EcoTransIT World Workshop
Best practice example
Hapag-Lloyd

Erika Sagert, Sven Sattelkau ● Hamburg ● April 18th, 2012
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 Calculation - Transport Chain

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

Pre-Carriage

Credible data?

Main Leg - Ocean

Credible data?

On-Carriage
Emission Calculation - 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
Emission Calculation - Transport Chain

EcoCalc launched in October 2011

EcoCalc

Hapag-Lloyd’s EcoCalc allows you to calculate the emissions of your container transport from the beginning to the end of the journey.

FAQ EcoCalc

Have you found your answer to a question regarding the Hapag-Lloyd EcoCalc?

Contact

For further questions regarding the EcoCalc, please read our FAQ or contact us by Email.

Verification

EcoCalc is regularly tested by Germanischer Lloyd.

Driven by responsibility

EcoCalc is regularly tested by Germanischer Lloyd.

Emission Calculation - Transport Chain

Hapag-Lloyd EcoCalc Methodology

The Hapag-Lloyd EcoCalc considers the different sections of the transport chain and applies broadly recognized methods of calculation.

For onshore 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 post-cargo air emissions displayed for CO2, NOx, SO2 and PM10 are therefore calculated according to the EcoTransit World methods.

For all transport modes for calculation of capacities is assumed.

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Mode of Transport</th>
<th>Distance (in km)</th>
<th>CO2 (in kg)</th>
<th>NOx (in kg)</th>
<th>SO2 (in kg)</th>
<th>PM10 (in kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAPPA, CA, USA</td>
<td>OAKLAND, CA, UNITED STATES</td>
<td>Container</td>
<td>1,000</td>
<td>571.37</td>
<td>2.92</td>
<td>0.69</td>
<td>0.21</td>
</tr>
<tr>
<td>OAKLAND, CA, UNITED STATES</td>
<td>HAMBURG, GERMANY</td>
<td>Container</td>
<td>11,675</td>
<td>498.35</td>
<td>293.16</td>
<td>8.23</td>
<td>42.56</td>
</tr>
<tr>
<td>HAMBURG, GERMANY</td>
<td>UELZEN, GERMANY</td>
<td>Container</td>
<td>15,775</td>
<td>1,205.95</td>
<td>438.36</td>
<td>2.67</td>
<td>6.12</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>15,675</td>
<td>1,205.95</td>
<td>498.35</td>
<td>293.16</td>
</tr>
</tbody>
</table>

Download your EcoCalc Report

This report contains all calculation data and an estimate of the carbon dioxide emissions. Depending on input data and actualized values, the emissions may diverge from these average values.

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

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

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, NOₓ, 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, NOₓ, SO₂ and PM₁₀ are calculated according to EcoTransIT methods
- CO₂ of seaborne transportation calculated according to CCWG and data has been verified by Germanischer Lloyd
THANK YOU!