



EcoTransIT World Workshop

Best practice example

Hapag-Lloyd

Carbon Emission Calculation – dry and reefer shipments

Calculations are based on

- methodology developed by CCWG
- for all own/long-term charter vessels
- for dry and reefer shipments
- weighted average of all vessels on a trade lane

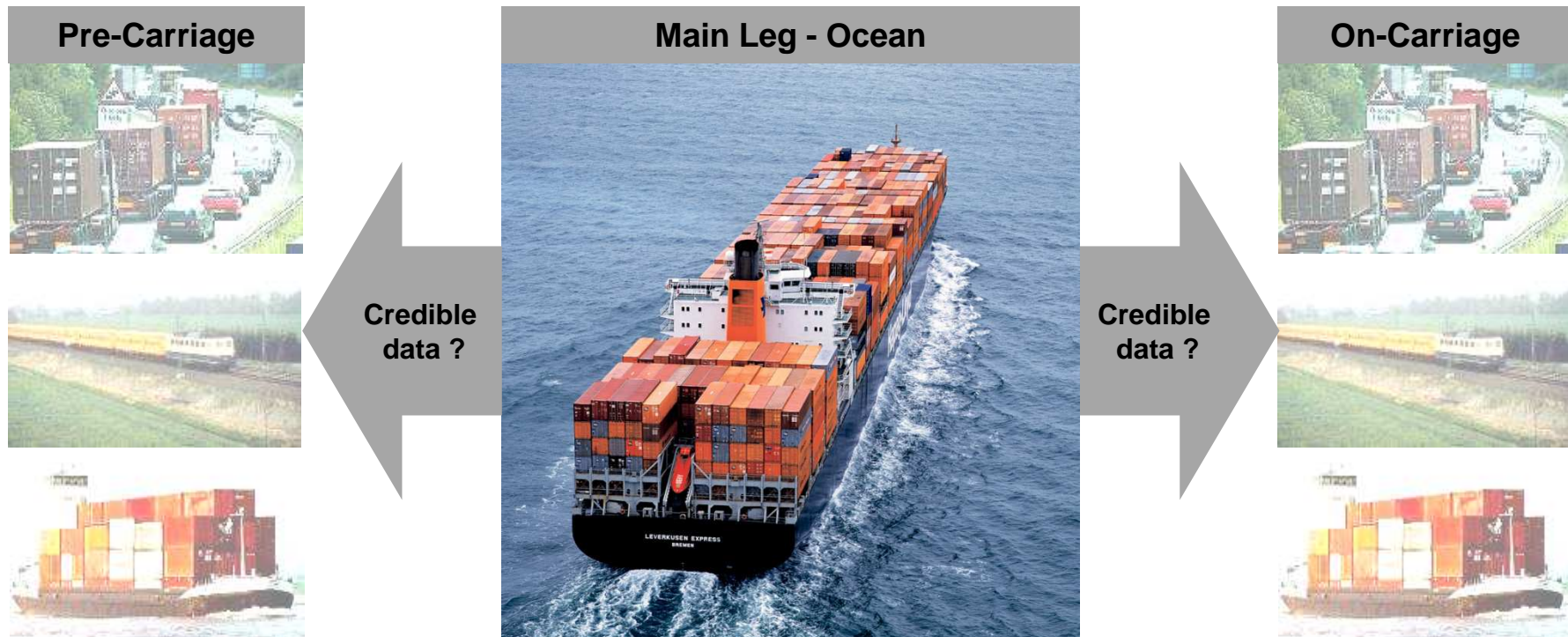
= Trade lane emission factor/TEU-km

- Number of TEU
- Distance between port-pairs

= Individual Carbon Footprint



Emission/Carbon calculation for whole door-to-door transport chain



Emission/Carbon calculation for whole door-to-door transport chain

Research Activities

- Analysis of commercial software products
- Carbon Accounting tools



Specific requirements of global transport chain

- Includes all transport modes
- Geographical data
- Carbon and other emissions



EcoCalc launched in October 2011

EcoCalc

The Hapag-Lloyd EcoCalc allows you to calculate the emissions of your container transport from the beginning to the end of its journey. We offer a comprehensive overview of various types of emissions, covering:

- > Carbon Dioxide (CO₂)
- > Nitrogen Oxide (NO_x)
- > Sulphur Dioxide (SO₂)
- > Particulate Matter (PM₁₀)

Please fill in the following details. The boxes marked with an * are mandatory in order to calculate your emissions.

Start of Transport: NAPA, CA, USA (USAPC)

Port of Loading*: OAKLAND, CA, UNITED STATES (USOAK)

Port of Discharge*: HAMBURG, GERMANY (DEHAM)

End of Transport: UELZEN, GERMANY (DEUEL)

Cargo Volume*: 10 TEU

Calculate

Port of Loading* OAKLAND, CA, UNITED STATES (USOAK)

Port of Discharge* HAMBURG, GERMANY (DEHAM)

End of Transport UELZEN, GERMANY (DEUEL)

Cargo Volume* 10 TEU

[See your result below.](#) **Calculate**

Hapag-Lloyd EcoCalc Methodology
 The Hapag-Lloyd EcoCalc considers the different sections of the transport chain and applies industry recognised methods of calculation.

For seaborne transportation, emissions of carbon dioxide are calculated according to the methodology developed by the **Clean Cargo Working Group**. Hapag-Lloyd provides the basic calculation data for all owned container vessels and vessels operated under long-term charter. Nitrogen oxide, sulphur dioxide and particulate matter emissions are calculated according to the methods of **EcoTransit World**.

For pre- and on-carriage all emissions displayed for CO₂, NO_x, SO₂ and PM₁₀ are likewise calculated according to the EcoTransit World methods.

For all transport modes full utilization of capacities is assumed.

From	To	Mode of transport	Distance in km	CO ₂ in kg	NO _x in kg	SO ₂ in kg	PM ₁₀ in kg
NAPA, CA, USA (USAPC)	OAKLAND, CA, UNITED STATES (USOAK)	Truck	68	571.07	2.92	0.69	0.21
OAKLAND, CA, UNITED STATES (USOAK)	HAMBURG, GERMANY (DEHAM)	Vessel	15,512	11,479.19	483.05	290.00	42.66
HAMBURG, GERMANY (DEHAM)	UELZEN, GERMANY (DEUEL)	Truck	95	550.70	4.38	0.67	0.12
Total:			15,675	12,600.96	490.35	291.36	42.99

[Download Your EcoCalc Result](#)

The emissions calculated are average arithmetical values for a standard container based on a variety of theoretical factors. Depending on input data emissions and actual route taken during shipment may diverge from these average arithmetical values.

No liability is accepted for the completeness and accuracy of these calculations.

by Germanischer Lloyd.

Driven by responsibility

Please read our newly published environmental brochure "Driven by responsibility".



> Publications

Environmental Protection on Board our Ships

Please click to enlarge the image.



With the Hapag-Lloyd online emission calculator not only CO₂ but also SO₂, NO_x and PM emissions can be estimated.

EcoCalc is embedded as an iframe



Hapag-Lloyd's emission calculation server hosted by IVE

Usability

- Type ahead function for the location search supporting UN location codes
- Multilingual user interface – 4 languages supported (English, German, Spanish and Chinese)
- Result on one page and downloadable as PDF
- Keep it simple - only 3-5 information entries needed for a calculation

Added value

- In addition to CO₂, NO_x, SO₂ and PM₁₀ are calculated using the EcoTransIT methods
- Pre- and on-carriage could be included to cover door-to-door transport chain

Reliability of calculation

- Routing selection based on Hapag-Lloyd's location catalogue
- For pre- and on-carriage all emissions displayed for CO₂, NO_x, SO₂ and PM₁₀ are calculated according to the EcoTransIT methods
- CO₂ of seaborne transportation calculated according to CCWG and data has been verified by Germanischer Lloyd



THANK YOU!