

SUSTAINABILITY REPORT 2011/2012

Greening the Gateway to the World

Foreword by the Management

We, the Management Board of the Hamburg Port Authority (HPA), are delighted to present you our organisation's first sustainability report. Since its establishment in 2005, the HPA has been successfully shaping the future of the port within the scope of the statutory duties placed on it. We are continuously adjusting the organisation's operational structures in line with market demands, while simultaneously improving its efficiency. At the centre of our efforts is the viable future development of the Port of Hamburg as the principal provider of economic growth on the basis of the Port Development Plan (HEP) which was prepared following intense discussions with many stakeholders. It sets out an economic framework for the development of the port over the years to 2025 and shows that port development requires long-term thinking. What is more appropriate than underpinning these sustainable approaches with a sustainability report? The Port of Hamburg is the basis for the economic prosperity of many people, directly or indirectly supporting over 261,000 jobs. At the same time it is a landmark of the city and makes Hamburg the proverbial gateway to the world. To make this gateway 'greener" and more prosperous - that is the challenge we are facing, and we like facing it. Expansion measures and the much-lauded 24h-service of the Port of Hamburg do cause strains - to residents in particular. One of our aims is to foster good neighbourly relations between the city and the port. We have made huge investments in infrastructure expansion and maintenance projects in the Port of Hamburg. Securing existing and creating new jobs is one of our foremost concerns. Together with the businesses operating in the port, we are also increasing the efficiency of the existing infrastructure and super-structure. The restructuring, recycling and more concentrated use of available land have priority over resorting to new "fresh" land from the re-serves of the port expansion area. However, we are also aware that this resources-saving, more concentrated use will reduce the share of available sites and severely restrict efforts to conserve little-used natural islands in the industrialised port area. State-of-the-art IT-supported methods allow us to make targeted investments in the transport infrastructure and use the existing road and railway network more efficiently. This intelligent traffic management system helps us to prevent congestion and avoid waiting times that have a negative impact on our climate. Shipping is subject to international regulations which we have only very limited influence on. Yet we are committed to protecting the Elbe and the port environment, for instance by offering financial incentives for particularly "clean" ships. By setting examples, we are on par with our customers, who are setting new standards in sustainable building: we are constructing Hamburg's first low-energy office building. The growing cooperation with other ports and institutions not only helps us to comply with statutory legislation, but we are also able to come up with new sustainable ideas and implement them in practice. All this is only possible with a highly skilled workforce. Transparent recruiting procedures and top-class training programmes expand our potential. Our employees are already enormously motivated when it comes to sustainability. A recent contest to gather ideas on environmental protection saw a flood of submissions, and the participation in a staff survey conducted as part of our corporate health management programme was enthusiastic.

This is how we envisage the future development of Hamburg's port: we want to be a good neighbour, an attractive employer and a role model for a sustainable port industry – a greener gateway to the world.

Jens Meier Chairman of the Management Board





Wolfgang Hurtienne Managing Director

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The Organisation

1.1. Sustainability – a competitive advantage

Sustainability and the responsibility of business towards society and the environment are increasingly important competitive criteria for a port. The Hamburg Port Authority (HPA) aspires to enhance its image as a sustainable port by developing sustainable ideas and innovative technologies to improve the competitiveness of the Port of Hamburg. This report forms part of a broader process initiated to define the sustainability strategy of the HPA, implement action plans and assess results. Furthermore, it supports the continuous improvement of services. It serves as an instrument to facilitate dialogue with stakeholders and is an integrated part of internal quality assurance systems. The content of the report was defined in accordance with the guidelines of the Global Reporting Initiative (GRI) and comprises the HPA's action areas in the three dimensions of sustainability: economic, environmental and social performance. Besides the classic environmental topics, the port's macroeconomic and business management aspects important to Hamburg, such as value creation potential, jobs, safe navigation, flood defence, a sustainable business model and a proactive human resources policy, also play a major role. A large part of the content has been selected in accordance with the interests of the HPA's principal stakeholders as identified and complies with the GRI principles. The content of the report is based on the organisation's existing operational structure and comprises all units which the HPA has control over. In view of the fact that the HPA is in charge of port and land development¹, the report is also about issues outside its boundaries. Space-oriented, the report refers to the area within the boundaries of which the HPA wields influence and leases out properties and plots of land, manages and maintains roads, waterways, rail tracks and land. This first report of the HPA refers to topics of key interest and specific activities in the reporting periods of 2011 and 2012. The HPA plans to issue a report about the organisation's sustainability performance every other year.

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1.2. Great plans need a great organisation

On 29 June 2005, the Act on the Establishment of the Hamburg Port Authority (HPAG) was adopted and promulgated, and the HPA was established as an institution under public law. The supervisory authority of the HPA is the Free and Hanseatic City of Hamburg. The chairman of the supervisory board is the Präses [President] of the Ministry of Economic Affairs, Transport and Innovation (BWVI) of the Free and Hanseatic City of Hamburg. The HPA acts in accordance with the principles of the Hamburg Corporate Governance Codex². External factors of changing market requirements, ranging from new ship sizes to disruptions in the maintenance of channel, harbour water and berth depths caused by adverse weather conditions, call for a high degree of entrepreneurial flexibility. The HPA has met these challenges and with effect from 1 January 2013 introduced an array of changes to its operational structure that focus on new key issues. By establishing a separate organisational unit that is in charge of the port's "waterside infrastructure", the HPA underlined the important role water depth maintenance and sediment management play in ensuring maritime access to the Port of Hamburg. The Tidal Elbe and Hydrology department and the other relevant departments in charge of the River Elbe will be combined to form the Waterside Infrastructure Unit, resulting in fewer interfaces. The strategic units of the HPA referred to as organisational units (port strategy and corporate strategy) will report directly to the management board³. The HPA undergoes permanent dynamic development, and apart from taking on economic responsibilities, it also is committed to the environment and takes on social responsibility. This is reflected in the formation of the interacting units, Quality Management and Environmental Management, and the establishment of a corporate health management prgramme. With its corporate health management programme, introduced in 2012, the HPA aims to maintain and improve the health, on job satisfaction, motivation and achievement potential of its employees.

1.3. Our strategy: transforming separate interests into shareinterests

As the manager of, and service provider in, the Port of Hamburg, the HPA is responsible for the strategic development of the port to ensure that it stays competitive. One of its tasks is to provide, operate and maintain the public infrastructure for the benefit of Hamburg and Germany as a whole. This includes maintenance of the port's waters and the Hamburg-managed section of the River Elbe as a federal waterway. Port management for the HPA means advancing the macroeconomic interests of the city and the metropolitan region as part of its duty to provide public services. At the same time, it safeguards its own commercial interests and acts for the benefit of its customers and the port community whilst

ensuring that environmental and social issues are adequately addressed. Supported by the extensive expertise of its employees, the HPA guarantees all customers high-quality, efficient infrastructure facilities in line with sustainability principles and provides competent assistance to handling, logistics and industrial companies, as well as service providers, in the port. Customers of the Port of Hamburg have come to rely on the port's efficient, cost-effective hinterland connections in Germany and to Scandinavia, Central and Eastern Europe that put global markets within their reach. One key element of sustainable management is a binding environmental policy. With the environmental guidelines introduced in 2011, the HPA explicitly acknowledges its responsibility towards the environment to an extent that goes far beyond operational environmental protection. The aim of the guidelines is to protect and maintain our natural resources, promote sustainable development and anchor environmental protection in the HPA's corporate culture.



- ¹ www.hamburg-port-authority.de/de/presse/broschueren-und-publikationen/Documents/port-development-plan2025.pdf. ² Declaration of Conformity: www.hamburg-port-authority.de/en/hamburg-port-authority/companystrategies/corporate-governance-code/Seiten/default.aspx. www.hamburg-port-authority.de/de/hamburg-port-authority/geschaeftsleitung/Documents/hpa_organigramm.pdf www.hafen-hamburg-2025.de/en/Seiten/default.aspx.
- ⁵ www.hamburg-port-authority.de/en/hamburg-port-authority/companystrategies/Seiten/default.aspx.

1.4. Moving in the right direction: milestones in 2011 and 2012

| 2011 | 2012 |
|--|---|
| Introduction of environmental discounts on port railway fees (INES) | World's largest container vessel safely navigated into the port |
| Introduction of environmental discounts on port fees (ESI) ⁶ | Certification for sustainable planned building |
| The first electric car of the HPA's vehicle fleet | Agreement to use LNG as an alternative fuel |
| Environmental guidelines adopted | Environmental partnership through ÖKOPROFIT [EcoProfit] |
| HPA becomes an environmental partner of the City of Hamburg with the IT project Server Virtualisation | Ultra-modern tanker discharging facilities handed over to Vopak |
| Award for the TV format Hafen TV ⁷ | New environmentally friendly launch boat "Hafenkapitän" for the Harbour Master's Office (€1 million) |
| Record number of containers transported by rail | New efficient berths completed at Burchardkai (€100 million) |
| Host of the international GreenPort Congress | Official opening of the cycle track section from St. Pauli Elbtunnel to Wilhelmsburg |
| 1st prize in the eGovernment contest for best IT modernisation programme | IT system TransPORT Rail increases rail transport capacities |
| Refurbishment of Landungsbrücken as a maritime tourist attraction completed (€10 million) | Environmental certificate for the St. Pauli Elbtunnel |
| Water intersection in Veddel completed (€40 million) | Environmental certificate for the headquarters in Speicher P |
| Ernst-August lock connects Wilhelmsburg by waterway (€26 million) | Photovoltaic plant installed on the island of Neuwerk (start of operation in 2013) |

2. Sustainable Growth for Hamburg

2.1. Sustainable actions ensure economic success

2.1.1. Macroeconomic significance

The HPA's holistic, innovative, future-oriented concepts strengthen the national and international position of the port. They set out the framework for securing jobs in the port and increasing value creation for the region. An independent analysis performed in 2012 by the Organisation for Economic Cooperation and Development (OECD), which was supported by the HPA, revealed that the port plays a pivotal economic role for

ⁱ www.hamburg-port-authority.de/de/Documents/AGB%202013.pdf. / www.youtube.com/watch?v=4iwmv2xrgks&list=UUUQF8sj_fAtD8PSOp2midzA. more than just the development of Hamburg and the metropolitan region. On behalf of the HPA, PLANCO Consulting GmbH has been carrying out market analyses at regular intervals since 1990 to measure the economic importance of the Port of Hamburg in terms of job development in Hamburg and the metropolitan region. Based on the port's impact on job and value creation and the effects from income and tax generated by the port industry, key performance indicators are determined, which the HPA uses to develop visionary strategies and make economic and transport politicy decisions, for instance on measures submitted to be included in the Bundesverkehrswegeplan IFederal Transport Infrastructure PlanI. Of a total of 261,000 port-related jobs in the Federal Republic of Germany, the port supports about 106,000 jobs outside of the metropolitan region of Hamburg. It is of crucial importance to the entire German economy and its link to global markets. Apart from general imports of raw materials, consumer goods and other products, the German export industry in particular benefits from the port, as companies use Hamburg as their gateway to global sales markets. Every euro in turnover made in the Port of Hamburg generates additional expenses of €0,71 in other sectors, among them the carmaking, food, petrochemical and transport industries. A large proportion of maritime cargo - also referred to as LOCO share - remains in the metropolitan region, which shows just how closely it is interwined with the port. The structural diversity of the Port of Hamburg offers the potential to increase the current LOCO share of 20 percent, e.g. by attracting port-related industries and placing strong emphasis on the sustainable expansion of infrastructure facilities.

2.1.2. Europe's largest rail freight hub

The Port of Hamburg is located 130 km inland from the open sea. Ships can access the port by sea via the River Elbe, which is considerably shorter than the more expensive, less environmentally friendly route by road. Excellent landside connections to the hinterland are crucial for the port to retain its competitive edge among the North Range ports. When it comes to hinterland connections, environmental sustainability and economic viability can be ensured only if all modes of transport are considered. The HPA's aim is to change the modal split by shifting freight traffic from road to railway and inland waterways so as to reduce emissions from trucks. In order to strengthen inland shipping in the Port of Hamburg, the HPA created temporary waiting berths close to the container terminals in 2011 and 2012 to speed up handling processes. In addition, the HPA is working on increasing the share of rail transport. From 2011 to 2012, container movements by rail rose from 36 percent to 37 percent. At a rate of 9 million containers annually, this translates into about 90,000 truck trips that could be avoided. 90 percent of the cargo bound for Switzerland and Austria is already carried by trains. From 2008 to 2012, the port's railway facilities were thoroughly overhauled and modernised. €56 million in 2011 and €67 million in 2012 were invested in railway infrastructure alone. With an annual turnover of roughly 2 million rail containers and excellent rail track connections to the European market, the Port of Hamburg has maintained its position as Europe's largest rail freight hub.

2.1.3. Port expansion to the inside

A clever and visionary strategy creates growth potential. The "port expansion to the inside" plays a key role. The Port of Hamburg is situated right in the heart of the city, with little options to expand in rems of space. The HPA therefore puts a lot of emphasis on efficient, approbriate land use and tries to make optimum use of sites through restructuring. Old harbour basins that are no longer useful are being filled up. The land thus reclaimed will be developed and used for building purposes in the medium term. The current tenancy rate is high and only a few sites are available for lease to new tenants. The investments made by the HPA in the infrastructural development and quality of the sites have made them much more attractive to business and increased the demand for port land. In view of steadily increasing container ship sizes, particular attention is paid to land offering deep-water access. Land is usually allocated through tender processes. Allocation criteria are rental income as well as the future tenant's building concept and concept of use. Criteria such as value creation potential, job creation, trade flows and energy efficiency, as well as the use of renewable energies, are each weighted separately to ensure that the respective plot of land is allocated to the most suitable tenant. The location strategy also looks at adjacent sites and tries to take into account possible energy-related synergy effects. Furthermore, companies are assessed for their traffic volumes. To ease the strain on neighbouring areas, the HPA verifies whether the business is suitable with regard to noise, light and odour emissions.

2.2. Hamburg is and will continue to be a safe port

In the Port of Hamburg, maritime, inland vessel, traditional ship and sports boat traffic volumes are high. Smooth traffic in a hub as busy as Hamburg is possible only if navigational safety is guaranteed at all times. The HPA is in charge of monitoring, regulating and controlling vessel traffic in the port. Its traffic safety concept is exemplary. Though the recommendations of the International Association of Lighthouse Authorities (IALA) cannot be fully implemented due to the port's location in the city, the HPA makes every effort to optimise navigational safety. This includes advanced-level harbour pilot training that qualifies pilots to carry out complicated manoeuvres in a port so close to the city. Apart from an eight-month training programme, which is open to experienced captains only, every harbour pilot undergoes simulator training on at least seven days per year. This is to ensure that after



a total training period of seven years, every harbour pilot is able to safely handle exceptionally large vessels with lengths of up to 400 m. The rise in calls⁸ of ships of this size and in particular the coordination of ship meeting and passing manoeuvres require state-of-the-art traffic control technology. Moreover, smooth vessel traffic also depends on the manoeuvrability of the individual vessel. To ensure safe proceedings, a questionnaire is used to collect ships' parameters, which are used as the basis for ship models. Together with the hydrodynamic model, the visual model and the electronic chart, they are the basis for the simulation model. All data are linked, which allows navigators to determine the exact position of any vessel at any time. The vessels' parameter and positional data enable the system to calculate accurate tidal windows within which vessels can enter the port. Such measures allow the HPA to cope with rising vessel traffic volumes and increasing ship sizes, and keep safety incidents to a minimum

2.3. Open dialogues, constructive solutions

In 2011 and 2012, the HPA initiated or supported dialogues designed to involve stakeholders in the decision-making process, help them shape the future of the port and keep them informed of the HPA's activities in a tranparent manner. In addition to the dialogues held with citizens, politicians and entrepreneurs, the HPA also shares information with other ports. In 2011, for example, it was the host of the 6th GreenPort Congress, where international port and logistics experts met to discuss sustainable concepts of use and environmental strategies. In conjunction with the Hamburg State Ministry of Economic Affairs, Transport and Innovation (BWVI), the HPA regularly updates its port policy and port development strategy. In 2011, the first port dialogue took place: four stakeholder dialogues were held to discuss the future development of the port with the relevant transport and business associations, public corporations, environmental and nature conservation associations, research institutions and other institutions, and port cooperation partners and authorities. Key topics were

the cargo volume potential forecast (ISL forecast) and its implications, land strategy, Central Terminal Steinwerder (CTS), transport planning, hinterland connections and modal split. All stakeholders unanimously assessed the port development plan participation dialogue favourably. The process will be applied to future projects.

The Beirat Hafenlärm Övelgönne, an advisory board on port noise that has offered a dialogue platform since 1998, provides valuable assistance in balancing the diverse interests. Moderated by the HPA, residents, representatives of the terminal operator located opposite the residential area and representatives of the authority in charge can inquire about upcoming projects, who will be affected and how, and look for solutions acceptable to all parties. In addition, the HPA has provided information and support since 1998 in terms of organising a dialogue forum on the Moorburg port expansion area. The forum is held four times a year to find solutions to existing problems by working with the residents and other interested parties. Guided by a moderator, citizen representatives, local clubs and politicians, as well as representatives from the HPA, city district authorities, the State Finance Ministry and the local property and flat administration authority, share information and concerns. Key topics are the development challenges the village faces due to its location in the port expansion area and a range of diverse concerns with regard to transport planning and plans to install a new dredged-material disposal site.

Within the scope of a dialogue on empty container management in the Port of Hamburg moderated by the HPA, a long-term, viable future concept on how to handle empty containers is planned to be developed. The core working group consists of representatives from shipping companies, depot operators, hauliers, associations and authorities. The future rise in empty container traffic, handling and storage volumes in the Port of Hamburg will become ever harder to cope with due to a lack of depot sites and infrastructure expansion options. Strategic approaches and organisational measures are needed to manage empty containers efficiently and sustainably, with the foremost aim being to cut down on avoidable truck journeys. The key solution approaches worked out will be summarised in a report and presented to the public in 2013.

⁸ www.hamburg-port-authority.de/de/presse/studien-und-berichte/Documents/ISL%20Potenzialprognose%20Endbericht.pdf.



3. Innovative Projects Promote Sustainability

3.1. Investing in existing assets is worth it

2011 and 2012 saw the continuation of the HPA's investment strategy of previous years. By firmly implementing its road and bridge maintenance programme, the HPA meets its public duties and makes sustainable investments in the port. In 2011, the HPA invested €203.2 million and in 2012 €212.0 million⁹, primarily in the extension of berths, the refurbishment of bridges to improve road and railway traffic flows as well as in the restructuring of currently unused port land to expand within and locate new port industry on the existing land. In this context, the cost of removing unexploded ordnance amounted to €10.7 million in 2011 and €14.7 million in 2012. The reconstruction of the Ernst-August lock, which was completed in 2011, increased capacities and availability and strengthened the public flood protection line. To guarantee transparency and comparability, the HPA documents and evaluates the condition of roads and bridges in conjunction with the State Agency for Roads, Bridges and Waters in a shared digital databank system. The data collection complies with federal standards. The HPA is currently carrying out structural analyses of its bridges in accordance with the "Guideline on the Reassessment of existing Road Bridges" published by the Federal Ministry of Transport, Building & Urban Development in order to determine technical deficits and develop a long-term maintenance and reconstruction concept as part of an overall building management strategy.

3.2. Intelligent integration saves space and reduces carbon emissions

The efficient use and integration of all transport routes – be it roads, rail tracks or waterways – is at the forefront of the HPA's agenda. Innovative IT systems¹⁰ have been developed and implemented that enable optimum utilisation and development of the port's infrastructure facilities. By continuously improving traffic control in the port, the HPA is able to permanently lower pollution levels and noise emissions, ensure the efficient navigation of ever larger ships, adequately cope with rising trade volumes and make even more targeted infrastructure investments.

3.2.1. Port road management

In 2011, the HPA started to introduce DIVA, a dynamic traffic volume information system and set up the Port Road Management Centre, a traffic management communication station, in the Port of Hamburg with the overall aim of ensuring smooth traffic flows on the port's roads and protecting the environment. To be able to efficiently manage traffic flows on the existing infrastructure, information about current and expected traffic conditions is needed. Around 14 kilometres of fibre-optic cables transmit the traffic information collected electronically by roughly 300 measuring points installed throughout the port to the Port Road Management Centre. The measuring stations use a range of technologies including inductive loop sensors, video and Bluetooth detectors. Together with four new video cameras they supply information about real-time traffic conditions, analyse traffic flows and control traffic lights in close coordination with the police. 14 digital LED variable message signboards (DIVA) advise drivers on traffic slowdowns, jams, bridge closing times, etc. in the port. Potential bottlenecks can be spotted at a glance, enabling drivers to decide if they would prefer to wait or use an alternative route. The HPA's IT-supported port traffic management system helps to reduce the carbon footprint and benefits its customers, who will spend less time in stationary traffic or tailbacks.

⁹ Annual Reports 2011/2012: www.hamburg-port-authority.de/de/presse/broschueren-und-publikationen/Seiten/default.aspx. ¹⁰ www.youtube.com/watch?v=UFPvd4WBoll.



3.2.2. smartPORT Logistics

A further component of the HPA's intelligent traffic management system is smartPORT Logistics, a pilot project. In cooperation with SAP and Deutsche Telekom, an IT platform accessible to all participating parties was launched and combined with mobile applications, or "apps" for short. Via tablet PCs or smart phones, users have access to port traffic information and services. Currently more than 30 trucks are equipped with tablet PCs; other trucks are integrated in smartPORT Logistics via their onboard control system. The real-time traffic information provided by the port road management system combined with the information about the traffic situation on Germany's autobahns supplied by ADAC, the German automobile club, updates truck drivers with personalised messages on traffic conditions in and around the port. If disruptions occur on the way to their destination, truck drivers will be rerouted or navigated to a suitable car park. More suitable car parks are planned for the coming years; they will be places where statutory breaks can be taken and other services are available. Truck drivers will be informed once the disruption has been cleared and ad-vised when and how they can reach their destination. At the same time, the hauliers concerned can follow up their transport orders in real time. Improved communication between drivers and schedulers takes place via the simplified message service in the mobile app. All this results in optimised traffic and logistics processes, which in turn increases the volume of cargo moved through the port. After successful completion of the testing phase, the project may serve as a role model for other ports.

3.2.3. Elbsimulation (software)

In view of increasing ship sizes and ever rising vessel traffic, the HPA, in conjunction with the Institute of Shipping Economics and Logistics (ISL), developed the vessel traffic model "Elbsimulation" in 2011. The system enables simulations in the area of the Unterelbe and Außenelbe [Lower and Outer Elbe] stretching from the North Sea to the Port of Hamburg, and helps to assess alternative expansion or capacity scenarios in terms of their impact on vessel traffic. The layout and scale of port expansion and conversion projects as well as river engineering measures can be evaluated and adjusted as required. Apart from estimating and simulating vessel traffic volumes, the system also calculates emissions. The HPA evaluates the data collected, taking into account the clean air requirements, and will incorporate emission-reducing measures in its future planning. The development of the model was completed in 2012 and test runs were successful. The database is continually

adjusted in line with forecasts of cargo volume potential, ship size developments, traffic rules, port infrastructure facilities and emission-reducing technologies.

3.2.4. EVITA (rail traffic information and operations system)

One core element of the HPA's infrastructure improvement strategy is the EVITA project (rail traffic information and operations system), which foresees the modernisation of the various telematic railway IT systems, among others the new system TransPORT Rail. The objective is to increase the efficiency and capacities of railway facilities in the Port of Hamburg and speed up freight handling processes. The precise automatic collection of utilisation data, which allows for optimised coordination of operations, combined with a charging system based on incentives will shorten the times rail cars stand idle on tracks. Apart from the infrastructure data required to manage trips, configure trains and book sidings TransPORT Rail will, in a later step, also provide logistical information. The further development of the operations & control system, which accurately determines track network utilisation rates and captures all train movements by railcar, will allow for a more efficient and more cost-effective use of existing railway infrastructure facilities and avoid unnecessary shunting trips. The central IT-supported infrastructure management system, the modernisation and merging of various HPA networks as well as a central port railway radio system have enabled coordination across sectors. The optimised utilisation of railway capacities not only increases economic efficiency, but also lowers emissions.

3.2.5. Road traffic model (software)

To analyse road traffic, the HPA has developed a traffic model called Port of Hamburg. In a first step, the complex databank-based IT infrastructure allows the reproduction of traffic situations. Changes in traffic volumes that have an impact on traffic flows and density become visible. In addition to routes, noise and pollutant emissions are considered. With the road traffic model, it is possible to optimally control and plan logistics processes in the port. The model also shows the impact the construction of a new logistics hall or the closure of a bridge has on traffic and accurately indicates the need for financial investments in the road network and helps decide on their implementation. The road traffic model is continuously improved and adjusted in line with the growth of the port and the changing traffic relationships and scenarios.



3.3. Fighting pollutants with ELSA¹¹ and METHA

In the Port of Hamburg, marine sediments transported upstream mix with polluted sediments from the upper reaches of the Elbe due to tidal activities. The source of the contamination of the Elbe sediments is the entire Elbe catchment area, all the way to the Czech Republic. Contaminated sediments pose a huge challenge to the HPA when it comes to maintaining the port waters and navigation channels. The river's pollution levels are such that options to relocate the sediments within the water body are limited. Sediments which cannot be relocated because of their degree of contamination have to be treated and disposed of on land - a situation that is likely to continue up until 2025. Though pollution levels have considerably decreased over the past 20 years, they are not yet acceptable. In the long term, the project "ELSA - Elbe sediment pollutant remediation" is to improve the pollutant content of the Elbe sediments. The project focuses on remediation as close to the pollutant source as possible. The State Ministry of Economic Affairs, Transport and Innovation (BWVI), the State Ministry of Urban Development and Environment (BSU), the HPA and the Hamburg State Chancellery have funded the project with €11 million and/or provided their expertise. The HPA is aware of its responsibility and regards the high costs of cleaning up the Elbe as an investment in the future.

For several years now, the HPA has been operating dewatering fields in Moorburg and the sediment treatment plant METHA (mechanical separation and dewatering of port sediments). The costly, time- and labour-intensive treatment and disposal on land substantially contributes to a cleaner Elbe and relieves the strain on the North Sea. Furthermore, some of the dredged material can be recovered and used to seal the surfaces of disposal sites, thus saving landfill resources. In 2011 and 2012, a total of €55 million was spent on disposing of the sediments on land, relieving the ecosystem of 1.4 million m³ of polluted sediments.

3.4. Ensuring sustainable maritime access to the port

The tidal Elbe¹³ is a unique habitat, large areas of which are protected. At the same time, it is the access channel to Europe's second-largest container port. The objective of the tidal Elbe concept developed by the HPA and the Wasser- und Schifffahrtsverwaltung des Bundes IFederal Waterways and Shipping Administration1 is to ensure smooth access to the Port of Hamburg in the long run. The sustainable concept benefits business and nature as well as the people living in the region. Moreover, the impacts of climate change and coastal protection are taken into account.

3.4.1. Kreetsand intertidal zone – a pilot project

The creation of a shallow-water zone influenced by the tide on the former Spadenlander Busch/Kreetsand spoil area is the second step in the implementation of the HPA's tidal Elbe concept. The measure will have a favourable impact on both hydraulic conditions and sediment transports. It will create a precious intertidal habitat and provide useful information when it comes to planning other areas along the tidal Elbe. Compensatory measures to protect flora and fauna, such as hanging bat houses or creating amphibian waters, will be put in place during the building phases. After completion, the area is to become a particularly valuable habitat and part of the nature conservation area Auenlandschaft Norderelbe. The roughly 30 ha-large shallow-water zone will be a refuge for an array of fish. The embankment areas offer perfect conditions to resettle the Schierlings-Wasserfenchel, a plant that is endemic to the tidal Elbe area. Combined with other measures planned within the scope of the Elbe fairway adjustment, the project also contributes to maintaining the coherence of the ecological network. Furthermore, the large-scale Kreetsand project makes the HPA the first to implement a measure listed in the transnational integrated management plan (Natura2000) that was finalised in 2012. The HPA contributes significantly to enhancing the ecological value of the Elbe estuary and points the way for others to follow.

1 www.elsa-elbe.de/

¹² Strombau- und Sedimentmanagementconcept f
ür die Tideelbe (2008): www.hamburg-port-authority.de/de/hamburg-port-authority/strategische_themen/wasserwege/ sedimentmanagement/Seiten/default.aspx.
¹³ www.tideelbe.de/.

4 Management as the Engine of Sustainability

4.1. The environment and climate benefit from the sum of many activities

4.1.1. Climate protection concept and environmental management

The HPA has prepared a climate protection concept that contains climate protection objectives, areas of action, activities to reduce emissions and suggestions on how to monitor and evaluate currently planned measures. The HPA's climate protection objectives are based on the regulations of the Free and Hanseatic City of Hamburg, which foresee a 40 percent reduction in carbon emissions by 2020 and an 80 percent reduction by 2500, based on 1990 as reference year. To ensure the continuous reduction of adverse impacts on the environment, a systematic environmental management system in line with the criteria of the international environmental management standard ISO 14001 was introduced in 2011. The relevant impacts on the environment are analysed and guantified in order to be able to identify and specify further areas of action and develop appropriate measures. When building on port land, the HPA makes a point of deploying sustainable construction techniques. A new HPA building on the Peute site was awarded the preliminary certificate in silver by the German Sustainable Building Council (DGNB). The institution recognises buildings that meet high environmental and sustainability standards after completion. The refurbishment of existing buildings to make them more energy-efficient and reduce their energy requirements has a firm place on the HPA's environmental agenda. The consolidation of physical servers based on green IT criteria had the same purpose and created energy-efficient and highly available IT infrastructure. By standardising, consolidating and virtualising physical servers, 194 hardware units could be dispensed with, which significantly reduced energy consumption. Furthermore, the HPA demonstrated its active commitment to the environment by taking part in the project ÖKOPROFIT® [EcoProfit]. Strict separation of waste at the HPA's headquarters in Speicher P (500 persons), for example, increased the recycling rate from 30 percent to 80 percent. The use of water flow restrictors lowered water consumption by about 25 percent. Since 2011, the HPA has been involved

in pilot projects that use recovered materials in road building. All this helps save money as resources decline and raw materials costs rise. In addition, the HPA is carrying out various material tests to develop effective recycling strategies. From 2013 onwards, the HPA will be supplied with natural gas which contains 1.8 percent of resource-saving biomethane and the percentage of the HPA's energy consumption derived from renewable energy sources will increase from 92.5 percent to 97 percent.

4.2. Our aim: more clean energy

In 2012, the HPA initiated the project smartPORT Energy together with the BSU and BWVI. The declared aim is to extend the Port of Hamburg's green-energy strategy beyond the HPA's scope of action by:

- Making the port a "flagship port" for renewable energy, in particular wind energy
- Making the port less dependent on conventionally generated energy by increasing the share of energy derived from renewable sources and providing renewable energies in line with demand as well as by installing and expanding storage capacities
- Lowering energy consumption and emissions by increasing energy efficiency and providing intelligent infrastructures
- Promoting innovative and eco-friendly mobility to reduce sulphur oxide, nitrogen oxide, carbon dioxide and particulate matter emissions

The HPA is responsible for planning and implementing the sub-project "Shore Power Facility to Supply Cruise Ships while They Are Berthing" at the cruise ship terminal in Altona. In cooperation with business partners and local approval authorities the topic "Availability of Liquefied Natural Gas (LNG)" as fuel in the port, a sub-project under smartPORT Energy, could be advanced.

4.3. Environmental Performance Indicators

| Primary energy consumption [GJ = GigaJoule] | 2011 | 2012 |
|--|--------|--------|
| Fuel | 1,096 | 1,048 |
| Diesel | 91,236 | 82,729 |
| Heating oil | 10,075 | 9,576 |
| Gas ¹⁴ (propane, liquefied gas, natural gas) | 36,827 | 36,508 |
| Secondary energy consumption [GJ] | 2011 | 2012 |
| Green electricity (from renewable energy sources) | 73,393 | 70,664 |
| Electricity (not from renewable energy sources) | 5,458 | 5,298 |
| District heating (not from renewable energy sources) ¹⁵ | 5,346 | 5,346 |
| Renewable energy generated [GJ] | 2011 | 2012 |
| Solar thermal energy and gas heat pump | 47 | 171 |
| Weight of carbon emissions [t] | 2011 | 2012 |
| Direct (Scope 1 of the GHG Protocol Initiative) | 10,065 | 9,410 |
| Indirect (Scope 2 of the GHG Protocol Initiative) | 1,224 | 1,198 |
| Weight of dangerous waste disposed of ¹⁶ [t] | 2011 | 2012 |
| Recycling | 8,296 | 4,135 |
| Incineration | 4,275 | 6,269 |
| Landfill | 79,177 | 46,912 |

¹⁴ At the time the report went to press the data on natural gas were not fully available – assumed consumption in 2011= 2012.
 ¹⁵ At the time the report went to press the data were not fully available – assumed in 2011= 2012.
 ¹⁶ Definition in accordance with section 3(5) KrWG.

5 A Team That Thinks and Acts5 Sustainability

5.1. Content, reliable and motivated staff

5.1.1. Training and development of junior management and young expert staff

As is the case in many organisations, the demographic change and the associated competition for qualified expert and executive staff is palpable at the HPA. In response to the rising average age of management staff and the growing demand for skilled junior staff, the HPA is employing new staff development tools. One such tool is the competency management system, which supports the HPA in growing its own staff. The programme has now been extended to the commercial divisions of the HPA. It is the organisation's response to the lack of expert and management staff in all areas. The establishment and harmonisation of management standards combined with the introduction of new management tools such as management staff feedback creates attractive options for personal advancement and career development. The HPA offers a broad range of young talent development and promotion schemes such as studiesand-practice programmes (courses of study combined with practical placements at a company), various trainee programmes and intermediate and higher-level civil servant programmes in the technical services. Special attention is also paid to apprenticeship programmes to become a surveying technician, port officer or IT specialist. The HPA's instructors receive special training to maintain guality standards and motivate apprentices. The HPA also offers a diverse range of further education programmes and individual training options to provide HPA employees with more tailored opportunities.

5.1.2. Staff turnover

By training its existing workforce and offering a diverse development and further education programme, the HPA enhances employee satisfaction and provides them opportunities to advance their careers within the organisation. Staff loyalty tends to be higher, too. At 4.28 percent (76 persons left) in 2011 and 5.02 percent (90 persons left) in 2012, the HPA's staff turnover rate in

terms of active employees is very low and far below the average turnover in the Free and Hanseatic City of Hamburg (7.9 percent in 2011). This does not take account of the fact that most employees left the HPA to retire. Gender specific differences in the turnover were not detectable in the reporting period.

5.1.3. Health and safety at work

The HPA believes that healthy and content employees contribute substantially to the success of the organisation. With the aim of maintaining and increasing the health, work satisfaction, motivation and performance efficiency of its workforce, in 2012 the HPA introduced the integrated corporate health management system. All corporate health experts on the HPA's health team sit down together: human resources, the staff council, representatives of the severely disabled, the company doctor, social counsellors, the workplace safety team and external health management consultants. For the HPA, concentrating and integrating all parties and activities is crucial to success. As part of the analysis phase, an organisation-wide employee survey was conducted in November 2012. Based on the results, aspects such as workload and work satisfaction, working time or safety at work and areas of action will be determined and a package of measures developed. The results will be presented in the next report. The aim is to anchor corporate health management firmly in the HPA's organisational structure, implement health as a management task, and stabilise and increase the health awareness of the staff throughout the organisation so as to permanently lower the rate of sickness. The health team advises and supports all units and employees if they have queries about health and safety at work. Health-promoting seminars on issues such as healthy eating, stress management, addiction prevention or programmes on how to give up smoking already have a firm place on the HPA's health agenda. Furthermore, social counselling, which is strictly confidential, is available to all employees. In collaboration with the company doctor and the workplace safety team, risk assessments are updated, advisory talks are held, employees are examined and noise and vibration measurements are carried out regularly.



Unfortunately, in 2011 one employee died when he tried to climb across the water onto a floating facility. The HPA responded immediately: it has put in place regulations that prohibit climbing across onto floating facilities, issued operating instructions, which describe potential risks and define in detail protective measures and processes, and inspected other floating equipment.

5.1.4. Balancing work and personal life

The HPA acknowledges the needs of its staff and offers an array of options to achieve a healthy balance between work and personal life. Flexible working-time models and the possibility to work at home make it easier for many employees to combine work and family life. The emergency childcare team will take over at short notice to assist employees. On top of this, the many corporate sports clubs and the participation in charity runs, such as the HSH Nordbank Run, promote team spirit and bonding and, above all, they are fun.

5.2. Better safe than sorry

5.2.1. Corruption prevention

For the HPA, corruption prevention is an ongoing task that includes a zero-tolerance strategy. It has established an extensive anti-corruption programme that comprises an internal control system (four eyes principle), clear signing authorities, rules and regulations as well as a code of conduct for all staff. In special courses, which take place at regular intervals, all employees are alerted to the risks of corruption. A corruption prevention committee coordinates measures to prevent, recognise and respond to corrupt conduct and acts as an initiator in this area. Within the scope of a risk analysis the HPA examined all organisational units in the reporting period to determine the risk of corrupt behaviour. Preventive measures will be taken in areas especially prone to corruption. Employees can report suspected wrongdoing to an anti-corruption office or external ombudsman. Irregularities can thus be spotted early and financial losses prevented. No incidents occurred in the reporting period.

5.3. Social Performance Indicators

| | Key staff figures & total staff | Unit | 2011 | 2012 |
|---|---|----------|--------|--------|
| | Total workforce | Persons | 2,009 | 2,045 |
| | Active staff | Persons | 1,775 | 1,792 |
| | Part-time staff | Persons | 231 | 243 |
| | Active staff (permanent employment) | Persons | 1,728 | 1,750 |
| | Active staff (fixed-term/temporary employment) | Persons | 47 | 42 |
| | Trainee employments (incl. studies-practice students & aspiring civil servants) | Persons | 95 | 105 |
| | Civil servants (active) | Persons | 183 | 186 |
| | Percentage of trainees | Percent | 4.7 | 5.1 |
| | Average age | Years | 45 | 45 |
| | Percentage of part-time employees | Percent | 11.5 | 11.9 |
| | Percentage of female employees | Percent | 18.9 | 20 |
| | Training and further training, internal + external | h/Person | 11.9 | 13.1 |
| | Percentage of severely disabled employees | Percent | 7.4 | 8 |
| | Level of absence (sickness absence excl. accidents) | Percent | 7.9 | 8.9 |
| | Level of injuries*1 (accidents/total workforce) | | 0.073 | 0.062 |
| | Level of absence*1 due to accidents (lost days/planned working days) | | 0.0048 | 0.0025 |
| | Fatal work accidents | | 1 | 0 |
| _ | | | | |

*1 excl. minor injuries, day = planned working day, accidents that have to/do not have to be reported, excl. accidents on the way to/from work.



6. Profile

| Profile | Comment | Page |
|---|--|---------|
| 1.1 Executive summary | | 2 |
| 2.1 Name of the organisation | Hamburg Port Authority AöR | 2 |
| 2.2 Primary services offered | www.hamburg-port-authority.de/de/presse/broschueren-und- publikationen/Documents/ port developmentsplan.pdf www. port-hamburg-2025.de/de/Seiten/default.aspx | 4 |
| 2.3 Operational structure of the organisation | www.hamburg-port-authority.de/de/hamburg-port-authority/ges- chaeftsleitung/Documents/hpa_organigramm.pd | 5 |
| 2.4 Location of the organisation's head- quarters | Free and Hanseatic City of Hamburg | 4 |
| 2.5 Country where the organisation operates | Germany | 4 |
| 2.6 Nature of ownership and legal form | Public law institution | 4 |
| 2.7 Markets served | Tenants, shipowners, rail freight operators | 4, 5 |
| 2.8 Scale of the reporting organisation | Net revenues and total capitalisation, see www.hamburg-port- authority.de/de/presse/broschueren-und-publikationen/Seiten/ default.aspx | |
| 2.9 Significant changes during the reporting period | www.hamburg-port-authority.de/de/hamburg-port-authority/ geschaeftsleitung/Documents/hpa_organigramm.pdf | 4 |
| 2.10 Awards received in the reporting period | 1st prize in eGovernment contest for best IT modernisation programme | 6 |
| 3.1 Reporting period | 2011 and 2012 | 4 |
| 3.2 Date of most recent previous report | Not applicable – report first prepared in 2013 | |
| 3.3 Reporting cycle | Every 2 years | 4 |
| 3.4 Contact person for questions regarding the report or its content | | 24 |
| 3.5 Process for defining report content and identifying stakeholders | GRI workshop core teams | 4, 5 |
| 3.6 Boundary of the report | | 4 |
| 3.7 Specific limitations on the scope of the report | None | |
| 3.8 Basis for reporting | Not applicable – report first prepared in 2013 | |
| 3.10 Depiction of information | Not applicable – report first prepared in 2013 | |
| 3.11 Significant changes from previous reporting periods | Not applicable – report first prepared in 2013 | |
| 3.12 GRI content index | Tables with pages indicated | 22, 23 |
| 4.1 Governance structure of the organisation | www.hamburg-port-authority.de/de/hamburg-port-authority/ geschaeftsleitung/Documents/hpa_organigramm.pdf | 4 |
| 4.2 Chairman of the highest governance body is also the managing director | www.hamburg-port-authority.de/de/hamburg-port-authority/ geschaeftsleitung/Documents/hpa_organigramm.pdf | 4 |
| 4.3 For organisations that do not have a supervisory board | Not applicable | |
| 4.4 Mechanisms for shareholders and employees | Staff meeting | 2 |
| 4.14 List of stakeholder groups | www.hamburg-port-authority.de/de/presse/broschueren-und- publikationen/Documents/ port developmentsplan.pdf | 4, 5, 9 |
| 4.15 Basis for identification and selection of stakeholders | | 9 |

7. List of Key Performance Indicators

| KPI | Comment | Page |
|--|---|-------------|
| EC2: Financial implications and other risks to and oppor- tunities for the HPA's activities due to climate change | Risks such as floods and heavy rain are assessed at re- gular intervals (risk/opportunity management). No risks have been identified. It is not necessary to make risk provisions. The climate protection concept is the HPA's response to climate change | |
| EC4: Significant financial assistance received from government | Subsidies – 2011 (€48.97 million), 2012 (€42.1 million) Additional funding – 2011 (€4.6 million), 2012 (€1.2 million), no other funding received | 4 |
| EC8: Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement | OECD, PLANCO, HEP | 2, 6, 7, 11 |
| EN3: Direct energy consumption by primary energy source | | 17 |
| EN4: Indirect energy consumption by primary energy source | | 17 |
| EN16: Total direct and indirect greenhouse gas emissions by weight | | 17 |
| EN22: Total weight of waste by type and disposal method | Dangerous waste, including project-specific land restructuring and environmental remediation | 17 |
| EN26: Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation | | 16, 17 |
| SO1: Percentage of operations with implemented local com- munity engagement, impact assessments and development programmes | | 7, 9, 11 |
| SO2: Percentage and total number of business units analysed for risks related to corruption | 195 organisational units = 100% | 20 |
| SO3: Percentage of employees trained in the organisation's anti-corruption policies and procedures | About 20% annually | 20 |
| SO4: Actions taken in response to incidents of corruption | No incidents in 2011 and 2012 | 20 |
| LA1: Total workforce by employment type | Active employees in 2011: 1,775 and in 2012: 1,792 | 20, 18, 19 |
| LA2: Total staff turnover by age group, gender and region | | 18 |
| LA7: Rates of injury, occupational diseases, lost days and ab- senteeism, total number of work-related fatalities, by region and by gender | | 18, 20 |
| LA10: Average hours of training per year per employee | | 18, 20 |
| | | |

8. List of Sources

HEP 2012: Freie und Hansestadt Hamburg – Behörde für Wirtschaft, Verkehr und Innovation; Hamburg Port Authority, Hamburg hält Kurs. Der Hafenentwicklungsplan bis 2025, Hamburg 2012.

OECD 2012: Merk, O.; Hesse, M., The Competitiveness of Global Port-Cities, The Case of Hamburg – Germany, OECD Regional Development Papers, 2012/06, OECD Publishing, Luxembourg 2012.

ISL Prognose 2010: Institut für Seewirtschaft und Logistik (ISL), Prognose des Umschlagpotentials des Hamburger Hafens für die Jahre 2015, 2020 und 2025, Bremen 2010.

Environemntal Ship Index, www.wpci.nl.



Statement GRI Application Level Check

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Audit report

Our report has been audited by a third party. The Deloitte & Touche GmbH Wirtschaftsprüfungsgesellschaft audit firm has reviewed the information on sustainability in line with the definitive International Standard on Assurance Engagements (ISAE) 3000. Deloitte has not audited the more detailed information available on the HPA websites mentioned in this report.

Certification for the 2011 and 2012 sustainability report can be found at www.hamburg-port-authority.de/de/presse/ broschueren-und-publikationen

Deloitte.



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