

Ecology

Area optimisation

The ever-growing use of land for transport, work and residential purposes has one of the biggest impacts on the environment, not just in Germany. Impermeable surfaces cannot support natural life and also increase the risk of flooding as persistent rain and downpours cannot seep into the ground. The efficient planning and use of infrastructure and suprastructure is therefore key to developing port terminals which optimise land usage. For this reason, when developing its terminals, HHLA uses an intelligent layout which boosts space efficiency by means of automated storage crane systems, thereby considerably reducing the amount of land needed. In addition to various measures to optimise traffic flow, the expansion programme at the Container Terminal Burchardkai includes the construction of a storage crane system aimed at conserving land. In the final phase of construction, the handling capacity can be increased substantially on the existing areas. Overall, HHLA's infrastructure and suprastructure planning for its container terminals assumes increased handling capacity in line with demand on land already used for container handling.

These **efficiency gains** will be achieved by using several rail-mounted gantry cranes which take containers to and from the container yard. The gantry cranes can pick up and deposit containers on both sides of a container storage block. They can stack as many as five containers on top of one another and ten containers side by side. Compared to yards using straddle carriers to move containers, this concentration of container storage space increases capacity on the same amount of land by a factor of two. Lanes for straddle carriers between the individual containers are no longer needed and five containers can be stacked vertically instead of three.

As well as increasing **storage capacity** by more concentrated storage, thus optimising land usage, the expansion of quayside handling capacity is an important element for efficient use of space at the terminals. HHLA has significantly increased its quayside efficiency by means of an extensive expansion programme, including the use of state-of-the-art tandem container gantry cranes which can move up to four 20-foot containers simultaneously. This enhances quay-wall productivity without using additional space therefore enabling the company to handle a larger number of containers.

For its shuttle trains between the seaports and Eastern Europe, HHLA's subsidiary Metrans uses wagons which have been optimised for maritime logistics. These 80-foot wagons offer the ideal combination of wagon/train length and carrying capacity. As a result, a block train operating a shuttle service can transport as many as 92 standard containers (TEU) – more than

would be possible with comparable wagons. This high carrying capacity per train makes optimum use of the existing infrastructure at the terminals and railway sidings.

Emissions and Energy

HHLA has reported on its carbon footprint regularly since 2008 as part of the international Carbon Disclosure Project (CDP). The CDP is a non-profit initiative that manages one of the world's largest databases of corporate greenhouse gas emissions on behalf of institutional investors and makes this information available to the public.

HHLA **calculates its CO₂ emissions** on the basis of the Greenhouse Gas Protocol Corporate Standard (revised edition), a global standard for recording greenhouse gas emissions. Within the HHLA Group, emissions mainly relate to CO₂. These are primarily influenced by throughput and transport volumes, traction services provided by the Group's own locomotives and the use of electricity from renewable sources. In line with the Greenhouse Gas Protocol, electricity procured separately from renewable energy sources was classified as carbon-neutral for the calculating the specific emissions. In the calculation of absolute emissions, the CO₂ emission quantity, which is lower due to the use of electricity from renewable energy sources, is reported separately.

The power needed by a terminal depends largely on the number of seaborne containers it handles and the number of containers transported over land by rail and truck. HHLA uses seaborne and onshore throughput in containers as an effective indicator to determine specific CO₂ emissions in line with the recommendations of the European Economics Environment Group (EEEG). HHLA has set itself the **target** of reducing specific CO₂ emissions – the CO₂ emissions per container handled – **by at least 30 %** by 2020. The 2008 figures serve as the baseline here. In the period from 2008 to 2017, the company succeeded in reducing CO₂ emissions by 28.9 % per container handled. Specific CO₂ emissions fell by 2.2 % in the year under review.

The three-year average annual, specific CO₂ emission development is one of the targets agreed with the Executive Board and taken into account when determining Executive Board remuneration. Achieving the agreed target range triggers the payment of a corresponding bonus. ► see also Corporate Governance/Remuneration Report, page 54

Direct and Indirect Energy Consumption

	2013	2014	2015	2016	2017
Diesel and heating oil in million litres	27.7	29.2	26.3	26.6	27.4
Natural gas in million m ³	3.1	1.8	2.3	2.4	3.6
Electricity ¹ in million kWh	148.7	154.4	138.3	139.6	135.6
thereof from renewable energies	78.0	84.1	76.1	73.2	82.8
Traction current in million kWh	37.9	51.7	130.3	150.0	157.5
District heating in million kWh	4.6	3.7	3.2	3.6	3.6

Consumption of natural gas, traction current and district heating in 2017 is based on preliminary and estimated figures.

¹ Electricity without traction current

Absolute CO₂ emissions increased year-on-year by 2.1 % or 4,296 tonnes to 208,697 tonnes, excluding 26,246 tonnes of CO₂ emissions from the purchase of electricity generated using renewable energy sources. This slight rise is mainly attributable to the higher utilisation of the Metran fleet of environmentally friendly electric multi-system locomotives. Traction-related emissions increased by 2.7 % or 2,268 tonnes from 82,867 tonnes to 85,136 tonnes. The strong increase in throughput at the four container terminals operated by HHLA prompted a 7.0 % rise in CO₂ emissions there in the reporting year – excluding the use of electricity from renewable energy sources – raising the figure by 6,385 tonnes to 97,074 tonnes.

Within the various HHLA companies, a number of **projects to increase energy efficiency** were conducted during the reporting period. Steps were taken to control energy-consuming components and lighting systems in line with demand.

A long-term increase in the percentage of electricity used within the Group's energy mix will enable the company to **utilise more renewable energies** and thereby substantially reduce its carbon footprint. HHLA is therefore converting more and more of its equipment and machinery at the terminals to elec-

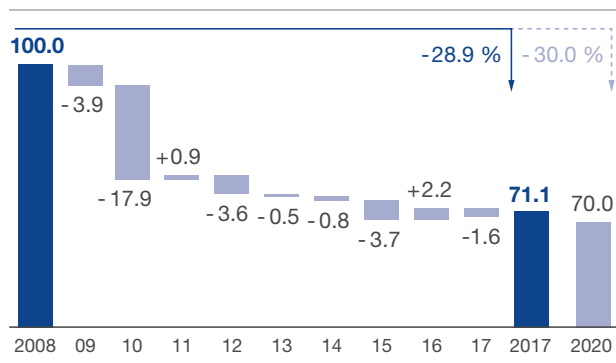
tricity. Such equipment and machinery produces fewer emissions and less noise and is also easier to service. The electricity required by all office buildings and workshops in Hamburg occupied by HHLA, the Container Terminal Altenwerder (CTA) and the all-electric yard crane system at the Container Terminal Burchardkai (CTB) comes from renewable energy sources. In the reporting year, additional quantities of renewable energies were procured, largely to compensate for CO₂ emissions from the operation of a CHP unit. In the reporting period, these measures reduced CO₂ emissions by 26,246 tonnes (previous year: 23,190 tonnes). A photovoltaic system at the Container Terminal Tollerort (CTT) installed and operated by the energy supplier Hamburg Energie Solar produced 103,590 kWh of CO₂-free electricity in the reporting period.

Energy-efficient equipment, systems, machinery and processes not only reduce local emissions, but also have economic benefits. With this in mind, HHLA pays particular attention to the **use of energy-efficient, low-emission machinery and equipment** when it makes new and replacement investments. In 2017, the fleet of all-electric cars grew to 79. HHLA's electric vehicles are powered by renewable electricity and are a quiet, low-maintenance solution that do not generate any local emissions. The electric vehicles cover a distance of some 500,000 km each year, which reduces CO₂ emissions by approximately 160 tonnes.

Work to modernise the straddle carrier fleet at the Container Terminal Burchardkai (CTB) continued with the acquisition of 16 new straddle carriers. These large machines comply with the strict requirements of the European Union's Euro 4 emissions standard. With their extremely low emissions of nitrogen oxides and particulate matter, they make an important contribution towards reducing emissions of harmful substances at the container terminal. Meanwhile, on the rails, another shunting hybrid locomotive for heavy goods trains has been running on the tracks of the Hamburg port railway since the reporting year.

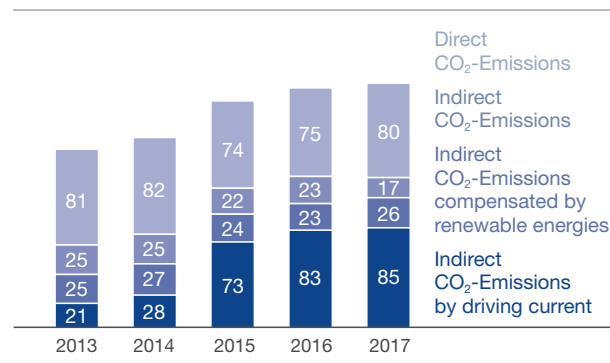
Changes in Specific CO₂ Emissions since 2008

Climate protection target: 30 % reduction by 2020



Direct and Indirect CO₂ Emissions

in thousand tonnes



The locomotive is used by HHLA subsidiary METRANS. The modern hybrid drive with an electric motor and diesel engine reduces consumption by over 50 %.

In addition, the **computer-aided optimisation of container storage positions** minimises the distance travelled by transport equipment, thereby reducing energy consumption and noise pollution. Resource usage is improved by cleaning used hydraulic oils and diesel fuels from tanks on site and reusing them.

Consumption of traction current within HHLA has risen markedly in recent years due to a significant increase in the use of the company's own traction fleet for rail transportation. In addition to cutting-edge multi-system locomotives, the engine driver's style can influence the amount of traction current used. In order to improve this aspect, a training programme for **energy-efficient** driving was developed and launched for engine drivers in reporting period.

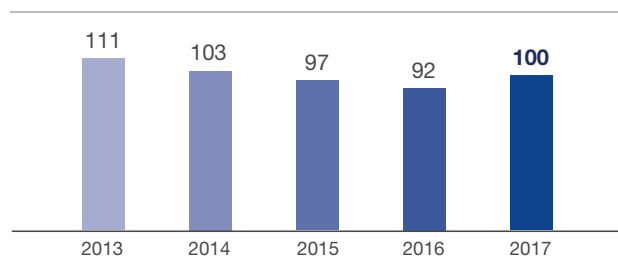
The **energy management system** that was certified according to DIN ISO 50001 for Hamburger Hafen und Logistik AG and HHLA Personal Service GmbH in the previous year has been extended to Fischmarkt Hamburg-Altona GmbH. All HHLA companies in Germany and Poland with significant energy consumption have now adopted the energy management system.

Water Consumption

Water is mostly used in the HHLA Group to clean large machines and containers, as well as for employee hygiene. The **amount of water consumed** by operations in Germany, Poland, Slovakia, the Czech Republic and Ukraine increased year-on-year by 9.2 % to 99,951 m³ in 2017 (previous year: 91,568 m³). This is due to both increased throughput volumes and to the modification of – and thus temporary disuse – of a water treatment plant at the Container Terminal Burchardkai (CTB). HHLA's facilities in Hamburg draw water from the public supply network.

Developments in Water Consumption

in dam³



HHLA locations in Germany, Poland, the Czech Republic, Slovakia and Ukraine.

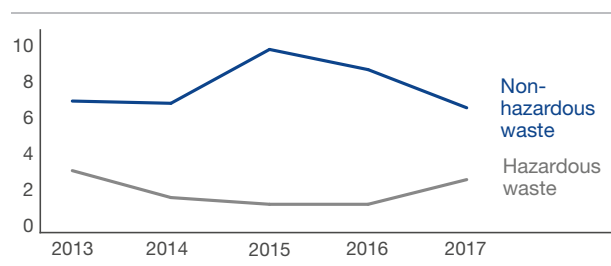
Waste and Recycling

HHLA aims to reduce – and also separates waste for recycling wherever possible so that reusable waste can be fed back into the resource cycle. The amount and composition of waste can vary significantly over time. Excluding soil and building rubble, the **amount of waste** produced at the sites in Germany decreased year-on-year by 7.0 % to 8,023 tonnes in the reporting period (previous year: 8,629 tonnes). Within the overall waste total, hazardous waste increased to 2,398 tonnes (previous year: 1,311 tonnes). This rising volume was primarily attributable to a larger quantity of sludge from oil/water separators. Despite a 16.9 % decrease, commercial waste for recovery and mixed packaging accounted for 18.8 % or 1,515 tonnes – and thus the largest waste volume – in the reporting period. Sludge from oil/water separators, which is mainly produced when large machines are cleaned, was the second-biggest type of waste with a share of 17.1 %. Compared with the previous year, this type of waste grew by 126 %, taking it to 1,372 tonnes. In addition to the increased need to clean large machines as a result of throughput growth, this stemmed from necessary modification work to a water treatment plant. The quantity of fruit and other food waste such as bananas, pineapples and potatoes fell by 48.7 %, or 1,131 tonnes, to 1,191 tonnes in the reporting year. HHLA has no influence on the amount of such waste, as it usually includes goods already unfit for consumption upon arrival in Hamburg. A large proportion was recycled to generate biogas. Approximately 180,000 kWh of electricity was generated without CO₂ in this way in 2017. The amount of scrap metal fed completely into the recycling system increased by 5.8 % to 1,169 tonnes in the reporting period. Paper and cardboard packaging was down 15.1 % at 573 tonnes, and there was a significant reduction of 49.3 % in scrap wood and building timber.

HHLA strives to conserve resources at its terminals, e.g. by using a total of 18,881 tonnes (previous year: 31,000 tonnes) of recycled building materials to maintain its terminal areas during 2017. At 10,293 tonnes, the majority of this was asphalt recycling. 3,814 tonnes of electric furnace slag was used during the renovation of a container rail terminal at the Container Terminal Burchardkai. Electric furnace slag is produced when steel scrap and mineral additives are melted in electric arc furnaces. It is

Developments in the Volume of Waste

in thousand tonnes



reused as aggregate at the terminal sites. 3,177 tonnes of slag from waste incineration bonded with cement was also used during the renovation of the rail terminal. In addition to this, 1,597 tonnes of recycled concrete-mineral aggregates were reused for site redevelopment.

Human Resources

Strategic HR Management HR Strategy

People and the organisation are at the heart of our personnel work. Highly competent and hard-working managers and employees form the foundation of our success. Long-term qualitative and quantitative personnel planning and development strategies for the entire company have been established in Hamburg. The ongoing development of specialist, management and project careers, and permeability between different career paths are the central aims of our personnel strategy. The numerous options to create a work-life balance according to the employee's current circumstances and the ongoing development of working-time systems form the cornerstone for long employee service at HHLA.

Organisation and Control

HR management is established as a central division at Executive Board level. This organisational structure ensures that strategic HR guidelines can also be implemented throughout the corporation. The respective departments provide tailored HR and organisational development programmes for staff on all career paths and at all levels of the hierarchy within the companies in Germany. The performance of both professionals and managers is systematically enhanced and developed and continuously overseen by the HR Management team. The same applies to all organisational development measures.

Diversity Management

Diversity management has been an integral part of strategic HR management for many years now. HHLA believes that a balanced mix of cultures, genders and age groups form the foundation for commercial success. The company strives to achieve such diversity in all of its subsidiaries. This applies in particular to temporary cross-company working and project groups.

Development of Headcount

HHLA had a total of 5,581 employees at the end of 2017. Compared with the previous year's total, the number of employees increased by 53, or 1.0 %. In addition, HHLA deployed an average of 710 Gesamthafenbetriebs-Gesellschaft employees in 2017 (previous year: 558).

The three-year average headcount trend is one of the targets agreed with the Executive Board and taken into account when determining Executive Board remuneration. Achieving the agreed target range triggers the payment of a corresponding bonus. ► see also Corporate Governance/Remuneration Report, page 54

Further details on headcount development can be found in the Management Report. ► see also Management Report/ Employees/Headcount, page 24

Personnel Development

HHLA invested a total of € 4.2 million in educating and training staff from its locations in Hamburg in 2017 (previous year: € 4.5 million).

As of 31 December 2017, 67 apprentices and 12 students were receiving training in Germany in eight different professions and eight dual study courses. 29 % of the 79 apprentices and students were female. The share of female students in 2017 was 58 % (previous year: 50 %).

Further details on the personnel structure can be found in the Management Report. ► see also Management Report/ Employees/Personnel Structure, page 25

The three-year average of the annual trend in expenditure for initial training, in-company training and continuing professional development in relation to headcount is one of the targets agreed with the Executive Board and taken into account when determining Executive Board remuneration. Achieving the agreed target range triggers the payment of a corresponding bonus. ► see also Corporate Governance/Remuneration Report, page 54

Continuing Professional Development (CPD)

All CPD activities at HHLA are designed to develop the professional, methodical and social skills of staff and managers in line with demand. There is a particular focus on management training which, in turn, concentrates on providing the skills to manage increasingly complex systems. Most trainings focus on agile methods and equipping staff to work on complex projects.

All internal seminars are open to staff from various departments and companies. These seminars also help foster an understanding of the diverse tasks, roles and functions in the Group's various business fields.