



GREEN LOGISTICS IN ROAD FREIGHT

Introduction: Services - Tools - Solutions

Do you want greener logistics?
Contact us!



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FACTS

GOALS, STEPS, RESULTS

DHL Freight is participating in technology pilot programs – not only with LNG but also using electric power and hydrogen.

In 2016 Deutsche Post DHL Group already reached its milestone of improving CO₂ efficiency by **30 %** by 2020 compared to 2007.

80 % of our staff will be certified as GoGreen specialists by 2025.
Nearly 3,000 DHL Freight employees have already completed the initial training.

Since 2017, we as a Group have planted over **3 million trees**. Even more, together with our partners, we are planting another one million trees every year.

In 2019, DHL Freight increased its CO₂ efficiency by 2.5 %.

In Sweden, DHL Freight has already halved its CO₂ emissions in 2016 compared to 2008 by using HVO (hydrogenated vegetable oil). This is **54 %** reduction per ton-kilometer. The vehicles in the environmentally friendly fleet have already driven 31.5 million kilometers.

More than **50 %** of our revenue sources should include green solutions. This will also make our customers' supply chains more environmentally friendly.

In 2020, the number of DHL Freight sites awarded with global ISO certification for energy and environmental management (ISO 50001 and ISO 14001) climbed to 335.

In 2019, DHL Freight analyzed the environmental performance of **233** partners and subcontractors in long-haul transport alone and ecologically optimized operations.

In 2019, we prepared **530** CO₂ reports for customers – and thus created transparency about the CO₂ footprint of the transport chain.

DHL Freight currently operates 30 trucks powered by liquified natural gas (LNG). We are even testing LNG as a fuel for Megatrailers.



”Our group-wide environmental protection program GoGreen is our effort to make DPDHL the most sustainable logistics group in the world.“

EDITORIAL

GOGREEN IS THE ENGINE DRIVING OUR INNOVATION

As a pioneer in green logistics, we have made sustainability our mission. Our corporate program GoGreen aims to avoid and reduce greenhouse gas and pollutant emissions. By 2050 we want to reduce all logistics-related emissions to zero. This is certainly a difficult target to reach! It requires the courage to try out new technologies and the ability to persuade our business partners to change, as well. To achieve this ambitious goal, we need the support of our customers, our freight carriers and politicians. The fact that everyone is involved is all the more important because our efficient asset-light business model thrives on the interaction of all players. In Sweden, for example, by using HVO as a fuel, by working more closely with our subcontractors and by introducing new green products, we have improved our CO₂ efficiency by 50 % compared to 2008, thus hitting our 2025 target ahead of schedule. We want to achieve this in all our countries. To this end, we are testing alternative drive systems and fuels and are experimenting with them in our operations, such as short-range electric vehicles and LNG trucks. As a partner, we are involved in the development of hydrogen-fueled trucks. Expansion of our rail solutions is also on the agenda.

Our customers are the focus of our commitment. From emissions monitoring and CO₂ neutralization to supply chain optimization, we are at your side every step of the way. Solutions are discovered in dialogue! This applies to both cooperation with customers as well as with subcontractors. We formulate minimum sustainability standards with them and develop systems to drive a turnaround in transport. In addition, we invest in recognized climate protection projects to offset the emissions of your shipment that cannot be avoided at present. In this way you achieve certified climate neutralization along your entire supply chain. And we offer our premium service for groupage shipments – DHL Freight Eurapid – as a climate-neutral product at no additional cost. We are setting new standards in road freight. Find out more about **DHL Freight Eurapid!** I am convinced that our commitment to green solutions has a further positive effect by creating more demand for green logistics and thus driving progress forward. This is an issue that never leaves our minds. Do you, too, want to examine your supply chain life cycle more closely? Then take us at our word!

Sincerely,

Antje Huber

FROM SENDER TO RECIPIENT

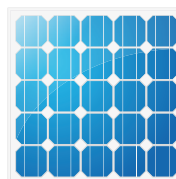
REDUCING EMISSIONS IN YOUR SUPPLY CHAIN

Terminal for the Future

Our terminals have intelligent heating and air conditioning systems, LED, sustainable construction methods, solar systems, alternative drives for company vehicles and charging stations for e-vehicles. Among other things, we rely on paper-free processes to reduce waste. You can see details in our interactive model on Freight Connections: bit.ly/future-terminal-en. By promoting beehives on our outdoor premises, DHL contributes to biodiversity – and delivers personalized DHL honey to customers!

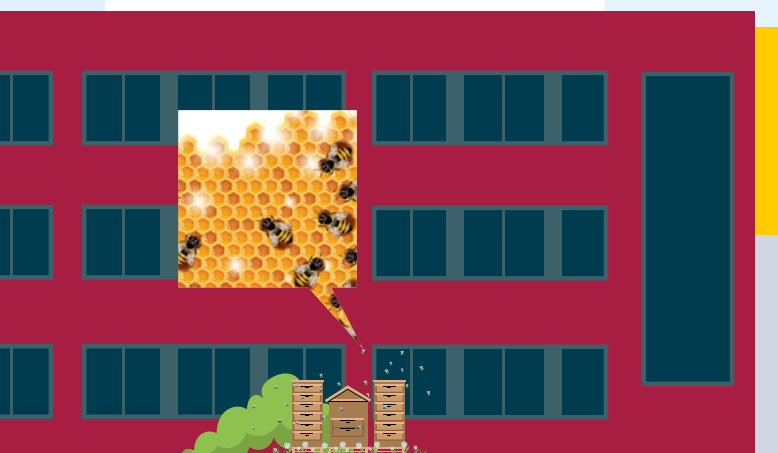
Solar cells on the roof of the trucks

With TRAILAR, DHL Freight uses solar energy on the roof of the trucks. The technology is based on lightweight, durable photovoltaic modules and reduces fuel consumption in road transport by up to five percent. The energy flows into the vehicle battery to operate electrical consumers on board like the lifting platform. This reduces CO₂ emissions and increases the service life of the engine – an environmentally friendly solution, especially in local traffic.



Certified GoGreen specialists

All our employees are sensitized to the issue of sustainability and are trained to become certified GoGreen specialists through a special training program. In this way, we motivate our colleagues to contribute to our climate protection goals. They should adopt the GoGreen approach and become familiar with activities that promote sustainability and efficiency in the working environment and beyond – also in their private lives.



LNG-, H2- and E-trucks

DHL Freight invests in alternatives for different distances. Our liquefied natural gas (LNG) trucks are already on the road on the continent. They consume 15 % less fuel than diesel vehicles, produce 99 % less particulate matter and up to 70 % less nitrogen oxides. We are also testing zero-emission battery electric trucks on short distances, and pilot projects for the use of hydrogen are also underway. For example, we are participating in the EU-funded H₂ Share project to bring hydrogen-based zero-emission trucks onto the road. By using roadmaps, we are planning to successively increase the proportion of fleets with alternative drive systems.

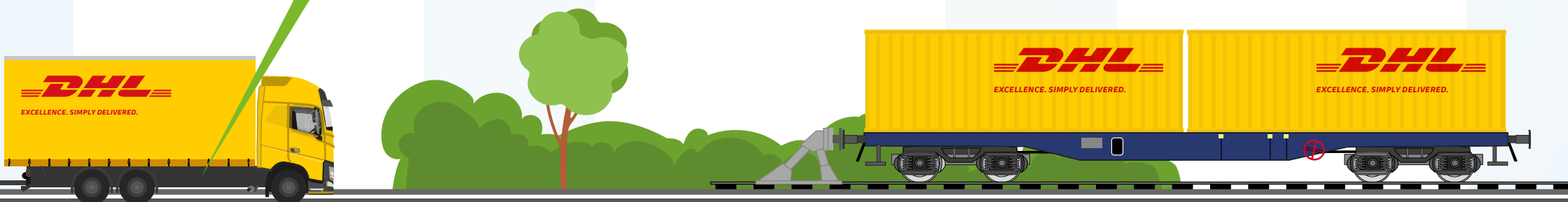


If super fast, then green!

DHL Freight Eurapid is the first carbon neutral premium service for general cargo shipments at no additional cost to our customers. It connects Europe's most important economic regions within 24 or 48 hours. Through internationally recognized climate protection projects, we offset the emissions generated along your entire supply chain – with letter and seal. Every year, our customers receive a certificate for the offset emissions and can thus prove their commitment to the environment. Here you can find out everything about our premium product DHL Freight Eurapid: bit.ly/freight-eurapid-en.

Climb aboard

Intermodal rail transports, i.e. the combination of different modes of shipping, are particularly worthwhile, in ecological and economic terms, on long-haul routes. We combine the environmental advantages of freight trains with the flexibility of trucks and put together the optimum solution for your deliveries. The freight is transported as far as possible by rail. This significantly reduces the burden on the environment due to the low CO₂ emissions compared to other modes of transport. Thus, more than a quarter of a million journeys in Europe are already multimodal. In addition, we transport up to 970 trailers per week by rail in heavy traffic within Germany. Such environmentally friendly combinations also function between the Asia-Pacific region and Europe in both directions.



Transparency along the supply chain

We support our customers with innovative tools for measuring and reducing emissions. These include the shipment emissions report, which customers can access with a single click in our tracking system **activetracing.dhl.com**, the customer CO₂ report, which includes all shipments in the desired time period, and the freely accessible DHL Carbon Calculator: **dhl-carboncalculator.com**.

By the way: Our service also includes minimizing and/or avoiding waste and other environmental impacts in your supply chain. Of course, we mainly use Euro pallets as transport equipment. Due to their long and sustainable life cycle and the exchange system they have a positive environmental balance. We also reduce packaging waste by encouraging our customers to use sustainable packaging materials or reusable packaging and to optimize the packaging of their goods accordingly. We collect and recycle unavoidable waste.

Intelligent route planning

The DHL-financed start-up Greenplan offers a powerful algorithm for route optimization of complete delivery areas. Greenplan sets new standards and supports the industry's drive for efficiency and sustainability. The algorithm was developed by scientists from the University of Bonn and DHL logistics experts. In addition, our planning system RaptOR supports dispatchers in their complex, time-consuming tasks. Place orders, schedule deliveries: RaptOR saves many hours.

Climate protection with results

We are involved in climate protection projects, for example in Lesotho, to compensate for logistics emissions. Thanks to your CO₂ report, you know what savings you still need to achieve your company's climate protection goals. Our projects are an effective lever. If you invest here, you will receive a certificate for the achieved compensation – read more on page 9.

MISSION 2050
ZERO EMISSIONS
GOGREEN



SOLUTIONS FOR YOUR SUPPLY CHAIN

GOGREEN SERVICES AT DHL FREIGHT: CREATING SUSTAINABLE VALUE

With DPDHL Group's GoGreen corporate initiative, we support our customers in achieving their own environmental goals. With our solutions, they can minimize or avoid logistics-based emissions, waste and other environmental impacts all along the entire supply chain. Interaction between transparency, optimization of environmental balance and compensation of emissions is crucial.

Our GoGreen portfolio is based on three pillars:

- **Transparency through emissions reports**
- **Green optimization through efficient technologies and sustainable fuels**
- **Climate neutrality through compensation of emissions**

TRANSPARENCY THROUGH CO₂-REPORTS

The detection and monitoring of your CO₂ emissions provides important information on the environmental impact of transport and logistics processes – an indispensable basis for the definition and implementation of sustainability goals. DHL Freight supports its customers with various instruments to measure, reduce or compensate their emissions. With the CO₂ report, we help to reduce the environmental impact of your transport and to understand logistics activities. They are the basis for decisions on CO₂ reduction. CO₂ emissions generated during transport are measured according to international standards with is calculated using our calculation method certified by external auditors. The CO₂ reports are available on request, for example, monthly, quarterly or annually.

DHL Carbon Calculator

Highly convenient tools make emission monitoring easy – and also the planning of your shipment. Use the DHL Carbon Calculator to create multiple scenarios with a wealth of parameters and multimodal combinations. After only a few clicks you will know which option is the best – displayed by route length, shipment weight, total emissions, per ton and by volume. Take a look for yourself: dhl-carboncalculator.com

GREEN OPTIMIZATION THROUGH EFFICIENT TECHNOLOGIES

With these innovative green technologies and alternative fuels we help you reduce the CO₂ emissions of your transport:

LNG trucks (LNG and Bio-LNG)

In heavy-duty long-distance transport, we are already testing several trucks in Belgium and Germany that are equipped with liquified natural gas (LNG). This reduces CO₂ emissions by up to 10 % and noise emissions by almost 50 % compared to diesel vehicles. In Sweden, since 2020



Bio-LNG trucks supplement the drop-in biodiesel fleet. In the future, we will successively increase the share of bio-LNG fuel. LNG-based solutions will be a key driver of growth in the next five to ten years as an important bridging technology until hydrogen becomes available.

Hydrogen

Together with other logistics companies in Germany, Belgium and the Netherlands, we participate in the H₂-Share project of the European Regional Development Fund. Each of the companies will operate a 27-ton, emission-free hydrogen-powered truck for three months in 2020. Further projects are in preparation. We support research, development and testing of this technology. According to our assessment, technological advances will enable hydrogen-based transport solutions to be introduced by 2030 at the latest.

Hydrogenated vegetable oil: by-products are converted into fuel

For a decade now, we have been pioneers in the use of hydrogenated vegetable oil (HVO) in diesel vehicles. Typically, raw materials are cooking oils or by-products from paper production. With addition of hydrogen, they are converted into hydrocarbons. DHL Freight Sweden has successfully used HVO for years and has thus significantly reduced its CO₂ footprint.

Rail and electric trucks

Rail has long been a central element of our multimodal network. On some connections, for example between Hamburg and Munich, to Scandinavia, China and across the Alps to Italy it is the main means of transportation. When customers request rail transport, we make the arrangements based on shipment traffic. Where possible, on shorter routes, we assign electric

vehicles. They transport on the first and last mile with zero emissions and a low noise level, mainly delivering parcels or light general cargo shipments to inner-city companies and private customers.

Aerodynamic modifications

A truck or trailer body with low air resistance is a real plus when it comes to saving fuel. DHL Freight, for example, has added teardrop trailers to its green vehicle fleet. Their rounded roof improves the air flow while also reducing air resistance at the rear. The optimized aerodynamics results in fuel savings of between 5 and 10 %. In Belgium, too, we have so-called “Boat Tails” on the tailgates of trucks, which act similarly to winglets on aircraft wings. At a constant speed of 80 kmh, trucks can now save at least one liter of diesel per 100 kilometers.

Solar power on the roof

The innovative TRAILAR transport solution developed by DHL uses solar mats installed on the truck roofs. Connected to the vehicle battery, they generate energy to provide power to such functions as lifting platforms and air conditioning. The technology reduces fuel consumption in road transport by about 5 %. Since 2019, DHL Freight Germany has been offering a wide range of trucks equipped with the TRAILAR systems for local deliveries.

Sweden's Green feature: How new technologies are expanding

In Sweden, we have signed contracts with partners in Sweden's domestic network that encourage the implementation of cleaner technologies by helping them offset additional expenses they incur. When our customers select SKICKA GREEN as a more environmentally friendly transport alternative, they pay only a small fee depending on the size of the shipment. In this manner, we also support sustainability in the Swedish transport network. SKICKA-GRÖNT customers can even receive a credit for thus reducing their CO₂ footprint. This offer is unique on the Swedish market.



OFFSETTING EMISSIONS

CLIMATE PROTECTION PROJECTS WITH STRONG LEVERAGE

To compensate for unavoidable emissions during delivery, we are actively supporting selected and registered international climate protection projects. In this way, our customers and we contribute to the economies of less developed regions and nations and thereby improve the lives of local populations. Companies that choose our climate-neutral GoGreen service receive an annual climate protection certificate verifying the compensation of emissions and documenting their commitment to the environment.

1. Lesotho: Energy-efficient Save80 stoves

Working together with the non-profit climate protection organization atmosfair and the local partner Solar-Lights, Deutsche Post DHL Group has implemented its own climate protection project. Jointly, we are equipping households in Lesotho in southern Africa with highly efficient Save80 cooking stoves that reduce the need for firewood by up to 80 %. This lowers climate-damaging emissions, prevents people from being exposed to harmful smoke while cooking, and decreases the danger of deforestation and soil erosion. Subsidized within the framework of the climate-neutral GoGreen service, Deutsche Post DHL Group promotes the distribution and usage of these stoves. For this, we receive emission certificates, which are used exclusively to compensate for unavoidable CO₂ emissions caused by truck transports, in order to achieve our climate-neutral shipping goals.



2. Brazil: Converting to renewable fuels in ceramic factories

In the state of Ceará, in northeastern Brazil, five ceramic factories are working jointly to switch over to alternative fuels such as renewable biomass. The project is reducing greenhouse gases emitted and helps prevent deforestation by saving firewood.

3. India: Wind power project in Andhra Pradesh

Feeding green electricity into the Indian government power grid is made possible by a 50.4 megawatt wind farm located in the state of Andhra Pradesh. The Vaayu India Power Corporation Private Limited (VIPCL) has installed 63 Wind World (WW-53) brand generators with a rated output of 800 kilowatts each. The electricity thus produced reduces the energy supply gap and supports the sustainable growth of the region.

4. Eritrea: Rehabilitation of well drilling holes

In sub-Saharan Africa, it is mostly children and women who carry water from distant ponds and rivers to their villages. The water is often contaminated with pollutants and bacteria, and must first be boiled in order to be potable. Our project identifies and repairs defective boreholes in Eritrea, which reduces the need for firewood, protects the forests and lowers emissions.

All projects must generate at least “VER Gold Standard” emission credits. Calculation and compensation for greenhouse gas emissions are managed by the resident auditor Société Générale de Surveillance SA (SGS) in full compliance with the global and industry-wide standard “GHG Protocol for Products”, the European standard EN 16258 and the ISO standard 14064.

Further information concerning the GoGreen program and all climate protection projects can be found at: bit.ly/gogreen-en and bit.ly/gogreen-projects-en.

Do you also want your logistics to become measurably greener?

Do you want to achieve and document all your climate goals?

Do you want to be involved in projects with strong leverage opportunities?

Please contact us: **freightservices@dhl.com**

**Fast. Climate Neutral. Reliable.
Find out everything about DHL
Freight Eurapid and our climate-
neutral premium service, here!**

Masthead

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