SUSTAIN ABLE SYSTEMS

OSPI®

OCTANORM®

MORE THAN JUST A SYSTEM

alu
quality and
recyclability

EDITORIAL

Sustainability is achieved when current developments meet the requirements of today's generation without impairing the possibilities of tomorrow's. At the same time, one has to acknowledge the ecological borders of economy and growth. Not just that natural resources are limited; emissions are a big issue as well. Increasing the lifespan of products as well as their recyclability is one possible approach towards sustainability.

Our products, made from aluminium, can be used for decades, are flexible and are easily recyclable.
In other words: Sustainability is already part of the OCTANORM® system. For us, the responsible handling of resources and materials is imperative. However, it is only one aspect: thanks to our OSPI network with its philosophy "Designed Here. Built There", CO_2 emissions can be reduced significantly by reducing the need for long transportation of components and structural parts.

Since 1969, OCTANORM® is a driving force in exhibition building. With innovations that changed the exhibition world, OCTANORM® became one of the leaders in the business - a position we constantly strive to strengthen through new developments.

The piles of rubbish before and after exhibitions show, that sustainability is not yet a topic for the exhibition business. This is mainly owed to the fact that – especially in conventional exhibition building – a lot of one way solutions are employed. At the end of the exhibition, these are treated as mixed waste, which is difficult and expensive to dispose of.

We think: There's no need for that! That's why OCTANORM® and OSPI® offer several advantages:

- High quality, sturdy components
- Reusable - high disposal costs are unnecessary
- 100% recyclable material without quality losses
- *Designed here - built there*: shorter transportation routes to reduce emissions and costs
- Your OSPI partner knows local laws and regulations and makes sure they are met

We are looking forward to your questions and feedback

Hans Bruder
CEO
OCTANORM®

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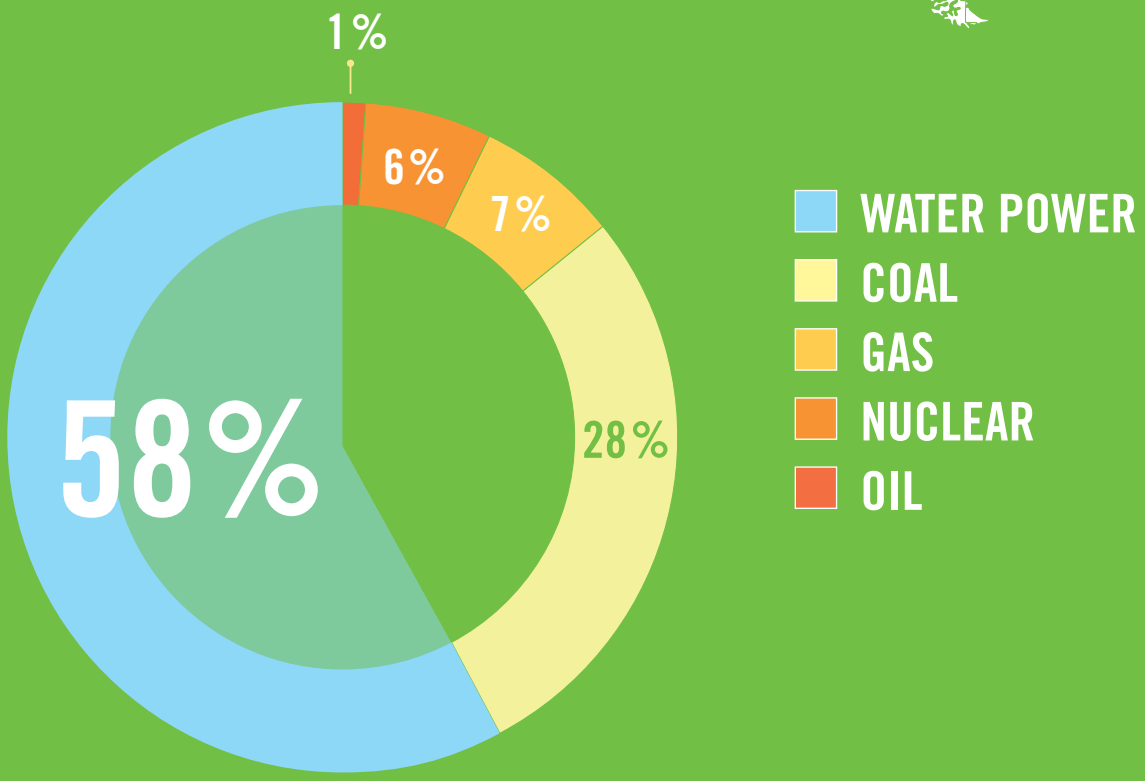
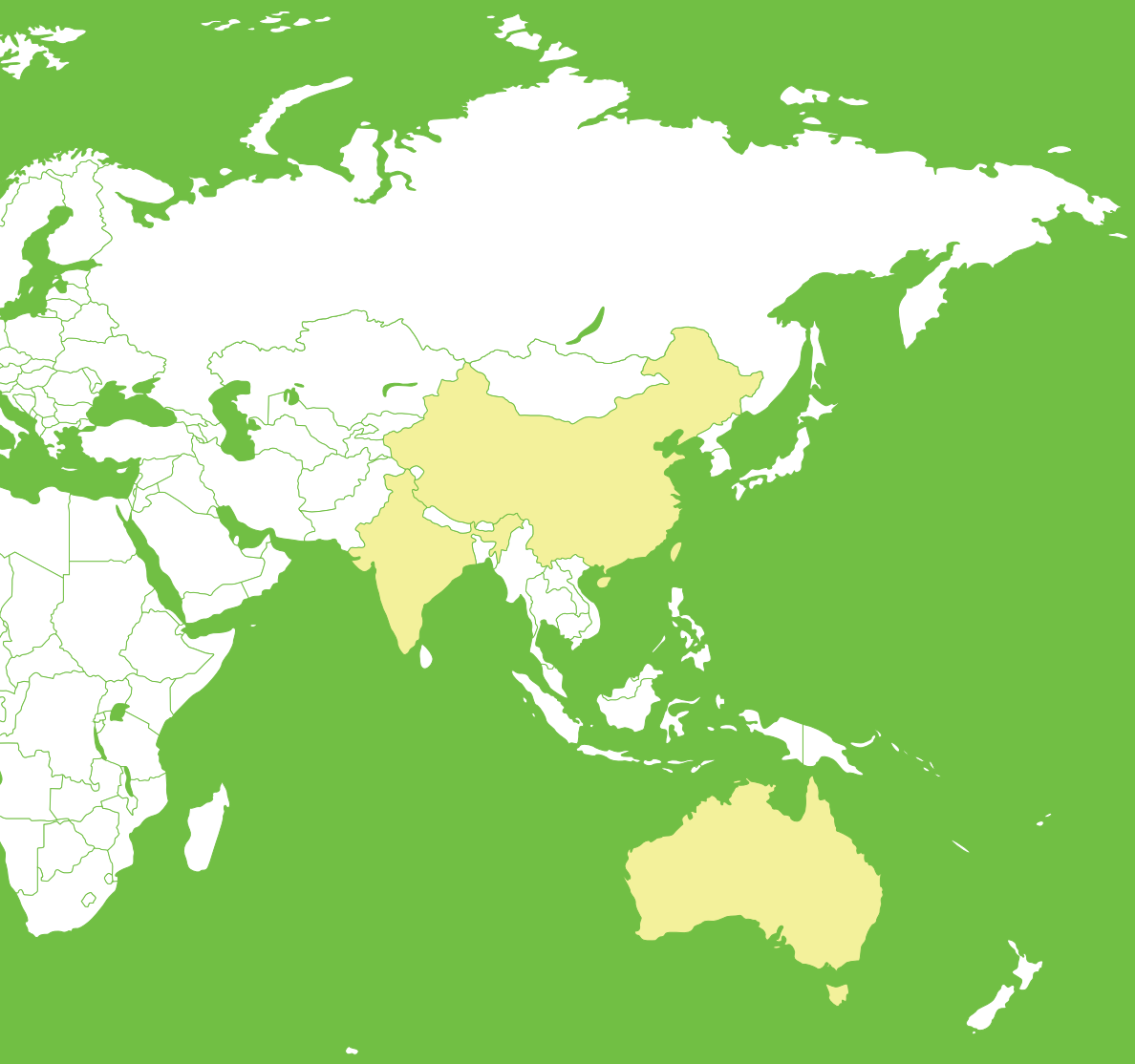
MINING AND RECULTIVATION

Aluminium is one of the most common metals on earth and is won through surface mining. The biggest mining areas are in Australia, China, India, Brasil, and Guinea.

To keep the impact on the environment as little as possible, 80 % of the mining areas are recultivated, and another 18 % are developed for forestry and agriculture once mining finishes. Furthermore, 58 % of the energy requirements are met by climate neutral water power.





ABOUT 75% OF THE ALUMINIUM PRODUCED SO FAR ARE STILL IN USE.

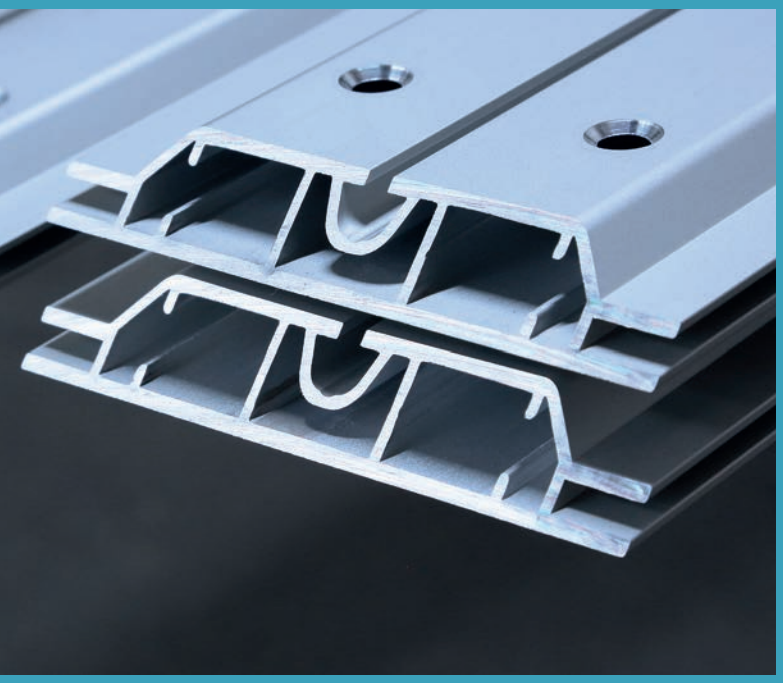
HIGH RECYCLING-QUOTA

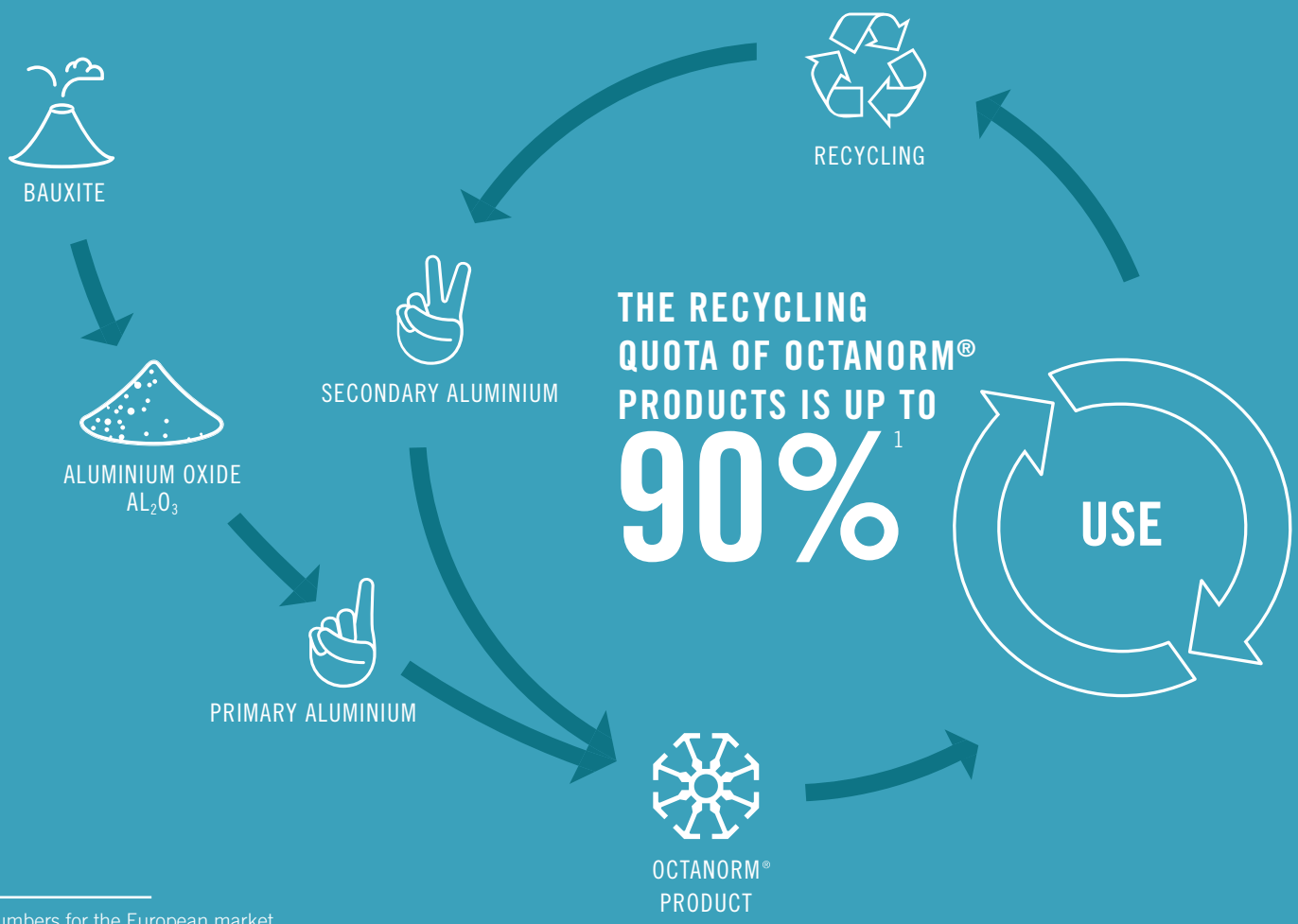
The recycling process of aluminium is quick and efficient, and can be repeated endlessly without a loss in quality. This allows for the biggest part of the worldwide demand to be met by secondary aluminium.

The advantage: At 3.2 mWh per ton, secondary aluminium needs 95 % less energy than primary production.

THE IDEAL MATERIAL FOR OCTANORM® AND THE OSPI® NETWORK

The high specific strength and quality of our aluminium alloys make it the ideal material for our OCTANORM® components. The alloys also ensure the longevity and reusability of our products. At the same time, the low weight allows for quick assembly and reduces transporting costs and emissions.





THE RECYCLING QUOTA OF OCTANORM® PRODUCTS IS UP TO

90% [1]

[1] Numbers for the European market

AT THE SAME HARDNESS AS STEEL, ALUMINIUM IS 50 % LIGHTER

SUSTAINABILITY WITH A SYSTEM

THE ALUMINIUM CYCLE

All OCTANORM® products are of high quality and durable. Since our profiles and extrusions are pure enough, they can be recycled right away at the end of their life cycle. Similarly, offcuts and swarf from our production are immediately reintroduced into the production cycle.

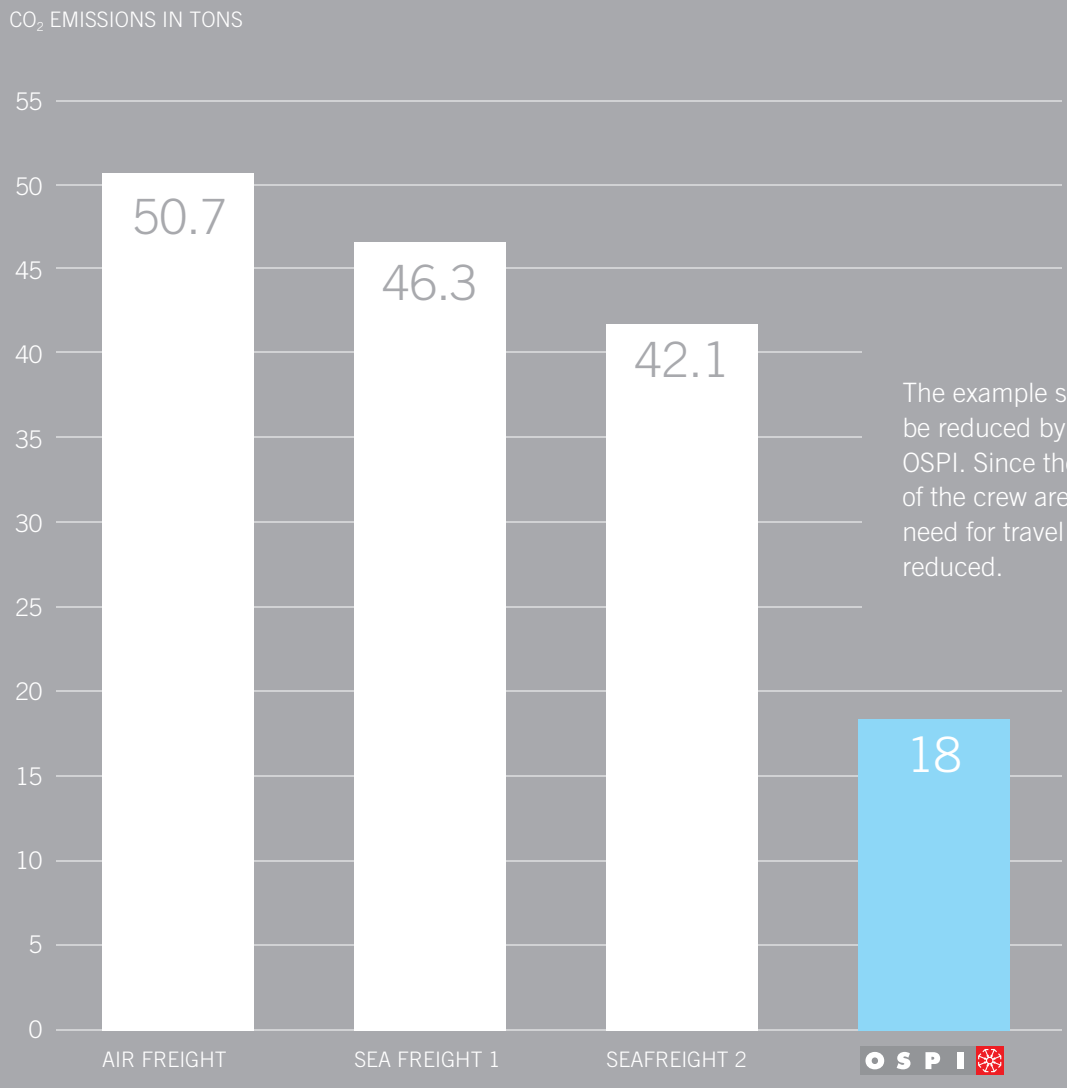
ENVIRONMENT-FRIENDLY WITH A SYSTEM

In the exhibition world, there are two fundamentally different philosophies: System exhibition construction scores when it comes to sustainability, planning, and costs. Conventional exhibition construction, on the other hand, has its advantages when it comes to individual adjustments and the free choice of employed materials, but has big shortcomings when it comes to sustainability and recyclability.

Often, chipboard is used instead of aluminium components. At first glance, this might seem more ecological, when actually it isn't: for one ton of OSB chipboard for dry areas (with 10 % urea formaldehyde resin), almost the same amount of energy is needed as for one ton of recycled aluminium. And at the end of the day, aluminium is recyclable and reusable - wood panels generally aren't.

A conventionally built exhibition stand will be torn down and disposed of after one exhibition. According to estimates of the Wuppertal Institute for Climate, Environment, Energy, “almost 90 % of the employed conventional materials and products are disposed of as mixed waste” after the exhibition. A system exhibition stand made from aluminium, however, is deconstructed at the end of an exhibition and can, thanks to its light weight and modular structure, be rebuilt quickly and easily at any time. This makes the system exhibition stand the smarter choice for exhibition builders and exhibitors alike - both from an ecological and economical viewpoint.

USING THE OSPI NETWORK, CO_2 EMISSIONS CAN BE REDUCED BY 65 % OR MORE



The example shows that emissions can be reduced by up to 65 % thanks to OSPI. Since the components and most of the crew are already on site, the need for travel and transportation are reduced.

ENVIRONMENT-FRIENDLY THROUGH OSPI

OSPI® stands for OCTANORM SERVICE PARTNER INTERNATIONAL.
With about 150 partners worldwide, it is right now the biggest international network of exhibition builders. Since every partner has agreed on only offering OCTANORM® products, customers get the same high quality worldwide. The underlying philosophy is the concept of "Designed Here. Built There": The stand is planned by the exhibitor together with his local OSPI. The stand is then manufactured in the target country, and the country's OSPI takes care of the assembly and everything else. The exhibitor can therefore fully concentrate on the preparation of his presentation and sales activities.

UP TO 65 % LESS CO_2

The following example is to illustrate the savings in CO_2 emissions possible thanks to the OSPI® network:

An exhibitor from Los Angeles wants to present his company at an exhibition in Frankfurt (Main):

- **Without the help of the OSPI® network**, the project is planned and manufactured by an exhibition building company in Los Angeles. Afterwards, the stand has to be transported to Germany using different modes of transportation (air freight, sea freight, truck).
- **With the help of the OSPI® network**, the stand is planned by a local OSPI but manufactured in Germany by another OSPI. Therefore, overseas transportation is made redundant.

Four scenarios are possible:

	AIR FREIGHT	SEA FREIGHT 1	SEA FREIGHT 2	OSPI OCTANORM SERVICE PARTNER INTERNATIONAL
PLANNING	In Los Angeles	In Los Angeles	In Los Angeles	In Los Angeles
MATERIAL	A direct flight is used to transport the components from LA to Frankfurt.	The components are transported to Europe by ship. First, they have to be transported from LA to Miami via plane.	The components are transported to Europe by ship. First, they have to be transported from LA to Miami by truck.	The components are manufactured close to their final destination and are transported by truck.
PERSONNEL	The exhibition crew (3 persons) and the construction crew (4 persons) are travelling from LA to Frankfurt on a direct flight.	The exhibition crew (3 persons) and the construction crew (4 persons) are travelling from LA to Frankfurt on a direct flight.	The exhibition crew (3 persons) and the construction crew (4 persons) are travelling from LA to Frankfurt on a direct flight.	The exhibition crew (3 persons) are travelling from LA to Frankfurt on a direct flight. The construction crew (4 persons) is close to the final destination.

THE EXAMPLE IS BASED ON THE FOLLOWING PROPOSITIONS

Start	Goal	Distance	Vehicle
Los Angeles	Frankfurt	8138 km	Plane
Local OSPI	Frankfurt	28 km	Truck
Bremerhaven	Frankfurt	520 km	Truck
Los Angeles	Miami	4345 km	Truck
Los Angeles	Miami	3760 km	Plane
Miami	Bremerhaven	7652 km	Ship

*Source: maps.google.com

Vehicle	Max. CO_2 emissions	
Truck	67,2 g	Per ton per kilometre, average*
Ship	14,8 g	Per ton per kilometre, average*
Plane	538,5 g	Per ton per kilometre, average*
Plane (person)	368,4 g	Per person per kilometre, average**

*Source: Kranke, et al., CO_2-Berechnung in der Logistik. 1. Auflage, 2011. Verlag Heinrich Vogel. p. 118
**Source: myclimate.org

The calculation is based on the following propositions:

- The stand will be manned by an exhibition crew of 3 people, 4 people are needed for construction.
- 2 flights are needed per person (return flight). 368.4 g of CO_2 are emitted per person per kilometre.
- The components are transported back the way they came.
- The weight of the components is 1 ton.

Example calculation for scenario "SEA FREIGHT 1"

Return flight LA – Miami	(3760 km × 538,5 g per t per km × 1 t) × 2	= 4,05 t
Shipping of components from Miami to Bremerhaven and back	(7652 km × 14,8 g per t per km × 1 t) × 2	= 0,23 t
Transport via truck from Bremerhaven to Frankfurt and back	(520 km × 67,2 g per t per km × 1 t) × 2	= 0,07 t
Return flight for personnel LA – Frankfurt	(8138 km × 7 persons × 364,8 g per person per km) × 2	= 41,98 t

→ 46,32 t CO_2 emissions

OCTANORM® does not guarantee for the accuracy and completeness of the presented data.
Data as of 13.10.2015

You would like to know more about sustainability and aluminium manufacturing?
Ask us, or check our sources.

ONLINE SOURCES:

German

www.nachhaltiges-bauen.de
www.aluinfo.de
www.ospi-network.com/de/
www.vcd.org
www.maps.google.com
www.co2-emissionen-vergleichen.de

English

www.recyclenation.com
www.european-aluminium.eu
www.world-aluminium.org
www.recyclinginternational.com
www.myclimate.org

PRINT SOURCES:

Matthias Dienhart, Ganzheitliche Bilanzierung der Energiebereitstellung für die Aluminiumherstellung. Fakultät für Maschinenwesen der Rheinisch-Westfälischen Technischen Hochschule Aachen, 2003.

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Luitgard Marschall, Aluminium – Metall der Moderne. Wissenschaftszentrum Umwelt der Universität Augsburg in Zusammenarbeit mit oekom e.V.. oekom Verlag, München, 2008.

Rainer Lucas & Sandra Kolberg, Materialeffizienz und Produktdauerverlängerung in der Messewirtschaft – Handlungsbedarf, Strategien, Lösungen. In: Wuppertal Papers Nr. 158. Wissenschaftszentrum Nordrhein-Westfalen, Wuppertal Institut für Klima, Umwelt, Energie, 2006.

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