for work in human resources and in health and safety using the following systems and instruments:

#### Targets and measures in personnel management

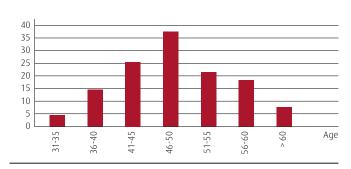
Personnel targets	System and instruments		
Management	<ul><li>Employee standards</li><li>LMH quiding principles</li></ul>		
Ensuring talented staff for the future	<ul> <li>Dual occupational training</li> <li>Dual degree courses in cooperation with different universities</li> <li>School work placements and student internships</li> </ul>		
Qualification and human resource development	<ul> <li>Continuous and flexible advanced training</li> <li>Talent management programmes</li> <li>"KION Campus" for management development in cooperation with the European School of Management and Technology (ESMT)</li> </ul>		
Performance and participation	<ul> <li>Annual performance assessment</li> <li>Staff survey</li> <li>KION Employee Equity Program (KEEP)</li> <li>KION Long Term Incentive Plan for Top Management ("LIFT")</li> </ul>		
<ul> <li>Internal HSE audit programme at all production locations</li> <li>Integrated management of environmental and occupational safety</li> <li>Promotion and training sessions for safety culture</li> <li>Healthcare promotion programme for employees</li> </ul>			
Mobility and intercultural management	Linde Mobility Programme		
Diversity	<ul> <li>Recruitment and development of talented female employees</li> <li>Flexible working time models for parents and older employees</li> </ul>		



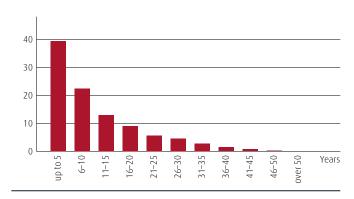
#### Age structure at Linde (in %)



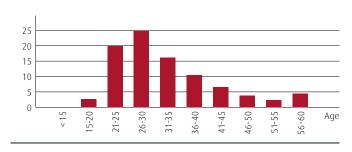
#### Age groups for executive employees (in %)



#### Service life by years (in %)



#### Employees leaving the Company by age (in %)



In 2014, one case of discrimination was notified within Linde Material Handling, although this had been fully resolved by the time this report was published.

#### **Employment development**

At the end of the year under review, 13,945\* employees (full-time equivalents, FTE) were working in the segment Linde Material Handling (not including apprentices). This is 1% more than in the previous year. 12,144 employees (FTE) were working in the companies included in the report. Of these, 168 employees were temporary (contracts with a term of less than two years). In Germany, out of 2,877 employees 56.3% were industrial, 34.0% were commercial and 9.7% were trainees or interns. Turnover rate worldwide was 7.1% (Europe: 5.9%). Worldwide termination rate was 3.5% (Europe 2.2%). Personnel expenses incurred worldwide at Linde Material Handling amounted to €623 million\* in 2014.

Our employees were 40 years old on average. The biggest group of our employees at 15% were in the age range 31 to 35 years. 29.4% of executive employees were in the age range between 46 and 50 years old. The average length of service was 11 years. As an answer to demographic change Linde consists of a balanced personnel structure and high employee loyalty. Linde Material Handling employed nearly 4% temporary staff worldwide to provide sufficient capacity for production peaks. Nearly 58% of our employees worldwide are covered by collective payscale agreements. In 2014, there was no case of denying the right to participate in collective payscale agreements. Linde Material Handling employed 238 people with disabilities worldwide. The disabled employee quota in Germany was approximately 5%.

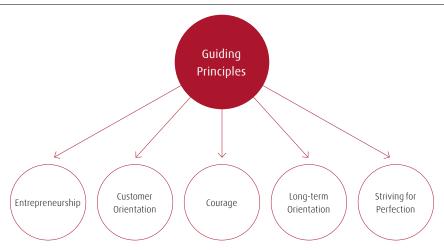
## Management and promotion

Committed and capable employees combined with a strong corporate culture form the backbone of any company and are a key factor for economic success. Linde Material Handling promotes this approach through its own interpretation of good leadership and strategic instruments and projects.

#### The Linde concept of good leadership

The willingness and understanding of companies to change and learn depends significantly on management and leadership skills. More than 89% of all employees worldwide therefore regularly receive an assessment of their career development – e.g. through discussions with their supervisors. Linde Material Handling has also defined its own interpretation of good management. This is manifested in a management behaviour which actively supports employees in implementing the vision of the Company – through motivation, pro-

#### Good leadership at Linde Material Handling



#### Leadership Goals

Our employees ...

- know what is expected of them.
- receive regular feedback about their performance.
- are encouraged and supported to engage in continuous career development
- get recognised for good work.
- know why their job is important.
- have the tools and resources to perform their duties.
- address every challenge proactively: see it, own it, solve it.
- can openly voice their opinions.

motion and provision of the necessary resources. The basis of this interpretation is provided by the employee standards of Linde and the leadership principles based on these standards (see also chart above). The values anchored in these principles and the fundamental attitude informing the conduct of management at Linde is defined by a management guideline which also gives orientation and provides support for decision-making in situations that are not clear-cut.

#### Feedback, dialogue, improvements

The Company has to give committed employees the opportunity to contribute their ideas for improvements and innovations. In March 2014, Linde Material Handling launched an international staff survey for the first time as a broadly based instrument for feedback, dialogue and change. Three targets were linked with this tool: carrying out a survey to obtain feedback from employees on the Company and on the conduct of managers, initiating a dialogue on this basis and finally deriving concrete improvements for the employees' own specific section. Linde regards this instrument as a major opportunity to secure the long-term success of the Company.

#### Company-wide staff survey

How do employees assess their present employment situation? What is currently good and what would have to be changed so that operations run even better? How can we work together to create a successful future? The staff survey comprising 79 questions defined these focuses. Employees from the four countries with the highest number of employees were able were able to take part in the survey: China, Germany, France and the United Kingdom.

This amounts to nearly 70% of the total workforce. 74% of the employees surveyed took this opportunity to provide feedback – an above-average result for first surveys. 77% of those surveyed responded that they were satisfied with Linde Material Handling as an employer. 75% of employees also confirmed that the actions of the executive management are based on the ethical principles of the company.

The staff survey highlights the fact that cultural differences frequently lead to varying assessments for questions and even to assessment





of the results – this applies to the individual country companies and for specific areas. For example, employees in production evaluate specific aspects differently from employees in sales. The results were therefore processed in the same country and in the same functional area so as to be able to draw comparable conclusions.

#### Launch for dialogue

In June 2014, all managers received result reports on their individual areas of responsibility. A total of some 280 reports were generated and a similar number of discussions were held in the departments. The objective has been clearly defined: Working together with the workforce to crystallise the key findings, assess them and define measures that will contribute to improvements in the immediate surroundings. These feedback dialogues were also held at the executive management levels of all the countries involved and on a global level.

## Basic and advanced training

#### Training in the network

The training network of Linde Material Handling and Linde Hydraulics in Germany has been the biggest training enterprise in the Bavarian Untermain region for more than 75 years. In the past 25 years, more than 1,500 apprentices have completed their vocational training at the training centre in Nilkheim. The training centre uses targeted campaigns like the annual Training Day, the Career Path Compass and the Girls' Day to promote the options available to engage in vocational training for a particular occupation at Linde Material Handling.

There is a choice of twelve different industrial and commercial occupations, for example manufacturing, industrial and design technician, mechatronics technician, technical model-maker or industrial clerk. In 2014, Linde Material Handling trained 350 young people. The training rate is there retained at a constant level. The apprentices are supported by experienced and qualified trainers – initially in the training workshop and subsequently at different stations in the

relevant specialist departments. However, part of the apprenticeship also relates to communicating the core competences which define the corporate culture at Linde: independence, development of ideas and critical thinking, as well as respect and acceptance in dealings with each other.

Alongside apprenticeship pay, the apprenticeship alliance offers comprehensive social benefits, such as travel cost allowances or lunch at half price. All apprentices are also offered one month's practical training abroad at a production or sales location. After the apprenticeship has been concluded, many different opportunities are presented for employment going forward at Linde.

#### Promoting the development of employees

Linde Material Handling offers a broadly based advanced training programme in order to promote the development of employees over all hierarchical levels. Alongside specialist training, this includes methodological training, for example relating to the issues of dealing with conflicts, self-management and project management, and moderation techniques. An e-learning tool is used for training sessions in office communication and for language courses. Manag-

ers and their trainees can also make use of special packages and coaching sessions. In 2014, 2,877 Linde employees from four German plants each spent an average of 14.5 hours on central advanced training and special HSE training courses (excl. workplace related safety instruction courses). Out of this, 2.3 hours per person were spent on specialist safety training.

#### **Linde Mobility**

Linde Material Handling is a global provider with intercultural competence. The Company strategically promotes international cooperation between employees with the Linde Mobility programme. The focus is on the occupational mobility of employees across national and cultural borders. This enables them to gain practical, personal knowledge of different cultures as well as gathering experience about workflows in other countries.

Temporary appointments of experienced employees to management or specialist functions extending beyond this knowledge exchange are part of the programme – until a local successor can be found and receive induction. Linde Mobility has a range of different types of deployment, for example secondments of at least one year



#### linde-bewegt-dich.de

The Company is addressing potential employees of tomorrow with the website linde-bewegt-dich.de – apprentices, degree students and interns. The profiles of the individual apprenticeship occupations and dual courses of study combining a degree with in-service training will give you an insight into the multifarious opportunities for getting started in the world of work at Linde Material Handling.





#### Dual training in China – for the past 20 years

In 1995, Linde Forklift Truck Corp. Ltd. already opened a training and education centre in the Chinese city of Xiamen. Young people take a dual training there combining a degree with in-service training based on the German model. Additional focuses of basic and advanced training there include courses leading to skilled workers and regular theoretical and practical training for employees.





to a foreign Linde company, business trips of up to three months, extended business trips up to a maximum of six months, and transfers, which involve a permanent change in location. International virtual teams, which are brought together with the assistance of modern communication media and work together on joint projects, are part of this programme.

### Occupational health and safety

As an employer, Linde Material Handling bears major responsibility for the health of its employees. The Company depends on the willingness of individual employees themselves to make use of the packages offered by the Company for medical prevention and selective health and safety training sessions.

#### Enhancing the health of employees

The principles of health and safety for employees are well established in the Health, Safety and Environment (HSE) Policy of the KION Group. Regulations on these issues are provided for employees in Sales & Service in the Linde Service Guide. In 2012, Linde launched a comprehensive project with the objective of establishing uniform systems and processes, and the highest standards of occupational safety throughout the Company.

Following a review of the situation, a plan with a timeframe of several years was developed to improve health and safety in the workplace. The long-term programmes and initiatives are an element of this. 73 % of our employees across the world are entitled to health insurance – not infrequently beyond statutory requirements.

Regular health checks are offered in more than 80 % of the units. In 2014, all our employees took part in training sessions on HSE.

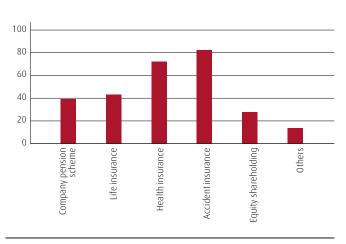
#### Lifelong health and safety

This initiative includes both health and safety. Linde has bespoke promotion programmes, incentive systems and comprehensive internal communication in both areas. This includes, for example, a comprehensive medical preventive package at all German plants. It encompasses voluntary, individual health checks including provision of advice by the company medical service and various preventive screening investigations, care services in the event of accidents, acute diseases and emergencies, alongside reintegration management. A company social counselling service also provides assistance for occupational problems and private issues.

All these instruments make a contribution to safeguarding and improving employees' health. During the period under review, the health rate of Linde Material Handling was more than 96% and the objective is to continue increasing this.

In the year under review, Linde Material Handling recorded 8,362 lost days internationally as a result of 360 occupational accidents and 41 commuting accidents. This is equivalent to an accident rate of 17.04 per 1,000,000 working hours. In 2014, six out of eight production facilities in all the national companies were certified in conformity with the occupational health and safety standard OHSAS 18001 or were engaged in the process of certification. During the year under review, 201 internal and 22 external audits were carried out to review the safety management system at Linde Material Handling.

#### Occupational pension provision as % of employees



#### Accidents and health rate (in %)

2014	
2014	Target 2015
17.04	15.70
96.36	97.00

#### Safety championship

Since 2014, the KION Group has awarded an annual prize for the best progress in occupational safety at the locations with the objective of further enhancing group-wide awareness for safety in the workplace. The criteria assessed are frequency and total number of occupational accidents with at least one lost day of work, health rate and site-specific initiatives for promoting health and safety. In 2015, more than 40 groups took part in the championship and the prize went to the KION location in Summerville, North America.





# Together we help

Community engagement at Linde Material Handling concentrates on supporting social and humanitarian projects. Education and research are also promoted alongside environmental protection.

Sustainability targets Community engagement<sup>1</sup>

Making community engagement systematic

#### Principles of corporate citizenship

The Donation Policy of the KION Group regulates the principles of community engagement across the Group. The following key guiding principles provide a decision-making framework for all donations:

- They are intended exclusively for charitable purposes, individuals and profit-making organisations are not sponsored.
- They are a unilateral benefit, without any expectation of a service in return
- They are in harmony with the values and regulations of the KION Group and do not infringe the applicable statutory legislation.
- They are made transparently and are carried out in accordance with uniform principles.

The guideline also regulates the focuses of the commitment of the KION Group (see also the following pages), as well as responsibilities and decision-making processes. All donations amounting to €5,000 and more must be approved by the Group Executive Board.

#### Germany – Oak saplings and robust support

As part of a sales campaign for the diesel forklift truck in the H20-H50 EVO series, Linde Material Handling donated 3,500 oak saplings to the nurseries of the Bavarian state forests. They were planted in the Schollbrunn forestry region – not far from the Linde Headquarters in Aschaffenburg. The forestry staff received a lot of support from employees, interns and apprentices in the Company who provided assistance for planting the oak wood covering 5,000 square metres by hand.

 $^{\rm 1}$  Operationalisation of the sustainability targets defined in 2014 can be found on p. 18

#### Engagement of employees worldwide

Social projects, fast humanitarian aid for catastrophes and preserving our environment – these are the focus of engagement by Linde Material Handling. Employees often also make a big commitment in providing support. This world map of engagement highlights a number of examples.

#### Work for people with learning disabilities

Paid work gives people dignity. One of the CSR commitments by Linde in the United Kingdom followed this principle. The organisation Loddon Social Enterprise Ltd gives people with significant learning difficulties or disabilities the opportunity to have a job in paid employment. Employees of Loddon Social Enterprise handle large postal consignments for Linde Material Handling UK.

Germany

#### ForkliftCup helps

Every year Linde Material Handling holds the German Championship for forklift drivers. In 2008, employees of Linde founded the ForkliftCup Association. Since then donations have been collected with a Charity Tombola during the championship weekend, which is planned and organised by apprentices, and also from other charity events and special campaigns. The donations are used particularly to help children, teenagers and older people. The association also holds a Talents Contest which confers awards on young artists. Lots of celebrities are committed to the association. Information: www.staplercup-hilft.com







#### France

#### Aid for the victims of Typhoon Haiyan

Super Typhoon Haiyan severely devastated the coast of the Philippines in 2013. The typhoon also affected the family of Angie Doriott employed with KION North America, whose house was destroyed. Many of her colleagues supported Angie's family with generous contributions towards rebuilding their house. As of January 2015, they were able to finish the front porch.





#### Mission Handicap

Fenwick-Linde has set up a CSR programme in order to give people with a handicap the opportunity of taking up work – in the Company itself but also by integrating suppliers who have people with disabilities among their own workforce. The broadly based programme takes into account the four dimensions of equal opportunity: appointment process, security of employment, communication and suppliers.





#### Fulfilling heart's desires for sick children

Linde Sweden has adopted the motto of donations instead of Christmas presents for customers. Donations regularly support the Barncancerfonden Foundation for children with cancer and the Swedish Heart and Lung Foundation.



#### Czech Republic

#### Barrier-free bus

In 2014, a donation from Linde Czech Republic was made to the charitable organisation Jedlicka Institute and Schools (JÚŠ), which helps young people with physical disabilities. This financed the acquisition of a barrier-free bus.



#### Technical partners of Banco Alimentare

For almost 20 years, shortly before Christmas, the Italian charitable organisation Banco Alimentare collects donations – mainly of food – for people in need throughout the country. Since 2014, Linde Italy has been an official technical partner for Banco Alimentare and provides industrial trucks for handling the goods that have been collected. Linde's workforce also answered the appeal for donations from the food bank and more than 400 kilograms of food were collected.



#### Italy



#### Logistic aid for earthquake victims

In 2013, a serious earthquake shook the Chinese city of Lushan (in the Province of Sichuan). Linde FLT responded quickly with logistic aid to establish a local catastrophe aid centre. Apart from transporting urgently needed goods, the Company also paid for aid to help the victims.



#### Corporate Volunteering with a big impact

In 2007, Linde Material Handling Ibérica launched a Corporate Volunteering Programme to help people with disabilities and this is now exerting a big impact. The branch offices in Madrid and Barcelona started the initiative "Linde Solidaria". They were followed by Lisbon in 2008 and Seville in 2012. The original idea was for Linde Ibérica to make donations to local charities rather than sending Christmas gifts to customers. The initiative also gets employees and family members involved. The annual campaign days for the individual branch offices – the "Fiestas Solidarias" have meanwhile become well established. In 2014, more than 300 Linde employees and around 80

family members took part voluntarily with the selected charities and collected donations of things and money. The concept of Linde Solidaria envisages long-term joint ventures with the selected institutions, which will be monitored every year to ensure that financial contributions are well managed. The concept has proven to be an excellent idea and it has made a big contribution to fostering team spirit and indeed customer loyalty because after these activities Linde Ibérica communicates with its customers through a Christmas Newsletter to thank them for putting their trust in the brand and highlight the fact that this makes it possible to carry out these activities.











# **GRI Content Index**

The Linde Material Handling Sustainability Report 2014 "A Review" was prepared in accordance with the Global Reporting Initiative (GRI) guidelines and fulfils the "in accordance" Core option. The G4 guidelines in force since May 2013 were applied. An external audit of the contents of the report was not performed.



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