



Acting green – out of responsibility and **conviction**

Environmental Brochure 2014

Delivering solutions.





Dr. Karl-Friedrich Rausch
Member of the Management Board of
DB Mobility Logistics responsible for
Transportation and Logistics and Chief
Sustainability Officer of the DB Group

Foreword

Dear Reader,

Climate change and dwindling natural resources are among the biggest challenges facing our globalized world. Companies therefore have a special responsibility to act with the environment in mind and to use raw materials and other resources efficiently. Society's expectations and political pressure are increasingly compelling businesses to make an effective contribution towards preserving the natural resources that are essential for life. At the same time, our customers expect eco-friendly products and services so that they can lessen their own environmental impact.

DB Schenker lives up to its responsibility by offering efficient, innovative and networked logistics solutions and by maintaining a strong railroad. We have defined three top-priority targets so that we can meet these demands:

- Leading environmental position in the transport and logistics sector in terms of CO₂ and resource efficiency
- Superior range of green products and consulting expertise
- Social acceptance of growth in rail freight transportation by cutting noise.

None of this is possible without our customers. That is why we rely on a trio of measures for our products: green purchasing, environmentally friendly transportation solutions and climate-friendly operating procedures. This brochure explains what all of this entails and how our customers benefit.

I invite you to read further to find out more.

Sincerely,

Dr. Karl-Friedrich Rausch



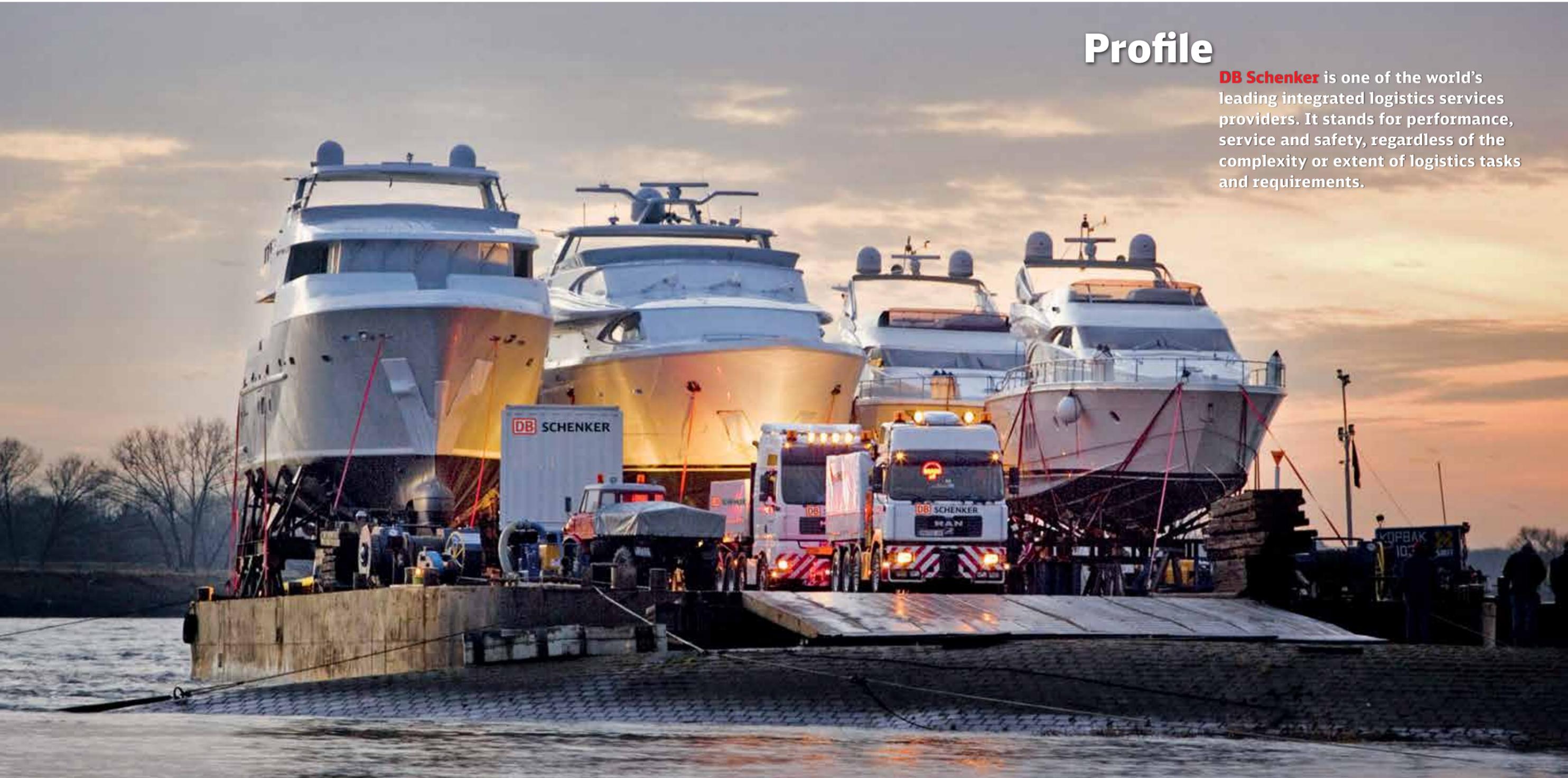
DB Schenker sets standards in climate protection. It enables its customers to reach their climate protection targets by using energy efficiently.

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Profile

DB Schenker is one of the world's leading integrated logistics services providers. It stands for performance, service and safety, regardless of the complexity or extent of logistics tasks and requirements.





DB Schenker comprises the DB Schenker Rail and DB Schenker Logistics Business Units and is responsible for the transportation and logistics activities of Deutsche Bahn. It employs nearly 95,000 people in 140 countries. DB Schenker generated revenues of EUR 19.7 billion in 2013.

With around 2,000 locations in all of the world's most important economic regions, the logistics services provider has a global network geared toward customer service, quality and sustainability. It holds top positions in global air and ocean freight, has Europe's densest land transport network and has the rail expertise of Europe's largest rail freight company.

DB Schenker Rail: Europe's largest rail freight company

DB Schenker Rail is the leading provider in European rail freight transportation with approximately EUR 4.84 billion euros in revenues, some 30,900 employees, operations in 15 countries and an annual volume sold of 104.3 billion metric ton kilometers.

Its services include offering innovative and environmentally friendly transportation and logistics solutions for block train and single car transport Europe-wide and linking services on rail, on the road and on water. DB Schenker Rail also offers customized industry solutions, for example for the building materials, chemicals and mineral oil, steel and coal, automotive, disposal and paper industries. Thanks to its special climate-friendly solutions such as Eco Plus, DB Schenker Rail even enables rail freight transports to be entirely carbon free. DB Schenker Rail has set out to continue to increase quality and efficiency in rail freight transportation in the coming years.

DB Schenker Rail operates some 5,000 freight trains a day and transports over 390 million metric tons of freight by rail in Europe every year. It owns Europe's largest fleet, which comprises around 92,000 freight cars and 3,100 locomotives – a high percentage of which are multi-system locomotives used internationally – which gives it flexibility and the ability to develop customized solutions in response to customer needs. At DB Schenker Rail the focus is on high quality and reliability. The company has made systematic advancements in its European network over the past decade. Almost 60 percent of freight trains already cross at least one border.

DB Schenker Rail has set out to offer an all-in-one cross-border network with consistent customer service for all Europe-wide transports. A close-knit integrated planning process involving sales, production and customers lays the foundation. The company has a truly European presence through its network of subsidiaries and partner companies.

DB Schenker Logistics: integrated services from a single source

With 64,000 employees, revenues of EUR 14.86 billion in 2013 and three internal business units, DB Schenker Logistics is the global leader in the industry. Its business segments include European land transport, global air and ocean freight, and global supply chain management. DB Schenker Logistics also holds top positions in trade fair forwarding, special transports and services for major sporting events.

The market leader in European land transport, DB Schenker Logistics connects the most important economic regions in over 36 European countries with its dense network of 32,000 regular scheduled transports. The logistics expert provides its customers time and cost-optimized services for general cargo and partial and full loads. It also offers logistics solutions with a strong rail component for the European and transcontinental market. DB Schenker Logistics transports some 96 million consignments every year in its land transport network.

DB Schenker Logistics also offers air and ocean freight services from a single source. Worldwide it holds the number two spot in air freight and the number three spot in ocean freight. It has operations around the world thanks to its network of approximately 700 locations and annual chargeable air freight volume of 1.1 million metric tons. With some 1,200 charter flights a year, it connects hubs on six continents several times a week. One of the pioneers in the air freight industry, DB Schenker Logistics is now the leader in innovative air freight concepts. The DB SCHENKERSkybridge intermodal transport system, for example, combines the advantages of air and ocean freight. In ocean freight, DB Schenker Logistics transports over 5,200 containers a day with a total volume of nearly 1.9 million TEU (twenty-foot equivalent units) and provides the right loading option for every single consignment.

In contract logistics, DB Schenker Logistics, with over 18,300 employees and some 570 locations, offers logistics solutions along the entire supply chain for industry and trade. DB Schenker Logistics has developed a comprehensive portfolio of individual solutions for the automotive, consumer, electronics, industrial and health-care industry sectors. Its range of services includes all stages in the value chain, from procurement, production and distribution logistics to after-sales service. Planning, managing and executing complex global supply chains are its core areas of expertise. DB Schenker Logistics is one of the top five contract logistics providers in the world and has over 6.2 million square meters of state-of-the-art logistics space.



Pioneer in environmental and climate protection

Deutsche Bahn firmly established sustainable actions in its DB2020 corporate strategy. That's why DB Schenker systematically confronts the major challenges of environmental and climate protection with tailored environmentally friendly solutions.





DB sets ambitious targets to cut CO₂ emissions over the long term.

Rising CO₂ and noise emissions in the transportation sector and dwindling resources call for urgent action. But they also offer considerable potential for DB Schenker and its customers to cut emissions through specific measures.

Greater flows of goods and transport volume

The transportation and logistics industry is one of the largest sources of CO₂ emissions. Commercial and private transport flows are responsible for nearly one-fourth of carbon emissions worldwide. Although CO₂ emissions are falling in a few industries, they are on the rise in the transportation sector throughout the world due to ever increasing flows of goods and passengers. According to the European Environment Agency, between 1990 and 2010 absolute emissions of greenhouse gases in the transportation sector rose by around 26 percent in the 27 EU member states alone. This means that action is urgently needed, leaving enormous potential to cut emissions.

Despite these daunting tasks, the international community has not been able to agree on a consistent climate policy and mandatory CO₂ targets. And this despite that energy efficiency measures are not taking hold as quickly as flows of goods – and the associated emissions – continue to grow. The international community has come to a consensus in one area, however: it aims to limit global warming to a maximum of two degrees Celsius by 2050. A successor to the Kyoto Protocol is planned for the 2015 Climate Change Conference in Paris, which will clear the way for the two-degree target.

It is already evident that CO₂ emissions must be cut to 50 percent of 1990 levels for the two-degree target to be reached. Since it is assumed that developing and emerging countries in particular will not be able to cut their CO₂ emissions in half due to their need to catch up, industrialized countries must reduce their carbon emissions by up to 95 percent.

Careful use of the world's available resources is a major challenge for business, policymakers and society. As is the case with carbon emissions, a balance must be struck between using resources that are in short supply and achieving a prosperous economy in de-

veloping and emerging countries. At the same time, awareness needs to be raised for more efficient use of raw materials.

According to forecasts, rail transportation will continue to experience strong growth in coming years. The German government's transportation policy calls for shifting freight in particular to environmentally friendly rail. The aim is to reduce the environmental impact of increased traffic, especially noise from rail transportation, as much as possible or to prevent it altogether.

DB on track to becoming an eco-pioneer

To survive in the global competition, companies need to react with international strategies, whether in purchasing raw materials, operations or their sales markets. Deutsche Bahn, too, has responded to global challenges by making sustainable actions, as a component of its DB2020 strategy, an even more deeply rooted part of its corporate strategy and organization. It aims to systematically bring economic, social and environmental activities into harmony with each other to secure social acceptance and business success over the long term.

Ambitious targets are linked to DB's vision of becoming the world's leading mobility and logistics company. DB intends to become a profitable market leader, a top employer and an eco-pioneer. All of the Group's decisions will therefore be made in harmony with the three dimensions of sustainability.

As an eco-pioneer, Deutsche Bahn sets standards for reducing CO₂ emissions and air pollutants, protecting nature, reducing noise from rail transportation and using available resources efficiently. Deutsche Bahn's objective is to cut specific CO₂ emissions worldwide by 20 percent of 2006 levels by 2020. This means noticeably reducing emissions of greenhouse gases produced by all modes of transportation in relation to transport volume. To achieve this, DB intends to increase energy efficiency in its operations and production activities by measures such as renewing its fleets of vehicles. Another target was to increase the share of renewable energy sources in the traction current mix to at least 35 percent by 2020. The Group was able to reach this target much sooner, in 2013, by letting regular long-distance passengers travel with 100 renewable energies. DB Schenker is also well on its way, with 26 percent of its electricity already coming from renewable energy sources. DB has set out for rail

transportation in Germany to be entirely carbon-free by 2050. In addition to expanding renewable energy sources, other important tools for achieving this are to use modern, more energy-efficient rolling stock and test new technologies.

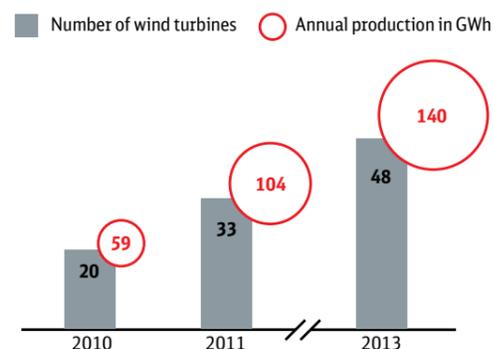
In 2011, DB signed an agreement with RWE for the annual supply of 900 million kilowatt-hours of green power from German hydroelectric power stations beginning in 2014. In 2012, it signed another agreement for the supply of 600 million kilowatt-hours of green power annually. Beginning in 2015, electricity will come from E.ON hydroelectric power stations on the Main, Danube, Lech, Isar and Inn rivers. And as of 2013, Deutsche Bahn has purchased an additional approximately 300 million kilowatt-hours of green power each year from Austrian hydroelectric power stations operated by VERBUND AG. It is also expanding electricity generation from wind energy. The fifth wind farm to date went under contract in Krummhörn near the North Sea town of Emden in 2013. Now 48 wind turbines with an annual production of some 140 million kilowatt-hours of green electricity power Deutsche Bahn trains (see figure 1). This amount of power is equivalent to the annual consumption of 28,000 four-person households and CO₂ savings of 82,000 metric tons a year.

Deutsche Bahn uses what it calls its “new-facility bonus” to support innovative projects and ideas in the field of renewable energy, such as the world’s first hybrid power plant in Prenzlau in the state of Bran-

DB intends to become a profitable market leader, a top employer and an eco-pioneer.



(1) Growth in wind energy at DB Energy



denburg, which has been in operation since 2011. Surplus energy from wind power production is stored as hydrogen and is converted back into electricity when winds are calm. Vehicles can then obtain this fuel from a filling station.

Deutsche Bahn hopes to further establish its green products and actively generate demand by marketing them more intensively. Detailed descriptions are provided under Eco Consulting and Eco Solutions in the “Dimensions of environmental activities” section.

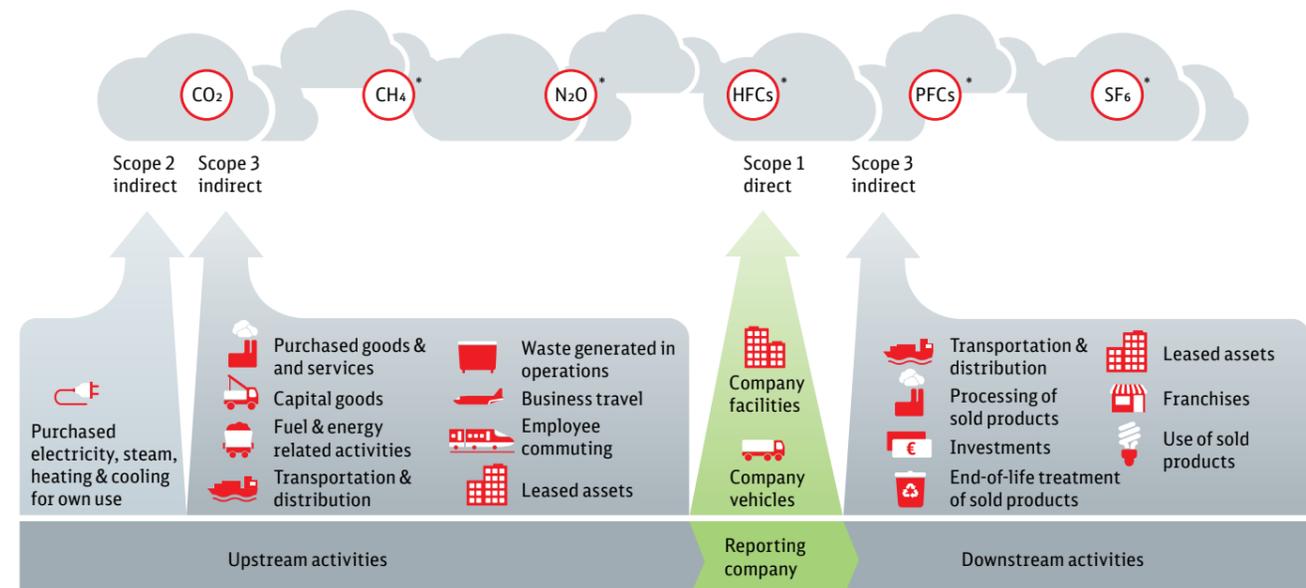
DB is working hard to reduce noise pollution with a wide range of measures. It aims to halve the amount of noise associated with rail transportation by 2020, as compared with 2000. By consolidating activities in the noise management project launched in 2012, DB is putting an even sharper focus on the topic in its environmental activities. For example, it appointed a representative for noise protection who brings all measures together in a coordinated master plan. DB also aims to greatly increase material and resource efficiency, for example by increasing the reuse and service life of means of production (rolling stock and track material) and by regularly analyzing its material lifecycles. A specific target parameter and a plan for action are currently in development.

Deutsche Bahn has also laid the groundwork for greater integration of the concept of sustainability in its organization. Dr. Karl-Friedrich Rausch, Member of the Management Board of DB Mobility Logistics AG

responsible for Transportation and Logistics, also serves as Chief Sustainability Officer at the Group level with overall responsibility for sustainability.

DB has published extensive details of its sustainability performance since 2009. Data such as some 40 KPIs related to pollutant emissions, stationary energy efficiency and material usage has been collected in the Group and published in the transparent sustainability report, which will be replaced by an integrated report beginning in 2015, reporting 2014 figures.

(2) GHG Protocol scopes and emissions along the supply chain



* CCH4 = methane, N₂O = nitrous oxide, SF₆ = sulfur hexafluoride, HFC = hydrofluorocarbons, PFC = perfluorocarbons

Internal and external climate protection activities around the world

Deutsche Bahn has already achieved remarkable success in climate protection. Between 1990 and 2013, the DB Group cut its specific carbon emissions – the CO₂ emissions per passenger or metric ton of freight and kilometer – from rail freight transportation in Germany by over 54 percent. DB has given its current climate protection activities a global focus and intends to cut its specific CO₂ emissions by a further 20 percent between 2006 and 2020. And DB Schenker is playing a key role in working toward this target.

More efficient modes of transportation and warehouses with lower emissions

DB Schenker is following the logic of the Greenhouse Gas Protocol on its way to becoming an eco-pioneer (see figure 2). According to this protocol, all sources

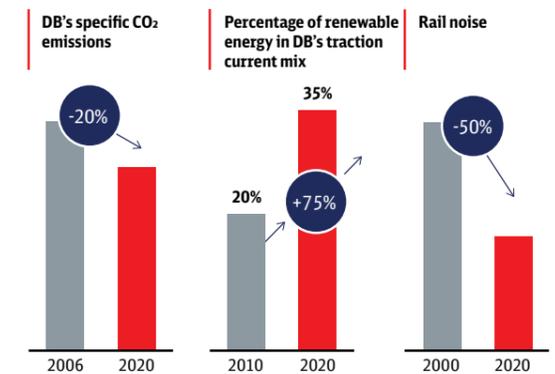


of emissions in the supply chain must be included in determining one's own environmental footprint. DB Schenker therefore takes responsibility not only for direct greenhouse gases emitted from its own operations, but also for emissions along the entire value chain, from emissions from procuring and transporting fuel (well-to-tank and well-to-wheel emissions) to emissions for transportation service providers (shipping companies, air freight companies and contracted forwarders) that arise for customers when they purchase DB Schenker services.

CO₂ compass to encourage environmentally friendly behavior

Deutsche Bahn is the industry leader. All modes of transportation and warehouses are connected, and their energy efficiency and emissions are constantly being improved. Eco Solutions for environmental logistics make it possible for DB Schenker customers to use CO₂ reduction measures for every single mode of transportation as well as for warehouses. For DB's employees, environmental targets have always been at the center of their own actions. One example is the CO₂ compass to encourage environmentally friendly behavior. Employees can choose from twenty activities that cut CO₂ and set their own personal or collective CO₂ target.

(3) Deutsche Bahn intends to become an eco-pioneer by 2020 by reducing CO₂ and noise.



Environmental milestones at DB Schenker

<p>1994</p> <ul style="list-style-type: none"> The DB Environment Center is established following a Management Board resolution The energy-saving program for 2005 aims to cut specific energy consumption and CO₂ emissions by 25 percent of 1990 levels by 2005 DB AG develops a long-term environmental concept 	<p>1996</p> <ul style="list-style-type: none"> Deutsche Bahn AG's first environmental report 	<p>1998</p> <ul style="list-style-type: none"> Bahn-Agenda 21 and an environmental management system are established 	<p>2000</p> <ul style="list-style-type: none"> EcoTransIT, a calculation module for comparing emissions of European freight services, is established The environmental information system (UIS) is fully introduced with modules for waste management, hazardous materials, legal information, energy, water pollution control, acoustics, hygiene and management information 	<p>2001</p> <ul style="list-style-type: none"> All new freight cars are equipped with K-type composite brake blocks ("whisper brakes") to reduce noise DB Schenker Rail launches an energy-saving project to instruct locomotive drivers 	<p>2002</p> <ul style="list-style-type: none"> DB Schenker Rail Deutschland obtains ISO 14001 certification DB Schenker Logistics begins ISO 14001 certification in European countries 	<p>2004</p> <ul style="list-style-type: none"> 590 DB Schenker Rail locomotives are equipped with new low-pollutant engines by 2004 The Climate Protection Program 2020 is adopted 	<p>2005</p> <ul style="list-style-type: none"> The integrated corporate sustainability management system is introduced 	<p>2006</p> <ul style="list-style-type: none"> DB Schenker Rail has cut specific primary energy consumption by 33 percent since 1990 	<p>2007</p> <ul style="list-style-type: none"> The Quiet Trains on Real Tracks innovation project is launched to develop new technologies for reducing rolling noise from rolling stock DB Schenker Logistics introduces central environmental management for national companies in Europe 	<p>2008</p> <ul style="list-style-type: none"> DB Schenker Logistics expands central environmental management to all business units and international locations Green Logistic Networks is launched to shift transport to less CO₂-intensive modes First customer consultation and detailed carbon footprint calculation for a shipper 	<p>2009</p> <ul style="list-style-type: none"> Group-wide DB climate protection target of cutting CO₂ by 20 percent of 2006 levels by 2020 DB Schenker Logistics joins the Clean Cargo Working Group (CCWG) to improve the environmental performance of transportation services in ocean freight CO₂-free product Eco Plus is introduced for rail freight transport 	<p>2010</p> <ul style="list-style-type: none"> EcoTransIT evolves into EcoTransIT World for comparing emissions of all modes worldwide DB Schenker offers customers green logistics solutions (Eco Solutions) Eco Rail Innovation (ERI) begins as an innovation platform for giving rail transportation a strategic direction and positioning it in the social context DB employees travel for business CO₂-free by rail 	<p>2011</p> <ul style="list-style-type: none"> EcoTransIT World wins the innovation prize at the Logistics Solutions trade fair in Paris DB Schenker Rail begins using Gravita shunting locomotives with soot particulate filters Schenker Korea Ltd. wins the Lufthansa Cargo Climate Care Award 	<p>2012</p> <ul style="list-style-type: none"> The DB2020 strategy is adopted The noise management project is launched under the direction of a representative for noise protection DB Schenker Rail becomes the first company to use hybrid shunting locomotives 	<p>2013</p> <ul style="list-style-type: none"> The largest and most powerful photovoltaic system to date on DB property is dedicated DB Schenker Logistics begins reporting using EcoVadis, a reporting tool for tracking and evaluating sustainability offers of service providers Renewable energy already accounts for 35 percent of DB's traction current mix
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Environmental protection initiatives

The 2° Foundation – German CEOs for climate protection

Dr. Rüdiger Grube, CEO and Chairman of the Management Board of Deutsche Bahn AG, is a member of the 2° Foundation – German CEOs for climate protection. The foundation is committed to reducing CO₂ emissions quickly and consistently to limit global warming to a controllable two degrees Celsius (www.stiftung2grad.de, only available in German).



Oekom

The ratings agency oekom research rated DB's activities in environmental protection and social issues again in the 2012 reporting year. The Group repeated its performance, earning an overall rating of "B" and "Prime Status," which is awarded to industry leaders. DB earned first place in the transportation and logistics/rail industry among the 16 international rail companies rated.



World Business Council for Sustainable Development (WBCSD)

Deutsche Bahn AG has been a member of the World Business Council for Sustainable Development (WBCSD) since April 2013. The WBCSD is an international network of companies that advocates a sustainable future for the economy and society. In all, more than 200 member companies from over 35 countries and 22 sectors of the economy work on developing and applying sustainable solutions. The DB Group is contributing its expertise particularly to the Sustainable Mobility 2.0 project, which aims to work with six pilot cities to develop specific sustainable transportation solutions across sectors.



EffizienzCluster LogistikRuhr

DB Schenker is a member of "EffizienzCluster LogistikRuhr," Germany's largest logistics research project. More than 120 companies and eleven research institutes are collaborating for five years (2010 to 2015) to promote three visions: protecting the environment and resources, securing urban systems and maintaining individuality. EffizienzCluster LogistikRuhr works on seven principal technical and socio-technical topics in more than 30 cooperative projects with a total investment volume of around EUR 100 million.



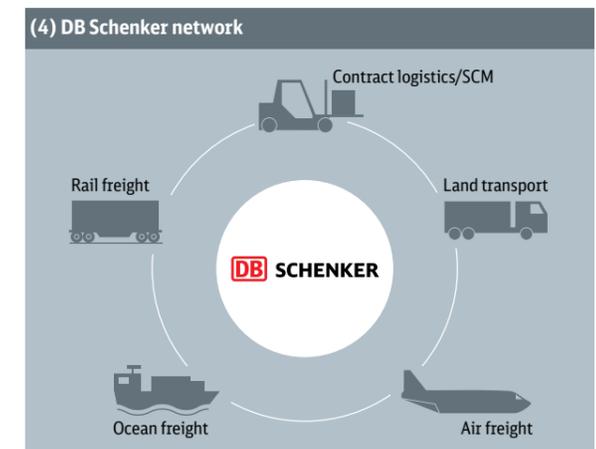
Environmental protection at DB Schenker

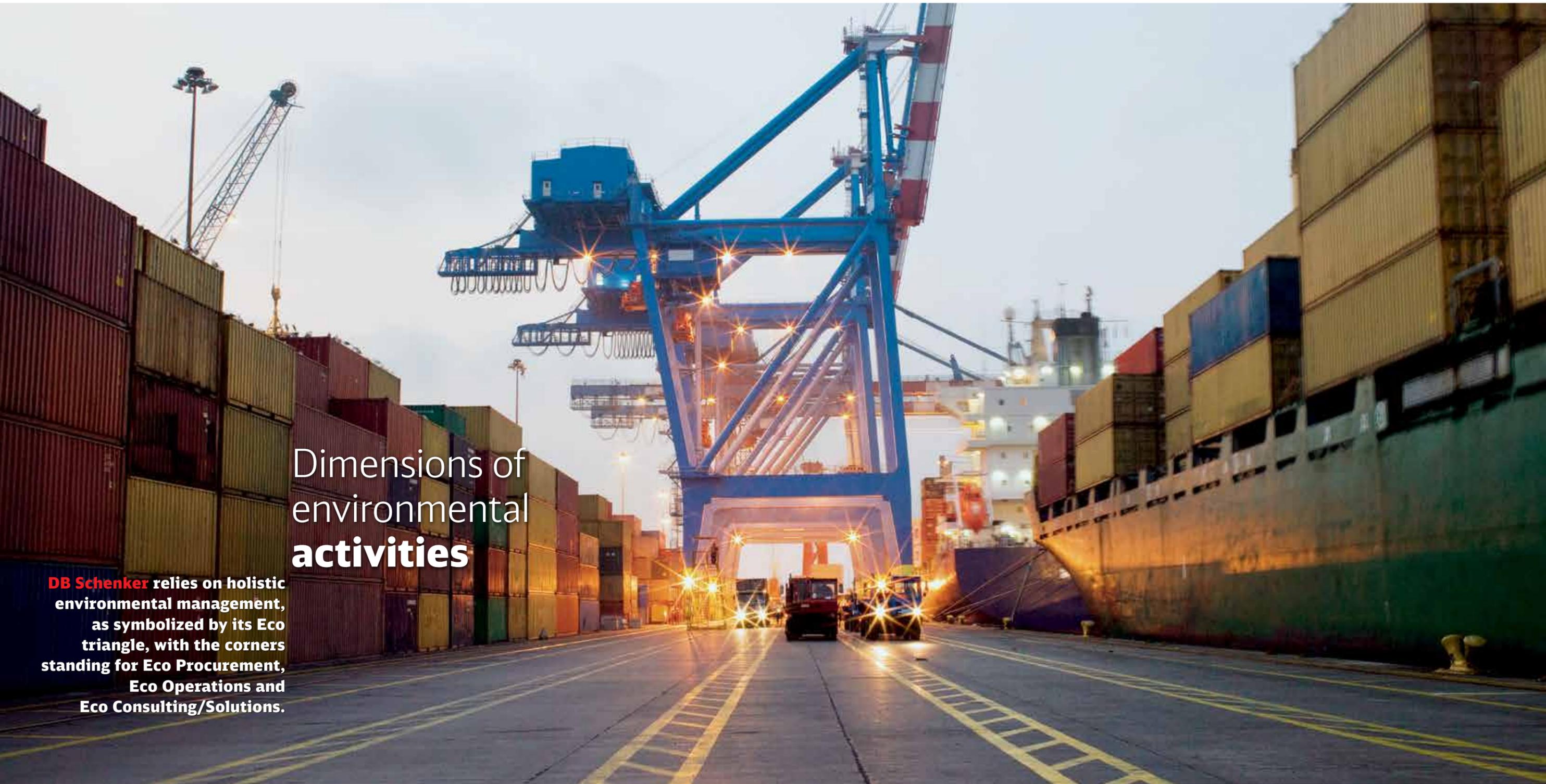
Customer consulting and planning are an important component of environmental and climate protection at DB Schenker. This gives DB Schenker access to an international network that finds smart ways to combine all modes of transportation (see figure 4), from trucks and freight trains to ships and airplanes. DB Schenker combines the strengths of all of these modes of transportation not only according to economic aspects, but according to environmental considerations as well. Thanks to its integrated company structure, DB Schenker can configure the right carrier mix for its customers' global transportation chains. It also offers several individual climate-friendly measures, from training drivers how to use energy-saving driving techniques to preventing empty stock movements by using a network-wide hub system. DB Schenker

wants to break the link between CO₂ emissions and growth in transportation and reduce emissions over the long term. The logistics services provider is therefore working on its own ecological footprint from operations at its production facilities, transshipment terminals and logistics centers.

DB Schenker's environmental targets per mode of transportation (2006-2020):

- Rail freight transportation: reducing specific energy consumption by 19 percent
- Road transportation: reducing specific CO₂ emissions by 26 percent
- Air freight: reducing specific CO₂ emissions by 25 percent
- Ocean freight: reducing specific CO₂ emissions by 25 percent



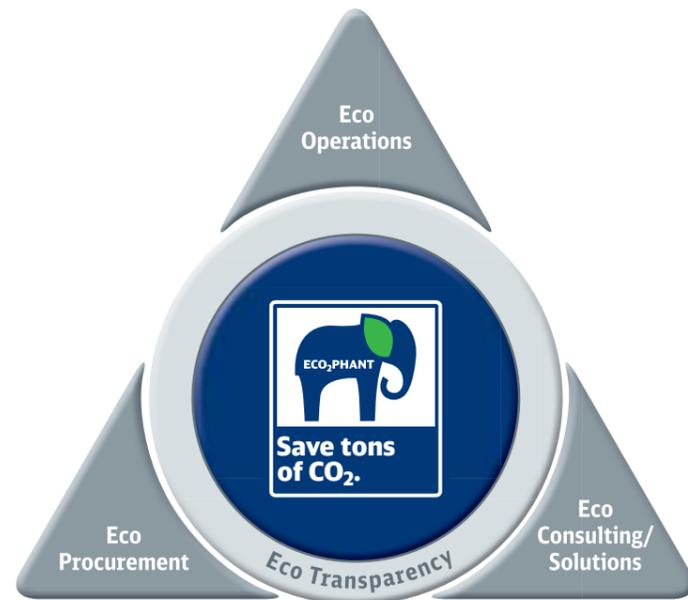


Dimensions of environmental activities

DB Schenker relies on holistic environmental management, as symbolized by its Eco triangle, with the corners standing for Eco Procurement, Eco Operations and Eco Consulting/Solutions.



Together with its customers, DB Schenker relies on a trio of activities consisting of environmentally friendly procurement and operations processes and climate-friendly transport solutions.



The DB Environment Center is responsible for environmental management at the Group level and helps the business units to develop and implement environmental protection targets and measures. At DB Schenker, the transportation and logistics services offered are continuously refined and run according to an environmental perspective and based on integrated and holistic environmental management. The aim is to design the operations of DB Schenker and its customers to be as environmentally friendly as possible while focusing on resource efficiency and on reducing air pollutants, CO₂ emissions, and noise pollution from rail freight transport. The diverse range of environmental activities, which span all modes of transportation, are a part of internal processes as well as intercompany processes with direct customer involvement.

A triangle reflects all of the relevant individual measures (see illustration):

- Eco Operations: recording, evaluating, and increasing the energy and material efficiency of processes within the company
- Eco Procurement: supplier evaluation and selection according to carriers' and subcontractors' environmental targets and measures
- Eco Consulting/Solutions: tailored customer consulting, incorporating pre-defined Eco Solutions, that aims to significantly reduce transport emissions

Complete transparency of the company's environmental impact thanks to the collection of KPIs for all areas forms the core of the triangle.



Eco Operations

Acting with the environment in mind is a premise primarily for the company's own business activities. Smart, energy-efficient processes that are geared toward customers' needs and use resources sparingly are the heart of what sustainable logistics services providers offer.



Rail freight

Energy-saving driving techniques

Thanks to training and to management and motivational measures that have been in place for years, DB Schenker Rail's train drivers use energy-saving driving techniques to help reduce the energy consumed by rail freight transport. The company's collaboration with DB Netz is one important factor contributing to this success since train journeys that are on time

and disruption-free save the most energy. To this end, emphasis on improving operational communications has been stepped up. In addition to repeatedly raising awareness among train drivers through activities such as simulator training, DB Schenker also makes traffic controllers and dispatchers aware of how they can influence the amount of energy trains consume. Efforts by DB Schenker and DB Netz therefore included the publication of a joint informational brochure for all relevant employee groups last year.



Additional low noise barriers with a total length of some 62 kilometers were completed in 2013



Whisper brakes prevent braking from roughening the wheels, which reduces rolling noise



Overlength freight trains mean 200 fewer trains are on the rails every year

New Netzerkbahn business model

DB Schenker Rail has set out to continue to improve quality and energy efficiency in rail freight in the coming years by gradually introducing its new Netzerkbahn networked rail business model. The core component of the business model is finding smart ways to link block train and single-car services. The two production systems, which have been operated in parallel until now, are increasingly being combined and controlled using a capacity management system. This improves the capacity utilization of individual trains and manages dispatch in the network. A number of solutions that follow the new logic have already successfully been put into practice together with customers.

835 meter freight trains: an environmental and economic success

Capacity utilization of trains has been greatly improved by freight trains over 740 meters long, which were introduced in Germany in late 2012. Trains with a target length of 835 meters now connect marshaling yards in Maschen, Germany, and Fredericia, Denmark, 22 times a week. Customers are taking advantage of the new increased capacity: nearly every other train is greater than 740 meters long, and more than 500 overlength trains have made the journey so far. "We have been able to increase capacity utilization of our existing trains on this route by 22 percent and transport volume by 25 percent, which means that 200 fewer trains are used each year," said Markus Hunkel, Member of the Management Board of DB Schenker Rail for Production. "The 835 meter trains have been a resounding success, both in terms of the environment and economics," he added.

The steel, automotive, chemical, industrial and consumer goods industries in particular benefit from the additional transport capacity. Resource efficiency has greatly improved thanks to the longer trains, which

prevents emissions from 60,000 train kilometers from being emitted into the environment each year. This is equivalent to savings of 350 metric tons of CO₂. Additional transports are expected to be switched to longer trains in coming years.

Ambitious noise remediation program

Reducing noise from rail transport is one of Deutsche Bahn's key objectives. The aim is to cut the noise from rail transport in half by 2020 compared to 2000 levels. DB is therefore making considerable efforts to reduce noise caused by rail transport. These efforts concentrate on making existing noise reduction measures on rail routes more efficient and assisting the breakthrough of other noise reduction measures without weakening rail freight transport.

Noise remediation measures are aimed not only at their source on the train and the track, but also at the route through which the noise is propagated to the homes of affected residents. One key component is the voluntary noise remediation program launched by the German federal government in 1999. Measures in 2013 alone included the completion of 62 kilometers of noise barriers, increasing the total length to roughly 500 kilometers. In addition, 2,500 private homes were fitted with sound-proof windows and sound-absorbing ventilators in the same year, making for a total of 51,000 homes equipped with sound-proof windows since the program began. The noise remediation program covers a total of around 3,700 kilometers of track, of which some 1,300 kilometers have already been remediated.

Together with the German government, DB advanced the development of "whisper brakes" to reduce noise pollution from rail freight everywhere that freight trains go. Whisper brakes prevent the wheel surfaces from being roughened, which greatly reduces rolling

noise and fights noise at the source. Thanks to quiet brake blocks, which cut noise by ten decibels, freight cars passing by are perceived as half as loud.

The Federal Ministry of Transport and Digital Infrastructure initiated a pilot project dubbed "Quiet Rhine" to retrofit existing freight cars. DB Schenker Rail is actively participating in this project. New cars are equipped with K-type brake blocks, which are also used for most of the retrofitting taking place through the Quiet Rhine project. Retrofitting existing cars with K-type brake blocks requires extensive conversion, and the brake system must be re-approved. The first 650 freight cars had already been retrofitted by the end of 2013. By the end of 2014, 1,250 cars will have been retrofitted in total through the program.

LL-type, or "low noise, low friction," composite brake blocks were approved in June 2013 and can replace cast iron brake blocks 1:1, reducing the amount of work involved in retrofitting the existing fleet of freight cars. Approval of these brake blocks has laid the technical and financial groundwork for increasing the number of DB Schenker's relevant existing freight cars to some 60,000 even beyond the Quiet Rhine pilot project.

DB Schenker Rail has set out to retrofit all relevant cars by 2020. Work in 2014-15 is focusing on cars of the same class that can be used in block trains. This will ensure right from the start that entire trains can

be made up entirely of converted cars, creating a noticeable difference in how loud trains are. DB Schenker Rail will have retrofitted an additional 10,000 freight cars on top of the cars retrofitted through the Quiet Rhine project by the end of 2015. All of the new freight cars DB AG has purchased since 2001 have come equipped with quiet brakes. As of the end of 2013, taking new and retrofitted cars into account, DB Schenker Rail had over 8,400 quiet freight cars at its disposal. Its quiet fleet will consist of 20,000 cars by the end of 2015.

The Federal Ministry of Transport and Digital Infrastructure introduced an eight-year government aid program in December 2012 to assist in the conversion of existing freight cars. Keepers have received financial support for retrofitting freight cars since December 9, 2012. DB Netz AG introduced a noise-based track access charge system to accompany the aid program. Train-operating companies receive a variable bonus for using retrofitted freight cars based on the distance they cover. A surcharge levied on loud freight trains was introduced on June 1, 2013.

To comprehensively cut noise, however, the other roughly 120,000 freight cars operated by German and foreign keepers and rail companies with significant kilometrage in Germany must also be retrofitted. The new LL brake block and the incentive system have laid the technical and financial groundwork for achieving this as well.



Land transport

Some 95 percent of greenhouse gas emissions at DB Schenker Logistics come from external sources. In other words, they are scope 3 emissions. The company takes responsibility based on its ability to make an impact and its role in the supply chain, in particular vis-à-vis its customers and suppliers, but also in its own operations. DB Schenker Logistics operates Europe's densest land transport network, which means it can not only cut down on empty trips but can also reduce transports in general. However, only around ten per-

cent of the rolling stock in the network is part of the company's own fleet. Despite this, DB Schenker Logistics takes equal responsibility for the external fleet of contracted vehicles and dispatches them according to sustainability criteria such as preventing or minimizing transports. In particular in combination with the freight exchange, which integrates the spot market in the most efficient way every day, DB Schenker Logistics is able to systematically fill every last corner of the freight area of operating vehicles, minimizing stock usage.

To date, 30,000 of the company's own drivers and subcontractors throughout Europe have been trained how to save energy when driving, which has been proven to reduce fuel consumption by five percent. At the same time, FleetBoard systems constantly monitor drivers' actions, which reduces fuel consumption up to roughly ten percent.

DB Schenker operates its own fleet of low-pollutant trucks and also cooperates with a large number of subcontractors. For economic and environmental reasons, DB Schenker continually renews its own fleet of vehicles and ensures its subcontractors' fleets keep up with modern developments through strict monitoring. Evaluations are based on factors such as the current

state of the fleet structure. The focus is on classification according to European emission standards and driver training. Over 80 percent of DB Schenker's own long-haul fleet complies with Euro V standards, while 42 percent of all of its own and external rolling stock (including final delivery transports) meet Euro V or VI standards.

Air transport

In the air freight sector, DB Schenker's intention is to reduce CO₂ emissions by 25 percent of 2006 levels by 2020. DB Schenker maintains close contact with its preferred carriers when it comes to issues such as experience in environmental management, CO₂ calculation methods and reduction potential. Since 2008, it has held annual meetings with top carriers to examine the steps needed to achieve the objectives as well as the associated data.

DB Schenker helps its preferred carriers and service providers to achieve their emission reduction targets

by monitoring emissions annually and coordinating calculation methods. Calculations take data from sub-chartered carriers into account. DB Schenker Logistics also supports initiatives to establish a global standard for air freight.

By using e-freight for air freight transport, DB Schenker Logistics not only saves paper; it also eliminates countless truck kilometers.

Europe's gateway concept prevents feeder flights. These routes are served exclusively by truck, which reduces CO₂ emissions by 90 percent.

Ocean freight

In ocean freight, hinterland transports are preferably carried out by rail by DB's subsidiary Transfracht, especially at continental North Sea ports.

¹ A gateway concept has one main airport, which operates as a global hub and which is served by truck.



Training to save fuel while driving



New natural gas-powered delivery truck at the new headquarters in Rudna, Czech Republic



DB Schenker Rail is a recognized disposal specialist

Germany has strict rules about collecting, transporting and brokering all types of waste. In national transport, for example when transporting scrap, construction waste or old ballasts, DB Schenker Rail ensures specifications are complied with by participating in electronic procedures in accordance with regulations on documenting disposal. In international transport, it is customary to use the written documentation procedure required by the regulation on shipments of waste or the Basel Convention. Transport & Umwelt, an association of waste disposal companies, commissions an external expert every year to monitor DB Schenker Rail in Germany in accordance with Germany's regulation on disposal specialists. This ensures that waste transported by DB Schenker Rail is documented. The current certificate can be downloaded from DB Schenker Rail's website.

Certified disposal

Best practice – many small actions

Targets for energy and water consumption and the recycling rate are accompanied by comprehensive training campaigns. In addition to investments in energy-saving lighting and industrial vehicles, it is primarily the many small actions that make it possible to reach targets and achieve effects from setting an example.

New eco projects were conducted at DB Schenker again last year, supporting the company's pioneering role in environmental protection.

Since late 2013, DB Schenker Logistics has been involved in the "zemi-sec" project (Zero Emission Silent Electric Carriage) in Cologne, which promotes the use of climate-friendly electric vehicles weighing over 7.5 metric tons and zero-emission logistics concepts. The project researches the use of low-power electric engines for groupage and distribution transports and the supply of electric power using suitable batteries. So far, smaller electric vehicles almost exclusively have been used for courier and express services.



Photovoltaic system in Bratislava

A new photovoltaic system went into operation at the branch office in Bratislava, Slovakia, on schedule in June 2013. The new system generates power to be used on site.

Solar power

It can produce 92,000 kilowatt-hours every year, which is equivalent to one-third of the electricity consumed by the site each year. Surplus electricity is supplied directly to the public grid in exchange for remuneration. The system saves 70 metric tons of CO₂ a year.



Consolidating consignments at central DB Schenker Logistics hubs avoids needless emissions and journeys

The newly constructed terminal in Prague has an in-house photovoltaic system and solar-powered water heating. The office and warehouse largely cover their energy needs themselves using photovoltaic systems. Smart lighting systems, a state-of-the-art heating, ventilation and air conditioning system, and a liquefied gas station for vehicles that run on compressed natural gas are among the site's green, sustainable features.

Two new electric vehicles went into operation for delivery and transport at our Austrian offices in Kufstein and Innsbruck. Together, the two cars have already traveled over 15,000 kilometers. A new natural

gas-powered vehicle is being used in the Czech Republic. And vehicles in France are also powered by new engine types. An electric vehicle was added to the Toulouse fleet, and a natural gas-powered vehicle was added to the La Rochelle fleet.

A smart, natural lighting system was installed in Maribor, Slovenia, to supplement the existing energy-efficient LED lighting. The new system saved nearly 70 percent of the energy used for lighting in spring and over 35 percent in winter and fall. The lighting system in Oslo, Norway, was replaced by an LED system, cutting total electricity consumption by nearly 600 megawatt-hours.



Electric van for deliveries in Toulouse, France



Contract logistics: green technologies in Baraki

DB Schenker Contract Logistics opened its most modern and, at 33,000 square meters, its largest multi-customer warehouse in Baraki, north of Tokyo, Japan, last year. Green technologies are used at the warehouse to reduce resource consumption and lessen the impact on the environment. They

State-of-the-art warehouse in Japan

include a photovoltaic system with 2,940 solar modules – which generate up to 700 kilowatt-hours of electricity at peak times – modern LED lighting and a rainwater recovery system for service water. The especially convenient connection with Japan's two largest airports, Haneda and Narita, and with the port of Tokyo shortens transport routes inland, protecting valuable resources.



E-LOG Biofleet

DB Schenker Logistics in Austria ranked number one among the top 50 innovations in Upper Austria with its E-LOG Biofleet project to develop a green fleet of forklifts. DB Schenker launched the field test phase of the E-LOG Biofleet at the Hoersching site in June 2013 together with the project partners OMV*, Linde and Fronius. Ten low lift trucks with fuel cell hybrid technology were developed and are now used at DB Schenker Logistics. The first indoor hydrogen filling station also went into operation at the same time.

Hybrid drive

*OMV: Austrian oil and gas company

The Malaysia location has increased its number of energy-efficient T5¹ lights and uses daylight more effectively. At one of the terminals in China, the air-conditioning system was programmed to cool offices to 20° to 25° Celsius, potentially saving between five and ten percent.

During workshops employees in Saudi Arabia and Romania receive extensive information on dealing sensibly with waste, with the focus on reducing, reusing and recycling. An innovative recycling campaign in the Americas was nominated for the 2013 DB Awards².



Award-winning eco-pioneer

Last year was an overwhelming success in terms of green innovations. In addition to two nominations for the DB Award for an innovative recycling project from the Region Americas and for the TORCH internal recording tool for resources, DB Schenker won the 2013 Fleet Award in Austria and the 2013 Trigos Award 2013 for special social and environmental responsibility above and beyond what is required by law. DB Schenker Logistics won the Ecodriving Award in Poland and the innovation award for its new delivery bike in France.

Awards

Buildings and facilities

DB Schenker Logistics uses input-output analyses for all KPIs relevant to GRI³ – material usage, waste produced and reuse, water consumption, electricity and heating, and coolant leaks – to collect environmental parameters for each of its locations.

It has set ambitious targets for energy and water use. It intends to cut energy use by 18 percent per square meter and water use by 15 percent per person between 2013 and 2020. The principles for designing new DB Schenker Logistics warehouses are based on global standards for sustainable building, such as LEED⁴, BREEAM⁵ and DGNB⁶. They include heat insu-

lation, the use of renewable resources available locally, the use of solar power and rainwater, and environmentally conscious site selection based on definitions such as the ability to reach the site by public transportation.

¹ T5 fluorescent tubes have a diameter of 16 mm, which makes them more energy-efficient than their predecessors.
² The DB Award is given out by Deutsche Bahn in recognition of innovative projects in the Group.
³ GRI: Global Reporting Initiative. The GRI guidelines of the World Health Organization (WHO) have become established internationally as the standard in sustainable reporting.
⁴ LEED: Leadership in Energy and Environmental Design
⁵ BREEAM: Building Research Establishment Environmental Assess
⁶ DGNB: German Sustainable Building Council

Fourteen tools for energy-efficient logistics

All processes at DB Schenker are being given a green makeover. DB Schenker was quick to commit to clear objectives and figures: The company is aiming for a 26 percent decrease in specific CO₂ emissions in land transport by 2020 compared to 2006 figures, and a 25 percent drop in the case of air freight. DB Schenker has outperformed its former 15 percent CO₂ reduction target and therefore has set its new target to 25 percent by 2020. In climate-friendly rail freight transport, the aim is to cut specific energy consumption by 19 percent. DB Schenker Rail offers rail freight service in Germany that is already entirely CO₂-free. The name: Eco Plus.



Flight altitude and flight paths
Current weather data and close cooperation with air traffic control allows pilots to use air space and altitudes with favorable meteorological conditions, thus saving jet fuel. Satellite-based systems also enable them to fly shortcuts over remote areas, like central China.

Fuel management
Subject to strict safety regulations, pilots flying shortcuts are permitted to take less jet fuel on board. This makes the aircraft lighter and reduces emissions.

More efficient jet engines
Experts estimate that more efficient engines will generate 25 percent in savings compared to today's jets. Even the current Boeing 777F uses 16 percent less jet fuel per transported metric ton than an MD-11 (MC Donnell Douglas), for example.

Optimized landing
The Continuous Descent Approach (CDA) is a method by which aircraft approach runways prior to landing using less thrust and therefore less fuel. The instrument landing system, providing ground-based support to the pilot, has an additional savings effect.



Triple-E class
Three capital letters stand for one major goal: With its Triple-E class, the Danish shipping company Mærsk aims to benefit from increasing the size of its vessels. Accordingly, its ships, with a capacity of 18,000 TEU, rely on economies of scale and are energy efficient and environmentally improved.



Slow steaming
Pulling back on the throttle is the current motto at shipping companies around the world. By halving their speed, ships require only one-tenth of the engine power and fuel. Shipping companies are making every effort to modernize their fleets, optimizing vessels usually designed for operational speeds of between 23 and 25 knots to sail at lower speeds.



Less powerful engines
Piston engines, which propel large container ships up to speeds of 25 knots, have a power output of up to 75,000 kW. Vessels traveling at maximum speeds of 17 knots only require engines with around 30,000 kW, in turn reducing their fuel consumption.



Adapted bow design
The shape of the bulbous bow was optimized to slice through the bow wave at high speeds of between 23 and 25 knots. In numerous ships, the bulbous bow is now being adapted to suit lower speeds.



Smaller propellers
If the aim is lower machine performance, then propellers can be smaller and lighter. Efficiency gains can be generated by making relevant modifications to the vessel.



More efficient engines
The EU is implementing stricter exhaust regulations to further reduce emissions from diesel vehicles. By developing new, more efficient engines and emissions technology, European manufacturers are complying with the Euro 5 and Euro 6 norms (coming into force in September 2014) while simultaneously reducing fuel consumption.



Weight reduction
The lighter the truck, the higher the loading capacity with the same fuel consumption. Light-weight plastic components or super-single tires have had a streamlining effect on trucks.



Aerodynamics
Forty percent of a truck's fuel consumption is dependent on aerodynamics. Using comprehensive wind tunnel tests, manufacturers are attempting to further reduce air resistance. Mercedes-Benz, for example, was able to trim the aerodynamic drag on its trucks by 30 percent between 1973 and 2011.



Telematics
Telematics-based analysis systems record the truck's consumption data and enable drivers to monitor their road performance. On the basis of these figures, they can evaluate and gradually improve their driving style, while companies can detect a possible need for additional training.



Driver training
The key factor in efficient driving is the driver. Around 40 percent of fuel consumption depends on weather, topography, traffic and speed – parameters that can be accommodated by driving with foresight. That is why DB Schenker Logistics organizes training sessions for all of the 30,000 drivers regularly deployed throughout Europe in the company's network.



Eco Procurement



Purchasing environmentally friendly materials, equipment and services is the core of the sustainability strategy in eco procurement. At DB Schenker Rail, this means purchasing energy-efficient and low-emission locomotives. The DB Schenker Logistics business model relies on collaborating with a number of subcontractors, and environmental aspects play a key role in the selection of service providers.

Rail freight

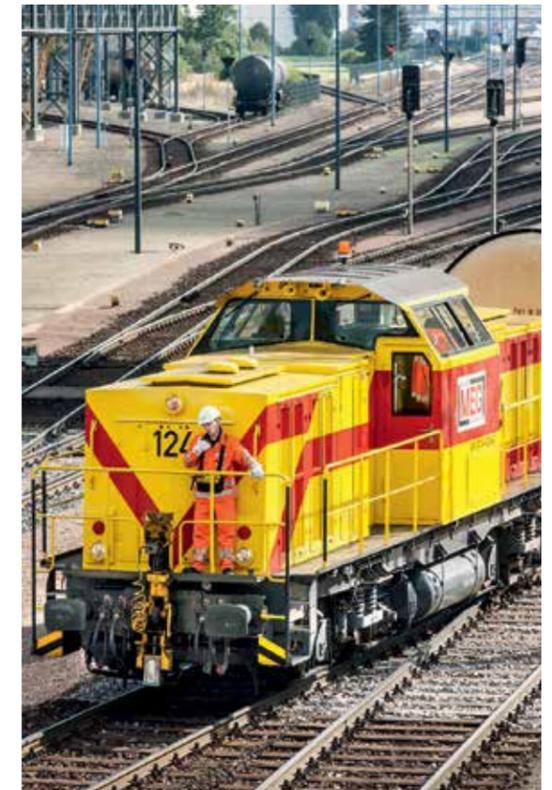
In rail freight, environmental aspects such as energy efficiency are an essential part of decisions on purchasing new rolling stock. Deutsche Bahn signed an extensive framework contract with Bombardier Transportation for the delivery of up to 450 electric locomotives. The high energy efficiency and low lifecycle costs of the locomotives ordered were the deciding factors in awarding the contract to Bombardier. Energy is saved thanks in part to more-efficient transformers.

DB Schenker Rail placed the first order for 110 locomotives under the framework contract in June 2013. The first vehicles are scheduled to be delivered in April 2015. They are an advancement of the Bombardier TRAXX platform, which has proven itself in the field. Their modular construction and the option of equipping them with different country packages gives DB Schenker Rail more flexibility for using them, including in neighboring European countries. A last-mile package can also be installed on request, which

enables electric locomotives to use non-electrified routes in freight transport. This package equips electric locomotives with a small diesel engine, which provides the necessary traction for short sections that do not have an overhead line.

Modern hybrid technology can greatly reduce emissions when used in switching operations. Mitteldeutsche Eisenbahngesellschaft (MEG), a subsidiary of DB Schenker Rail AG, began using a fleet of hybrid vehicles for rail freight transport in 2012, the first company in Europe to do so. Since then, four of its hybrid locomotives have been used in switching operations at the premises of one of its customers in Schkopau, Germany. The locomotives cut emissions generated during switching operations by 60 percent, are much quieter and reduce fuel consumption by up to 40 percent.

The number of new class 261 and 265 Gravita switching locomotives is increasing continuously. In 2013, over 100 of these low-pollutant locomotives equipped with additional soot particulate filters were already being used for switching operations at DB Schenker Rail (at production centers in Halle an der Saale, Hamburg, Frankfurt, Hanover and Duisburg).



Using hybrid locomotives in switching operations cuts emissions by 60 percent.

100 low-pollutant Gravita locomotives are already used for switching operations.





As an active member of the Clean Cargo Working Group, DB Schenker Logistics campaigns for climate protection in ocean freight.

Land transport

DB Schenker regularly renews its land transport fleet. Over 80 percent of the company's own long-haul trucks now comply with Euro V or VI standards (see also the fleet structure overview in the "Eco transparency: emission data for environmental and climate protection" section). The company also continuously reviews and tests new technologies and fuels such as second generation hybrid engines and biodiesel so that it can use the state-of-the-art environmentally friendly technologies that are available on the market. Thirty-six longer heavier vehicles (LHVs) powered by biodiesel are used in Sweden. The share of transported goods by these extra long trucks used in domestic transport rose to 16 percent in 2013.

Air freight

In air freight, DB Schenker Logistics collaborates with airlines that use the latest and most environmentally friendly types of aircraft. Just as important as a fuel-saving fleet are regular washes, which reduce an airplane's weight, and pilot training. DB Schenker

Logistics is working with other freight forwarders and the IATA¹ on a common CO₂ calculation standard to be recognized worldwide and to reflect air freight's progress in energy efficiency.

Ocean freight

In ocean freight, DB Schenker Logistics is active as part of the Clean Shipping Initiative and on the Clean Cargo Working Group, with advocating cooperation between the two formats. The Clean Cargo Working Group now represents 85 percent of global capacity in ocean container transport. A standardized calculation method for recording and reporting CO₂ emissions reliably reflects environmental progress in container transport in the calculation of scope 3 emissions by DB Schenker Logistics. All other relevant environmental performance indicators are also collected, validated and monitored together in the Clean Cargo Working Group.

Constantly renewing and reducing the age of the fleet – two-thirds of the ships used by DB Schenker Logistics are less than ten years old – and making

hydrodynamic and aerodynamic advancements will enable CO₂ emissions to be reduced considerably by 2020. Derating ship engines with maximum and average speeds is one of the measures that will make this possible. Removing one of several turbo-chargers and adjusting parameters reduces the output of the ship engine, ensuring a more cost-effective and considerably greener operation. The increased charge air pressure in the remaining turbo-chargers results in a cleaner combustion process in the engine and reduces fuel consumption in addition to the savings achieved through slow steaming². In addition, Triple-E class container ships that have been used since 2013 and have a maximum capacity of 18,000 TEU save up to 50 percent of specific CO₂ emissions compared to older generations of ships.

Buildings and facilities

Electricity consumption in particular is a major cost factor in stationary facilities. Eighty percent of energy in warehouses is needed to operate electric equipment, and roughly 80 percent of that electricity is used for lighting. Switching from T8 to T5³ fluorescent lights and LED lighting cuts consumption by 30 to 40 percent. In addition, forklifts and other industrial vehicles are gradually being converted to electricity, especially from renewable energy sources, or to hydrogen fuel cells. Fuel cells are a very efficient technology that enable chemical energy to be converted directly to electricity without intermediate storage (for example via mechanical energy).

¹ IATA: International Air Transport Association

² Source: www.hapag-loyd.de

³ T5 and T8 are fluorescent technologies. T5 fluorescent tubes have a diameter of 16 mm compared to the 26 mm diameter of T8 tubes, which makes the T5 lights more energy-efficient.





Eco Consulting/ Eco Solutions

“Schenker has extensive expertise in carbon transparency and consulting. This is why it’s the number one when it comes to innovative approaches for reducing carbon footprints.”

Birgit Heftrich, Head of Procurement Siemens AG



Customer consulting plays a central role in designing supply chains to be environmentally friendly.

Customers purchase services from DB Schenker and are responsible for ensuring that these services are sustainable and/or supportive of customers’ own sustainability targets. Reflecting these improvements in customers’ ecological footprints is just as important as the continual improvements DB Schenker has demonstrated in its own operations and when purchasing services.

When calculating their own ecological footprints, customers can rely on the environmental experts at DB Schenker, who create analyses based on standardized calculation methods and develop customized concepts to avoid and reduce air pollutants. They rely

“Together with DB Schenker Logistics, our most important partner, we will be able to analyze CO₂ emissions more accurately in the future and take action.”

Marie Mäwe,
CSR Manager OberAlp Group, Salewa

on a toolbox that has the right tool for every mode of transportation and every degree of detail. The core component of this toolbox is EcoTransIT World, which makes it possible to analyze global supply chains in detail across all modes of transportation.

Additional reduction projects can be used for customers that are seeking to take an active role as an eco-pioneer. These projects are based on Eco Solutions, DB’s green product range.

Eco Consulting

DB Schenker analyzes all CO₂ emissions generated by transports carried out on behalf of customers and improves them along the entire supply chain.

Collecting data on CO₂ emissions along the supply chain is one of the major challenges in transportation and logistics, and DB Schenker meets this challenge with the EcoTransIT World tool and its commitment to harmonization initiatives. EcoTransIT World analyzes CO₂ emissions along the entire transport chain based on annually verified parameters from the transportation industry and DB Schenker’s suppliers and carriers. DB Schenker’s specialists calculate absolute and specific emission figures for customers and use them as a basis for making recommendations on how to save by



DB SCHENKER Eco Plus now makes CO₂-free cross-border transports between Germany and Austria possible.



combining energy-efficient modes of transportation or using alternative routes. For its top customers, DB Schenker calculates greenhouse gases to create annual footprints that are even more comprehensive. All intermodal door-to-door transports, including cross-docking, are included, and the most important potential ways to save are identified.

DB Schenker uses a three-step approach:

- Avoiding: introducing CO₂-free processes
- Reducing: shifting transport and savings by optimizing routes and reducing packaging
- Compensating: to supplement reduction

Eco-auditing by experts

After analyzing the carbon footprint, DB Schenker draws up a CO₂ reduction plan that is individually tailored to the customer. The DB Schenker network offers numerous ways to reduce the environmental impact of supply chains, for example by shifting transports from road to rail, optimizing routes or consolidating distribution transports. DB Schenker's team of environmental experts handles all consulting for premium customers and provides support for contacts in sales. The team gathers all of the required information and expertise.

**Eco Solutions
DB SCHENKER Eco Plus**

DB Schenker Rail offers its customers a transport option for rail, the most environmentally friendly mode, that is entirely free of CO₂ and electricity generated by nuclear power in its premium Eco Plus product. When customers opt for Eco Plus, the traction current needed for their transports comes exclusively from renewable energy sources in Germany.

The energy consumption of any given transport depends on the route and the goods transported. This information is used to prepare a customized offer, which serves as the basis for CO₂ savings. DB Netze Energy procures the required amount of renewable electricity and feeds it into its traction current grid. This replaces an equal amount of traditional traction current (see figure 12 in the Eco Transparency section).

Calculation of the energy needed using EcoTransIT World, power generation, supply and billing methods are all verified by TÜV SÜD. Customers receive a state-

ment of their CO₂ savings every year, which is also certified by TÜV SÜD.

In addition to the immediate benefit of avoiding harmful air pollutants like carbon dioxide, using Eco Plus also strongly promotes renewable energy sources in Germany. Ten percent of the additional revenues from Eco Plus are used for the new plant bonus, which funds the expansion of renewable power generation, such as the first hybrid power plant in Prenzlau in the state of Brandenburg. The plant converts wind power to hydrogen, which is stored and, when biogas is added, can be converted back to electricity on calm days. The plant has been in operation since late 2011. DB and its customers are doing double duty when it comes to climate protection: they are increasing demand for green power and promoting innovative technologies.

In addition to existing customers like Audi, Mondelez International and Grillo-Werke, the car manufacturer BMW and the intermodal operator TFG Transfracht have recently also switched new transports to Eco Plus. The entire volume of CO₂-free transports has continued to rise since the product was introduced in 2010. The amount of green power used for Eco Plus customers reached just over 35 percent in 2013 alone. Customers, too, are making an ever greater contribution to climate protection.

Eco Plus: now available in Austria

Eco Plus was recently introduced for all Austrian routes. Transports between Germany and Austria can now be carried out CO₂-free – a first for cross-border transports in Europe. The aim is to expand Eco Plus to other countries in the near future. It is already possible to compensate for CO₂ emissions produced outside Germany and Austria in combination with the Eco Neutral product option (see p. 46).

DB SCHENKERhangartner and DB SCHENKERrailog

DB Schenker Logistics makes efficient use of modes of transportation through its DB SCHENKERhangartner and DB SCHENKERrailog products, which reduces CO₂ emissions. Every logistician knows that there is no such thing as a one-size-fits-all mode of transportation. That's why DB Schenker combines the specific advantages of each mode in its multimodal supply chains, such as the outstanding ecological footprint of freight trains with the flexibility of trucks. When it makes sense to do so, freight is transported by rail, using trains that run almost exclusively on environmentally friendly electricity. As a result, transports use up to 80 percent less CO₂ than conventional ones. DB Schenker's truck fleet handles pre-carriage and onward carriage. It can reach the most remote corners of Europe so that customers can enjoy the convenience of door-to-door transports, even if they do not have a private siding. This method reduces total CO₂ emissions by up



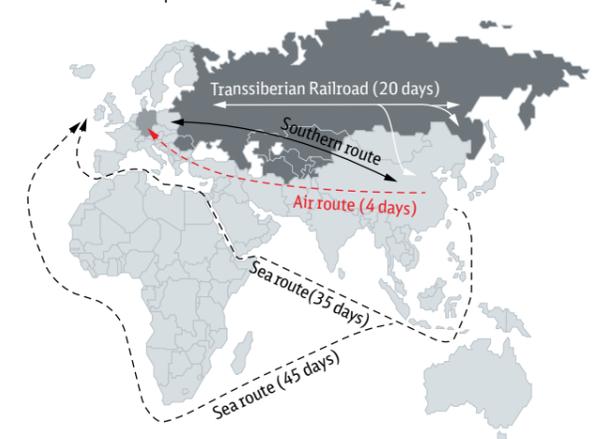
An award-winning DB SCHENKER-railog customer solution

A block train makes a weekend jump between four Germany production sites and a warehouse in France every week. It consolidates all of the single cars coming from German plants in

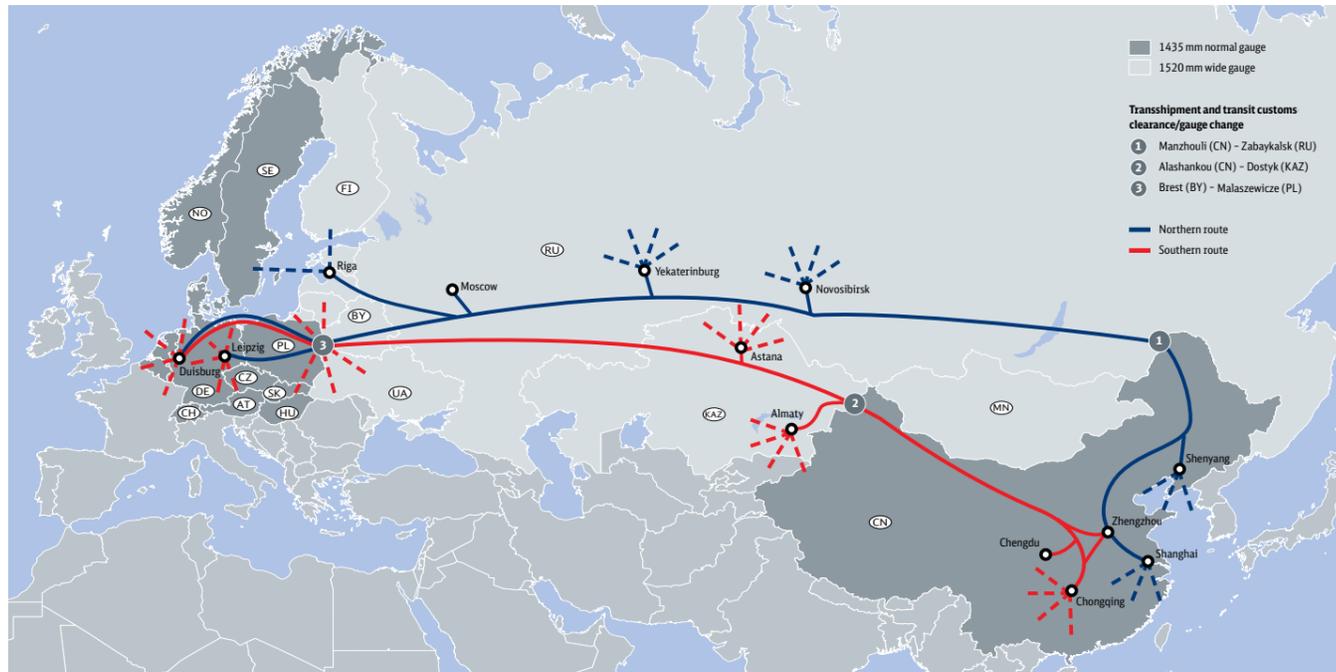
Saarbrücken. The pet food division of Mars GmbH (including the Catsan, Pedigree and Frolic brands) makes it a point to use environmentally friendly transport. It found the right partner in Schenker Deutschland AG and presented it with the 2012 Mars Award in the category for innovation in multimodal in recognition of its logistic creativity.

Logistic creativity

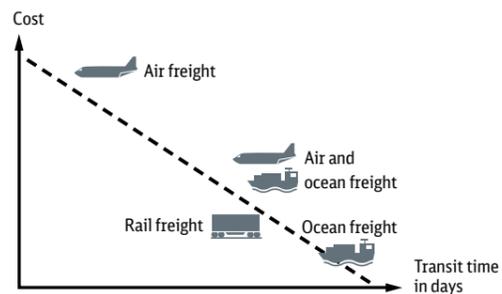
(5) DB SCHENKERrailog: customized solutions for transports between Asia, Russia and Europe



(6) DB Schenker uses two main rail freight routes between China and Europe and to and from CIS countries.



(7.1) Comparison of costs and transit times by mode of transportation



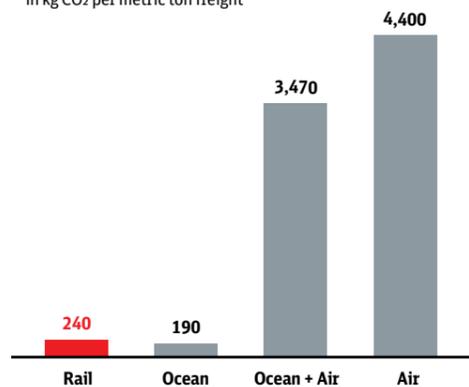
to 60 percent. DB SCHENKERhangartner handles full loads along intermodal corridors, while DB SCHENKER-railog offers conventional carloads Europe-wide as well as numerous additional services.

China Train – the bridge between Europe and Asia

These days, importers and exporters have several options for booking their international consignments and, in addition to transit times, expenses and restrictions on hazardous materials, they have to consider environmental factors. Anyone who wants to move goods between Europe, Russia and Asia has to depend on either time-consuming ocean freight or high-cost air transport. DB Schenker’s China Train offers individually tailored solutions to customers that demand an optimum balance between transport time and transport costs and that want an environmentally friendly solution between Asia, Russia and Europe (see figures 7.1 and 7.2). The first pilot train in 2008, followed by several single container transports in 2010, and a number of block trains from Chongqing westward in 2011, proved itself as a regular tailored block train solution in 2013.

Since mid-2013, DB Schenker has offered its customers new regular scheduled rail service once a week from Zhengzhou to Europe via Hamburg or Duisburg.

(7.2) Comparing CO₂ by mode, in kg CO₂ per metric ton freight



Rail freight is the greenest mode on long routes, as shown here for Asia.



This multi-customer train makes it possible to transport containers from the consignor to the consignee in 20 to 22 days. Covering over 12,000 kilometers and passing through five countries, this transport option generates less than five percent of the CO₂ emissions of comparable air freight.

DB SCHENKERSkybridge

Respecting the environment: combining air and ship transport for speed and efficiency.

Combinations that make sense and cut costs

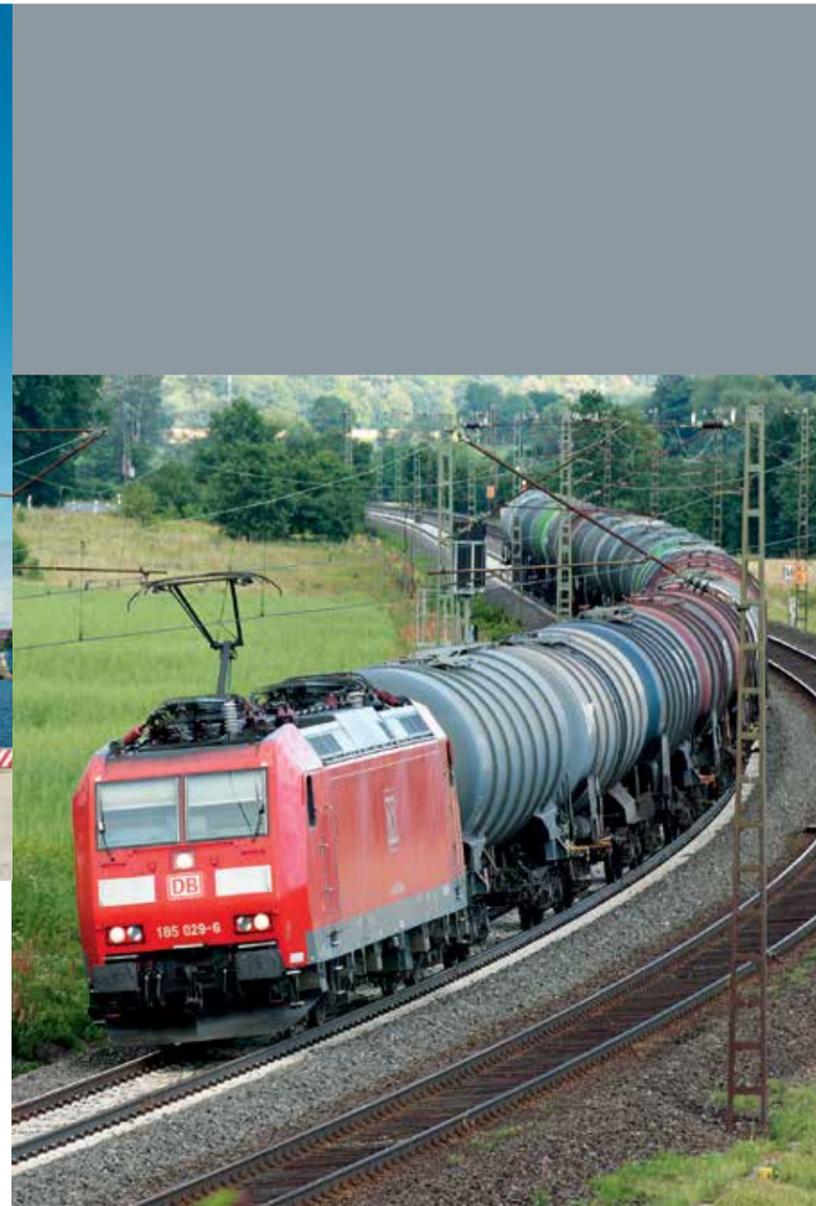
The DB SCHENKERSkybridge intermodal transport system combines the advantages of air and ocean freight. It is available on all key routes from Asia to Europe and Latin America via the West Coast, from Europe to Latin American via the United States (Miami), and

from Asia to Europe via the United Arab Emirates (Dubai) or Canada (Vancouver).

DB SCHENKERSkybridge Down Under connects Europe with Australia and New Zealand via Hong Kong or Singapore. DB Schenker customers can choose the most suitable transport option for their freight and the one that best meets their needs – whether on land, on the water or in the air. DB SCHENKERSkybridge unites economic efficiency and ecological responsibility since combining ship and air transport cuts CO₂ emissions considerably. It also cuts costs roughly in half compared to air freight alone.

Pre-carriage and onward carriage determine savings

As in rail freight, greenhouse gas emissions per unit transported by ocean freight are low. Therefore, how pre-carriage and onward carriage are organized is especially important, particularly when these legs are



long. Rail and inland vessel transports in the hinterland can reduce emissions by as much as 75 percent compared to truck transport. Savings are especially high on routes longer than 1,000 kilometers when truck emissions catch up to or even exceed emissions from shipping. Then overall savings approach the 50 percent mark. Well-thought-out route organization rounds out the solution. A shipment to Asia that begins in Hamburg is roughly 20 percent longer than one that begins in Trieste. Alternative routes also pay off for transports originating in southern Germany or the Czech Republic.

Eco Neutral

Climate certificates offset CO₂ emissions. Not every transport can be carried out carbon-free, which is why DB Schenker supplements its Eco Solutions for specific modes with Eco Neutral – the option of offsetting carbon emissions that cannot (yet) be avoided by supporting projects that combat climate change. To compensate for emissions, climate certificates are purchased from atmosfair, the leading provider, for every metric ton of carbon dioxide emitted.



Atmosfair focuses exclusively on projects that can contractually ensure the amount of greenhouse gases saved. That's why atmosfair can allow its projects to be monitored by UN-accredited monitoring organizations. All projects meet the strict criteria of the Clean Development Mechanism (CDM), a mechanism established by the Kyoto Protocol for reducing greenhouse gases, as well as the WWF Gold Standard. The projects also contribute to global climate protection and to the sustainable improvement of local environmental and living conditions in the project region.

Eco Neutral is available worldwide on every route and can be combined with any other Eco Solution, regardless of the mode of transportation. Customers can choose the extent to which they want to compensate for CO₂ emissions. Each year, customers receive a certificate of their annual CO₂ savings.

The greatest possible transparency and candor are part of DB Schenker's environmental strategy.

Eco Transparency

DB Schenker's annual environment brochure ensures transparency of the company's current environmental services and their progression over the past years. In addition to components related to environmental strategy, like top targets and best practice highlights, the "Eco transparency – emission data for environmental and climate protection" section is especially important in this context. In this section, DB Schenker presents its carbon footprint in accordance with DIN EN 16258 – the highest possible degree of disclosure permitted by a brochure such as this one – and provides an overview of the most important KPIs and their development since 2006.

An aerial photograph of a vast, green landscape. In the foreground, a long train of red freight cars is moving along a railway track that curves through the terrain. A road also winds through the landscape. The background shows rolling hills and mountains under a cloudy sky. The overall scene is lush and green, emphasizing environmental friendliness.

Transparency – emission data for environmental and climate protection

DB Schenker is synonymous with green logistics. It works with its customers to continuously reduce its emissions. The results speak for themselves.

DB Schenker collects emission data in accordance with the guidelines of European accounting standard EN 16258 and the Greenhouse Gas Protocol and uses the data to calculate its carbon footprint.

Data collection methodology

At DB Schenker, the energy consumption of every train is determined, and environmental performance is calculated using the current mix or fleet motorization. DB Schenker Logistics gathers key emission figures for land transport, air and ocean freight, contract logistics, and facilities used for operations. The figures account for all relevant greenhouse gases in accordance with the Greenhouse Gas Protocol as well as air pollutants. The environmental footprint was calculated the same way in 2013 as in previous years (since 2007). All data was acquired by the central environmental expertise team and then assessed together with the independent group INFRAS (which was involved in developing European standard EN 16258 for reporting greenhouse gases from transportation) to bring the carbon footprint of DB Schenker Logistics in line with the requirements of the ISO 14064-1 and EN 16258 standards. Reporting in accordance with EN 16258 accounts in particular for emissions from fuel production and transportation (upstream/well-to-tank) and the percentage of empty trips and capacity utilization on the entire route, i.e. round trips or outbound and return journey of the mode of transportation.

Calculations are based on EcoTransIT World methodology, which is explained in a scientific background report¹.

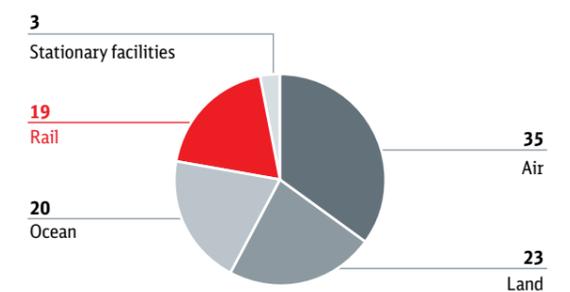
Emissions at DB Schenker

DB Schenker produced total CO₂ equivalent emissions (CO₂e) of around 13.8 million metric tons in 2013 (WTW²). Specific CO₂e emissions improved greatly, especially in the ocean freight business segment. Around 35 percent of DB Schenker's emissions are generated by air freight. Ocean freight and road haulage accounted for 20 percent and 23 percent of CO₂e emissions respectively. Rail freight is responsible for 19 percent of emissions. Stationary facilities, including contract logistics, only account for around three percent of emissions (see figure 8). The Greenhouse Gas (GHG)



DB Schenker uses the latest calculation standards when gathering key emission figures.

(8) CO₂e emissions by mode of transportation in 2013, in percent (WTW)



Based on EN 16258, DB Schenker's CO₂ equivalent emissions (CO₂e) totaled 13.8 million metric tons.

Protocol divides direct and indirect emissions into three categories (see figure 2, p. 14):

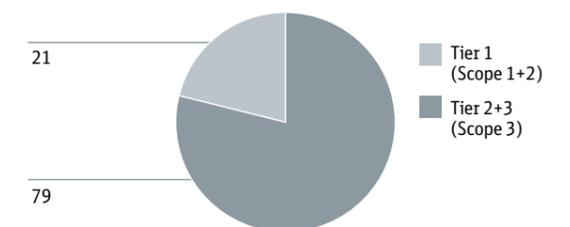
- Scope 1: All direct emissions, such as the fuel combustion in the company's own vehicles
- Scope 2: All indirect emissions, such as the consumption of purchased electricity and heat
- Scope 3: All other indirect emissions, such as those produced by subcontractors

DB Schenker has grouped scopes 1 to 3 into categories known as tiers 1 to 3³, taking into consideration that transport services in 3PL and 4PL business are carried out by contractors and their subcontractors.

All of the tier data includes well-to-wheel (WTW) emissions, in other words not just emissions from direct combustion, but also those generated in producing and delivering fuel (the "feeder chain").

Scope 3 (tiers 2 and 3) emissions account for 79 percent of emissions, while scope 1 and 2 (tier 1) emissions make up 21 percent (see figure 9).

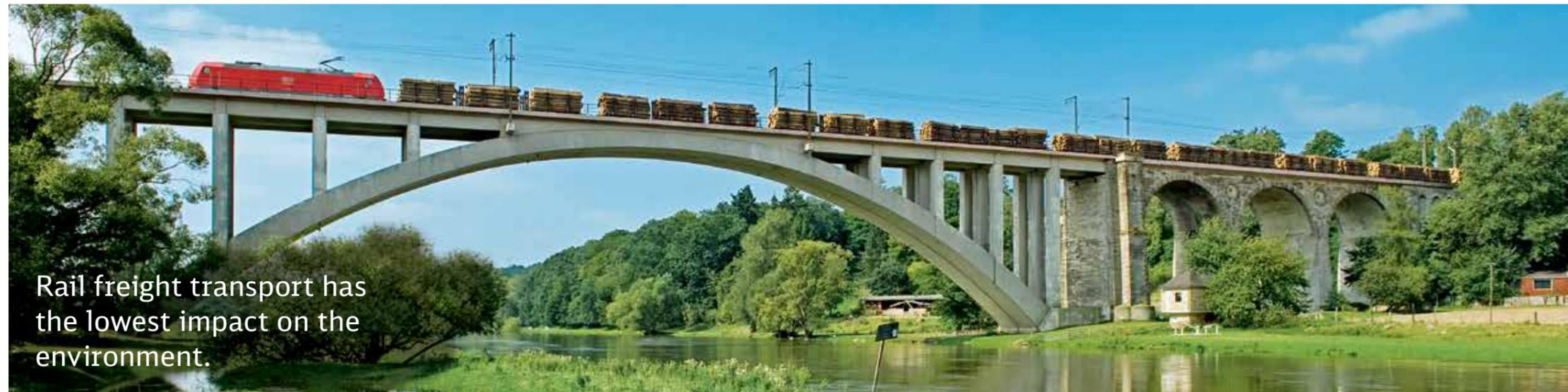
(9) Share of DB Schenker's CO₂e emissions by tier/scope in 2013, in percent (WTW)



¹ www.ecotransit.org

² WTW: well-to-wheel = WTT+TTW = indirect + direct emissions

³ Tier 1 covers all direct emissions, including purchased electricity and heat. Tier 2 and tier 3 correspond to scope 3 emissions, provided they are generated by third parties. Tier 2 refers to immediate purchasers (suppliers and property owners), while tier 3 refers to indirect purchasers (subcontracted service providers of contracted carriers and service providers). Altogether, this applies particularly to pre-carriage and onward carriage in air and ocean freight.



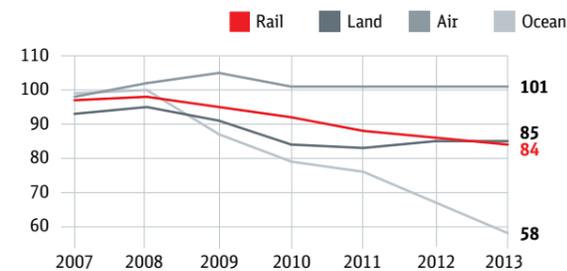
Rail freight transport has the lowest impact on the environment.

In addition to greenhouse gases, transportation service providers produce other emissions, or air pollutants. These emissions are regularly measured in DB Schenker's environmental report (see figure 11).

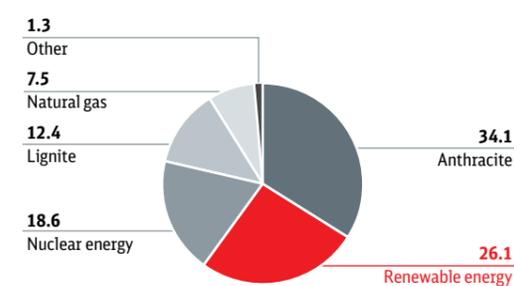
- Nitrogen oxide (NOx) emissions in the troposphere cause acid rain and acidification of the soil. They react with volatile organic compounds to create ozone near the ground, which is harmful to the environment.
- Sulfur oxide (SOx) emissions are intensely acidifying.
- Nonmethane hydrocarbons (NMHC) result from incomplete combustion of fossil fuels and react with other gases to form toxic compounds.
- Particulate matter refers to very small molecules, which enter the human respiratory system and can cause chronic health problems.

Shipping accounts for the highest percentage of emissions (especially PM and SOx). Most of these emissions are produced on the open ocean. Stricter limits increasingly apply for particulate matter and SOx emissions near the coast.

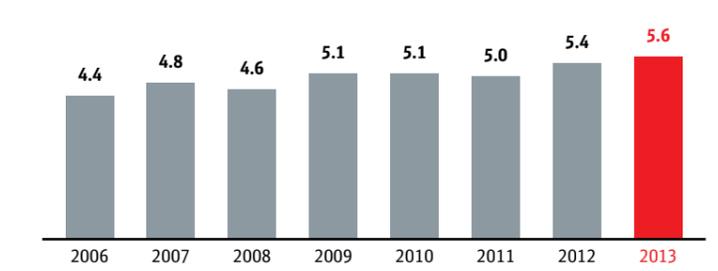
(10) Reduction of specific CO₂ emissions by mode of transportation, in percent (2006 = 100% indexed)



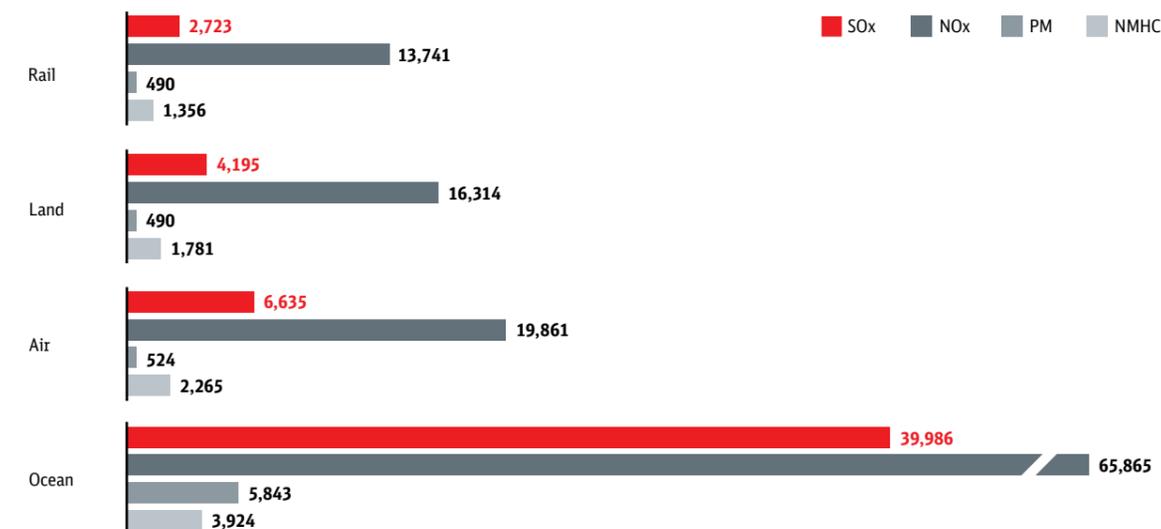
(12) Traction current mix of DB Schenker Rail Deutschland, in 2013, in percent (excluding Eco Plus)



(13) Electricity saved from regenerative braking, DB Schenker Rail Deutschland, in percent



(11) Air pollutant emissions in 2013, in metric tons (WTW)



Including pre-carriage and onward carriage, based on average values from EcoTransIT World

Rail freight

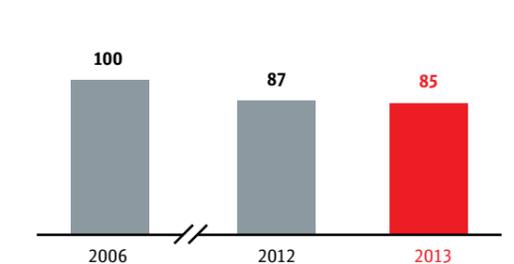
In recent years, the DB Group has continuously increased the percentage of renewable energy sources in the traction current mix in Germany. Renewables accounted for 26 percent, or more than one-fourth of the entire current mix, at DB Schenker in 2013 (see figure 12).

Around 140 gigawatt hours were saved in 2013 by recuperating the energy produced from braking during German transports. This corresponds to 5.6 percent of the annual energy consumed by DB Schenker Rail Deutschland (see figure 13).

DB Schenker Rail has set out to cut its specific final energy consumption by 19 percent of 2006 levels by 2020. It improved the figure for 2013 by around two percentage points over the year prior. Specific final energy consumption has dropped 15 percent compared to 2006 (see figure 14).

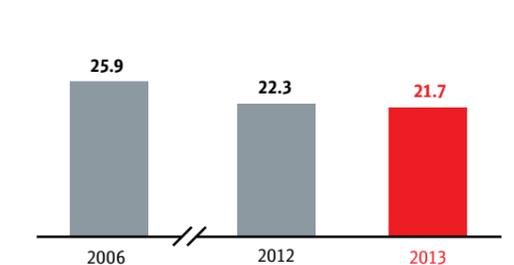
Emissions fell by 0.6 g/tkm compared to the previous year, which corresponds to a reduction of about three percent. They have fallen about 16 percent since 2006 (see figure 15).

(14) Specific final energy consumption of DB Schenker Rail, in percent (2006 = 100%, indexed)



* Modified reference factors (values back-calculated in accordance with EN 16258 Annex A)

(15) Specific CO₂ emissions of DB Schenker Rail, in g/tkm (WTW)

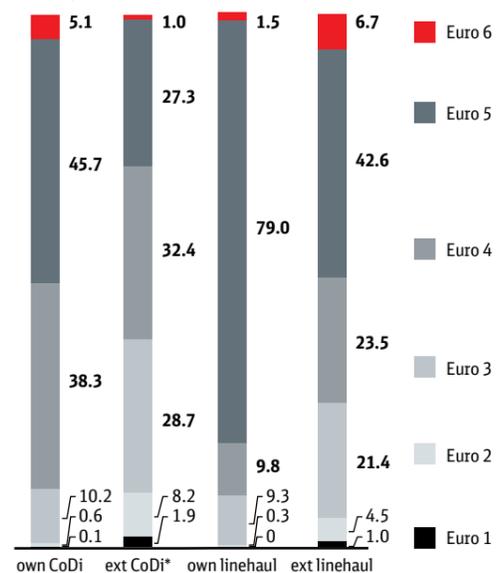


* Modified reference factors (values back-calculated in accordance with EN 16258 Annex A)



Groupage cuts emission values considerably

(16) Distribution of the global truck fleet of DB Schenker Logistics by Euro pollutant class, in percent



* Collecting distribution

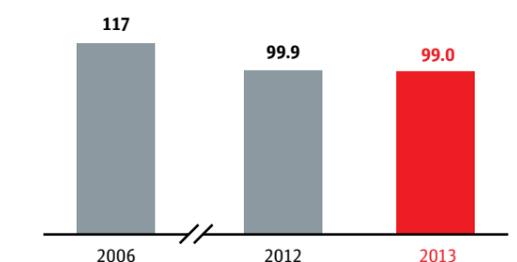
Land transport

The target in land transport is to reduce specific CO₂ emissions (WTW) by 26 percent of 2006 levels by 2020. Compared to the previous year, emissions from land transport fell by an additional one percent per metric ton kilometer. Emissions have dropped approximately 15 percent since 2006 (see figure 17), which means that DB Schenker is on track to reach its target. Hub transports in the land transport network in particular were highly efficient compared to the market average in Europe's land transport network as a result of extensive consolidation effects. Customers that use less-than truckload (LTL) transports especially for lightweight goods can reduce 20 percent to 30 percent

of their emissions by using Schenker's LTL network even if doing so means having to use a longer route.

Using larger vehicles in the LTL network instead of smaller ones in direct transport can even cut emissions by up to 80 percent. The vehicle fleet has also been renewed, which is reflected in lower pollutant levels. Over 90 percent of vehicles are used in Europe. The remaining share are used in the Americas and the Asia-Pacific region, primarily for air and ocean freight distribution transports. Around the world, some ten percent of vehicles are DB Schenker's own, while the other 90 percent belong to subcontractors.

(17) Specific CO₂ emissions from land transport, in g/tkm (WTW)



DB Schenker was able to reduce its CO₂ emissions from land transport to a large degree thanks to ongoing renewal of the fleet and extensive driver training.



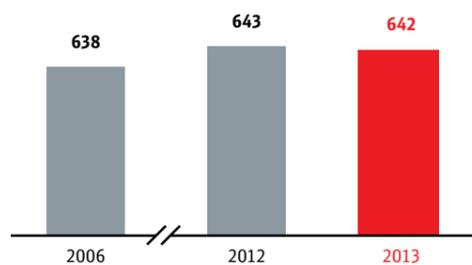
Air freight

The target in air freight transport is to reduce specific CO₂ emissions (WTW) by 25 percent by 2020 compared to 2006. In 2013, DB Schenker Logistics was able to stabilize specific emissions at 2011 levels (see figure 18). Improvements in the efficiency of air transport have so far not been able to be included since standardized calculated original data from carriers has largely been unavailable.

DB Schenker Logistics is therefore actively pursuing the development of initiatives to collect and publish air freight emissions. Calculated values are based on the hybrid aircraft used in EcoTransIT World calculations.

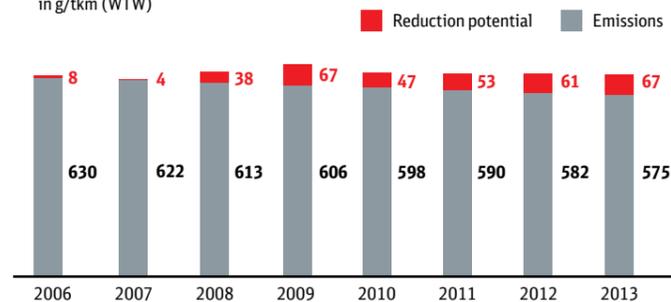
Figure 19 shows the ten percent specific CO₂ reduction potential (g/tkm WTW) of preferred carriers distributed linearly between 2006 and 2013.

(18) Specific CO₂ emissions from air freight, in g/tkm (WTW)



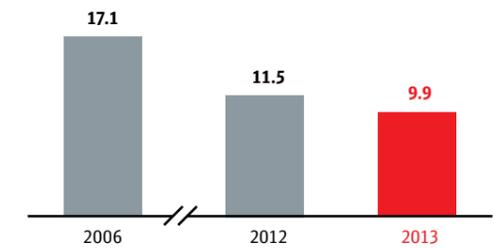
The trend in CO₂ emissions from air freight was calculated using average database values, with fluctuations due exclusively to shifts in distance classes. Calculated values are based on the hybrid aircraft used in EcoTransIT World calculations. The current methodology report is available from EcoTransIT World at www.ecotransit.org/basis.en.html.

(19) Specific CO₂ emissions from air freight, including reduction potential of preferred carriers, in g/tkm (WTW)



The percentage of the estimated reduction in emissions indicated is based on an energy-efficiency survey of preferred carriers (roughly ten percent per unit flown between 2006 and 2020) and the IATA Fuel Measurement Program)

(20) Specific CO₂ emissions from ocean freight, in g/tkm (WTW)



The substantial reduction in emissions per TEU-km in ocean freight can be attributed to a sustainable reduction in speed and ongoing fleet renewal.

Ocean freight

The target in ocean freight transport is to reduce specific CO₂ emissions (WTW) by 25 percent by 2020 compared to 2006. Figures for ocean freight improved again in 2013, by an additional 14 percent on the previous year, because container shipping as a whole became more energy efficient. In addition to fuel-saving operation, fleet renewal and the use of large ships greater than 15,000 TEU are key reasons why greenhouse gas figures have improved. Leading carriers such as CMA-CGM, Hapag-Lloyd and Mærsk, which are at the top in terms of making their environmental performance transparent to DB Schenker Logistics, have contributed greatly to this. The network welcomed another partner, MSC, in 2013.

CO₂ has been reduced 42 percent per metric ton kilometer overall compared to 2006. Consequently, DB Schenker will far exceed its target for 2020 (see figure 20).

Buildings and facilities

The base year for the new resource efficiency target of DB Schenker Logistics is 2013. By 2020, the company aims to reduce specific CO₂ emissions in energy consumption by 18 percent.

Companies that transport a lot of freight also have a big responsibility.



Environmentally friendly logistics is one of the main drivers of the entire logistics industry today. DB Schenker's environmental initiative actively supports the DB 2020 strategy of positioning the Group as a pioneer in environmental and climate protection.

As a provider of environmentally friendly transportation and logistics solutions, DB Schenker has established green logistics in its business philosophy and directed its activities toward two fundamental aims: making advancements in environmentally friendly logistics solutions for its customers, for example by expanding its CO₂-free Eco Plus product to Austria, and strengthening its measures to reduce CO₂ within the company. And in doing so, it is increasingly combining the advantages of each mode of transportation in its comprehensive international network according to environmental aspects.

DB SCHENKERSkybridge, for example, unites economic efficiency and ecological responsibility since combining ship and air transport cuts CO₂ emissions considerably. DB Schenker already offers solutions for reducing CO₂ emissions that are considered innovative and sustainable according to the latest transportation and logistics report from the Intergovernmental Panel on Climate Change (IPCC) published in 2014.

DB Schenker is conscious of its environmental and economic responsibility. Protecting resources, reducing noise, using energy efficiently and cutting CO₂ are high on its list. That is why the logistics specialist systematically incorporates sustainability criteria into its product ranges and optimizes all of its processes in terms of reducing CO₂. Thanks to all of these efforts, DB Schenker is one of the pioneers in sustainable logistics in the transportation and logistics market, and it will continue to build on its leading position. By combining established quality standards with sustainable and innovative ideas, DB Schenker offers customers services and solutions like the continuous improvement of its online EcoTransIT World tool, which it uses in collaboration with customers to calculate the environmental impact of selected transportation chains in detail. The tool is a fast and simple way for users to calculate environmental performance for routes all across the globe, giving them a picture of their own carbon footprint, ideally so they can reduce it.

Environmental protection and pollution in figures

DB Schenker 2013 (excluding stationary facilities)

Environmental protection

Reporting according to EN 16258		Energy consumption			CO ₂ emissions			CO ₂ e emissions			
All countries DB Schenker	Tonnage in M t	Transport production in M tkm	Absolute TTW in TJ	Absolute WTW in TJ	Spec. WTW in MJ/tkm	Absolute TTW in t	Absolute WTW in t	Spec. WTW in g/tkm	Absolute TTW in t	Absolute WTW in t	Spec. WTW in g/tkm
Rail Tier 1-2	399.5	111,263	19,493	40,927	0.37	608,992	2,460,633	22.1	617,312	2,603,239	23.4
thereof DB SR (inkl. Ger.) Tier 1	390.1	104,259	17,901	37,841	0.36	541,921	2,259,689	21.7	549,319	2,392,809	23.0
thereof DB SR (only Ger.) Tier 1	229.5	75,247	11,497	27,682	0.37	200,593	1,655,031	22.0	203,332	1,770,355	23.5
thereof DB SL Tier 2 ⁽¹⁾	9.4	7,004	1,592	3,086	0.44	67,071	200,944	28.7	67,993	210,430	30.0
Land transport Tier 1-2 Europe⁽²⁾	53.7	29,823	36,092	45,063	1.39	2,502,264	3,074,713	99.0	2,541,810	3,201,575	103.4
thereof Tier 1 land transport ⁽³⁾	5.4	2,982	3,609	4,506		250,226	307,471		254,181	320,158	
Air freight Tier 2	0.9	7,515	55,258	65,783	8.75	3,946,966	4,824,070	642	3,984,556	4,861,660	647
+ pre-/onward carriage air freight			109	129		7,968	9,685		8,011	9,826	
Ocean freight Tier 2	19.4	254,318	30,045	32,715	0.13	2,307,132	2,507,430	9.9	2,336,806	2,529,685	9.9
+ pre-/onward carriage ocean freight			2,207	3,051		142,152	213,243		143,081	219,461	

¹⁾ Including pre-carriage and onward carriage by truck

²⁾ Tonnage outside of the EU < one percent, specific values excluding ferries, including special and trade fair transports

³⁾ Own trucks, share approximately ten percent (estimate)

Pollution

Air pollution	SO _x		NO _x		PM		NMHC	
All countries DB Schenker	Absolute WTW in t	Spec. WTW in g/tkm						
Rail Tier 1-2	2,723	0.02	13,741	0.12	490	0.004	1,356	0.012
thereof DB SR (incl. Ger.) Tier 1	2,329		12,384		434		1,224	
thereof DB SR (only Ger.) Tier 1	1,589	0.02	5,297	0.07	210	0.003	496	0.007
thereof DB SL Tier 2 ⁽¹⁾	394	0.06	1,357	0.19	56	0.008	131	0.019
Land transport Tier 1-2 Europe⁽²⁾	4,195	0.12	16,314	0.43	490	0.01	1,781	0.05
thereof Tier 1 land transport ⁽³⁾	420		1,631		49		178	
Air freight Tier 2	6,621	0.88	19,791	2.63	522	0.07	2,259	0.30
+ pre-/onward carriage air freight	14		69		2		7	
Ocean freight Tier 2	39,735	0.16	64,826	0.25	5,815	0.02	3,701	0.01
+ pre-/onward carriage ocean freight	251		1,039		28		223	

¹⁾ Including pre-carriage and onward carriage by truck

²⁾ Tonnage outside of the EU < one percent, specific values excluding ferries, including special and trade fair transports

³⁾ Own trucks, share approximately ten percent (estimate)

Conversions for land transport, air freight and ocean freight

Conversions for land transport, air freight and ocean freight						
	Unit ²	Diesel	Biodiesel	MDO/MGO (Ferries)	Heavy fuel oil (HFO)	Jet fuel
CO ₂ EFA ¹ TTW	kg/l;kg/kg	2.63	0.00	3.21	3.11	3.15
CO ₂ EFA WTW	kg/l;kg/kg	3.19	0.55	3.89	3.38	3.85
CO ₂ e EFA TTW	kg/l;kg/kg	2.67	0.00	3.24	3.15	3.18
CO ₂ e EFA WTW	kg/l;kg/kg	3.24	1.92	3.92	3.41	3.88
Energy factor TTW	MJ/l;MJ/kg	35.9	32.8	43.0	40.5	44.1
Energy factor WTW	MJ/l;MJ/kg	42.7	68.5	51.2	44.1	52.5

¹⁾ EFA emission factor

²⁾ Unit: kg/l and MJ/l are used for diesel, biodiesel and MDO/MGO; kg/kg and MJ/kg are used for heavy fuel oil and jet fuel

Data sources

Data sources according to appendix D of EN 16258

Mode	Tier	Parameters	Level 1 in %	Level 2 in %	Level 3 in %	Level 4 in %	Comments
Rail	1	Energy consumption	100				Measured or from energy supplier
	1	tkm	100				Measured by transport service provider
	1	Emission factor: electricity international				100	Country-specific according to EcoTransIT World in g/kWh (scope 2)
	1	Emission factor: electricity Germany		100			Calculated for DB Schenker Rail based on traction current mix in Germany (scope 2)
	2	Metric ton kilometers			100		Total tonnage and average distance Based on previous year's values
	2	Energy consumption				100	European average based on EcoTransIT World
Road	1/2	Energy consumption				100	HBEFA 3.1, truck, size and country-specific (according to EcoTransIT World)
	1/2	Distance			100		Country-specific network distances
	1/2	Total weight	100				Consignment-based net weight including packaging
	1/2	Capacity utilization*	80			20	20% extrapolated
	1/2	Vehicle payload	10		90		6 size classes, country-specific Euronorm percentages
	Air	2	Distance	90		10	
2		Total weight	100				Individual consignments
2		Energy consumption				100	Based on EcoTransIT, Eurocontrol small emitters tool (aircraft mix, capacity utilization*)
3		Metric ton kilometers of pre- and onward carriage			100		Average distance and vehicle class (based on experience, random samples)
3		Energy consumption of pre- and onward carriage				100	Based on EcoTransIT World, country-specific (truck)
Ocean		2	Distance	100			
	2	Emission factor		73		27	73% of total TEU of CCWG carriers, 27% of their average or EcoTransIT World
	2	Energy consumption		73		27	Based on EFA of CCWG carriers or their average or EcoTransIT World
	2	Total weight	100				All TEUs per port pair/10.5 metric tons per TEU
	3	Metric ton kilometers of pre- and onward carriage			100		Assumptions mode of transportation + distances (based on experience, random samples)
	3	Energy consumption of pre- and onward carriage				100	Based on EcoTransIT World, country-specific (train and truck)

Level 1: specific measured value, Level 2: specific value for transportation service provider,

Level 3: fleet value for transportation service provider, Level 4: default value

*Capacity utilization: includes percentage of empty runs



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