

## Supplement to Hamburg Süd's Sustainability Report for the years 2014/2015 for the Aspects Energy and Emissions

### Bases for calculation, sources, and underlying assumptions and estimates

G4-EN3	<p><b>Underlying standards:</b> The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition); ISO 14064-1; DIN EN 16258; Defra Voluntary Reporting Guidelines and Conversion Factors, Kranke, A.; Schmied, M. &amp; Schön, A.D. (2011): CO<sub>2</sub>-Berechnung in der Logistik (CO<sub>2</sub> Calculation in Logistics). Munich: Vogel, EcoTransIT World (Business Solution).</p> <p><b>Underlying methods and assumptions:</b> Recording of fuel consumption data for container ships, bulkers, tankers, company-owned trucks, and company vehicles; consumption data for natural gas, heating oil, power and district heating based on supplier information, in some cases on estimates and projections where no data was available. Not all information relating to power and district heating consumptions for 2015 was available at the time of going to print; therefore, the previous year's figures were used as a basis.</p> <p><b>Conversion factors used:</b> The conversion factors for energy consumptions are based on DIN EN 16258, Defra Voluntary Reporting Guidelines, and Kranke et al. For consumption in offices, country-specific factors were used whenever feasible.</p>
G4-EN4	<p><b>Underlying standards:</b> The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3), cf. additionally G4-EN3.</p> <p><b>Underlying methods and assumptions:</b> For energy consumption in the upstream chain of purchased fuels and power cf. G4-EN3; for the energy consumption of purchased transport and distribution services, EcoTransIT World and projections were used; the energy consumption for business travel was based on the Defra conversion factors and on estimates regarding passenger kilometers. Other forms of energy consumption were not taken into account because they are not significant enough to be of relevance (e.g. staff commuting to and from work) or are difficult to calculate (e.g. construction of purchased ships).</p>
G4-EN6	<p><b>Underlying standards, methods, and assumptions:</b> Basis for calculation is the transported TEUs and the fuels consumed on owned and chartered ships (incl. upstream chain). Energy consumption for the 2010 base year was divided by the number of TEUs transported in 2010. The result was multiplied by the transported TEUs in the respective reference year. The difference between this result and the actual energy consumption in the year in question is classified as energy savings resulting from efficiency measures.</p>
G4-EN15	<p><b>Underlying standards:</b> cf. G4-EN3</p> <p><b>Underlying methods and assumptions:</b> Recording of fuel consumption data for container ships, bulkers, tankers, company-owned trucks, and company vehicles; consumption data for natural gas, heating oil, power and district heating based on supplier information, in some cases on estimates and projections where no data was available. Information relating to "Other" for 2015 was not fully available at the time of going to print; therefore, the previous year's figures were used as a basis.</p> <p><b>Source of the emission factors:</b> For HFCs, the IPCC Fourth Assessment Report (AR4 – 100 year) was used, cf. also G4-EN3.</p> <p><b>Consolidation approach:</b> Operational control</p>
G4-EN16	<p><b>Underlying standards and source of emission factors:</b> The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition); Defra Voluntary Reporting Guidelines and Conversion Factors, Kranke, A.; Schmied, M. &amp; Schön, A.D. (2011): CO<sub>2</sub>-Berechnung in der Logistik (CO<sub>2</sub> Calculation in Logistics). Munich: Vogel.</p> <p><b>Underlying methods and assumptions:</b> The data for power and district heating is based on supplier information, in some cases on estimates and projections where no data was available. Not all information relating to the offices for 2015 was available at the time of going to print; therefore, the previous year's figures were used as a basis.</p> <p><b>Consolidation approach:</b> Operational control</p>

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### Bases for calculation, sources, and underlying assumptions and estimates

G4-EN17 Underlying standards: The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition); The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard; Defra Voluntary Reporting Guidelines and Conversion Factors, Kranke, A.; Schmied, M. & Schön, A.D. (2011): CO<sub>2</sub>-Berechnung in der Logistik (CO<sub>2</sub> Calculation in Logistics). Munich: Vogel, EcoTransIT World (Business Solution).

Underlying methods and assumptions: cf. G4-EN4, however, here with reference to CO<sub>2</sub>e.

Source of the emission factors: The emission factors as CO<sub>2</sub>e are derived from the above standards.

G4-EN19 Underlying standards, methods, and assumptions: Basis for calculation is the transported TEUs and the emissions of owned and chartered container ships. Emissions for the 2010 base year were divided by the number of TEUs transported in 2010. The result was multiplied by the transported TEUs in the respective reference year. The difference between this result and the actual emissions in the year in question is classified as CO<sub>2</sub>e savings resulting from efficiency measures.

Emissions concerned: Scope 1 and Scope 3 – direct and indirect emissions of owned and chartered container ships.

G4-EN21 Underlying standards, methods, and assumptions: For SO<sub>2</sub>, emissions of owned and chartered ships were calculated using the consumed fuel quantity and the sulphur content of the fuels. Emissions from intermodal transport and slot charter were calculated using EcoTransIT World based on the load volume and transport routes. For NO<sub>x</sub>, emission factors were applied for fuels consumed on board owned and chartered ships. For emissions relating to intermodal transport and slot charter cf. SO<sub>2</sub>. For PM10, emission factors were applied for the fuels consumed on board owned and chartered ships. For emissions relating to intermodal transport and slot charter cf. SO<sub>2</sub>. In 2012, no PM emissions were calculated for intermodal transport.

Source of the emission factors: For the NO<sub>x</sub> and PM emissions of owned and chartered ships, UK Defra factors were used; the calculation of SO<sub>2</sub> emissions is based on the consumed fuel quantity and the sulphur content of the fuels. For other modes of transport, EcoTransIT World factors were used.

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