

Addenda to the 2016/17 Sustainability Report for GRI 302 and GRI 305 standards

Calculation bases, sources, and underlying assumptions and estimates

GRI 302-1	<p>Underlying standards: The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition), ISO 14064-1, DIN EN 16258, Defra Voluntary Reporting Guidelines and UK Government GHG Conversion Factors for Company Reporting, Kranke, A.; Schmied, M. & Schön, A.D. (2011): CO₂-Berechnung in der Logistik. (CO₂ Calculation in Logistics.) Munich: Vogel, EcoTransIT World (Business Solution).</p> <p>Underlying methods and assumptions: Collection of fuel consumption data for container ships, bulkers, tankers, own trucks, and company vehicles; consumption data for natural gas, heating oil, electricity, and district heating based on supplier data, partly on estimates and projections if no data were available.</p> <p>Source for the conversion factors used: The conversion factors for energy consumption are based on DIN EN 16258, Defra Voluntary Reporting Guidelines and Kranke et al. Wherever possible, country-specific factors were used for office consumption. As there were no current emission factors for electricity, the values for 2015 were taken.</p>
GRI 302-2	<p>Underlying standards: : The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard, cf. also GRI 302-1</p> <p>Underlying methods and assumptions: For energy consumption in the upstream chain of purchased fuels and electricity, see GRI 302-1; for the energy consumption of purchased transport and distribution services EcoTransIT World was used; the Defra conversion factors and passenger kilometer estimates were used for the energy consumption of business travel. Energy consumption in excess of this was not taken into account as it is not relevant in terms of scale (e.g. employee commuting distances) or difficult to calculate (e.g. construction of purchased ships).</p>
GRI 302-4	<p>Underlying standards, methods and assumptions: The TEUs transported and the fuel consumed on our own and chartered ships form the basis of the calculation. Energy consumption for the 2010 base year was divided by the TEUs transported in 2010. The result was multiplied by the number of TEUs transported in the respective comparative year. The difference between this result and the actual energy consumption in the year in question is regarded as an energy saving as a result of efficiency measures.</p>
GRI 305-1	<p>Underlying standards: : cf. GRI 302-1</p> <p>Underlying methods and assumptions: Collection of fuel consumption data for container ships, bulkers, tankers, own trucks, and company vehicles; consumption data for natural gas, heating oil, electricity, and district heating based on supplier data, partly on estimates and projections if no data were available. The conversion factors for energy consumption are based on DIN EN 16258, Defra Voluntary Reporting Guidelines and Kranke et al. Wherever possible, country-specific factors were used for office consumption.</p> <p>Source of emission factors: The emission factors are based on the Defra Voluntary Reporting Guidelines for 2015, as no more recent data was available. The IPCC Fourth Assessment Report (AR4 – 100-year) was used for HFCs.</p> <p>Consolidation approach: Operational control</p>
GRI 305-2	<p>Underlying standards and source of emission factors: The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition), Defra Voluntary Reporting Guidelines and Conversion Factors, Kranke, A.; Schmied, M. & Schön, A.D. (2011): CO₂-Berechnung in der Logistik. (CO₂ Calculation in Logistics.). Munich: Vogel, EcoTransIT World (Business Solution).</p> <p>Underlying methods and assumptions: The data for electricity and district heating are based on data provided by utilities, partly on estimates and projections if no data were available.</p> <p>Consolidation approach: Operational control</p>
GRI 305-3	<p>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): CO₂-Berechnung in der Logistik. (CO₂ Calculation in Logistics.) Munich: Vogel, EcoTransIT World (Business Solution).</p> <p>Underlying methods and assumptions: The calculations for intermodal transport and slot charter were carried out using EcoTransIT World. For the respective transports at sea, the emission factors set by the Clean Cargo Working Group were used. For the calculation of emissions at sea, the correction factors recommended by the Clean Cargo Working Group for distance and capacity utilization were also applied. The data for electricity and district heating consumption are based on supplier data, partly on estimates and projections if no data were available.</p>

Addenda to the 2016/17 Sustainability Report for GRI 302 and GRI 305 standards

Calculation bases, sources, and underlying assumptions and estimates

GRI 305-5 **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

Underlying methods and assumptions: The TEUs transported and the emissions of our own and chartered container ships form the basis of the calculation. Emissions in the 2010 base year were divided by the TEUs transported in 2010. The result was multiplied by the number of TEUs transported in the respective comparative year. The difference between this result and the actual emissions in the year in question is considered a CO₂e saving as a result of efficiency measures.

Affected emissions: Scope 1 and Scope 3 – direct and other indirect emissions from own and chartered container ships.

GRI 305-7 **Underlying standards, methods and assumptions:**

For NO_x – NO_x emission factors were applied to fuels used on board own and chartered vessels. Emissions from intermodal transport and slot charter were calculated using EcoTransIT World on the basis of cargo volume and trade routes.

For SO₂ – The emissions of our own and chartered ships were calculated on the basis of the amount of fuel consumed and the sulfur content of the fuels. For emissions from intermodal transport and slot charter, see NO_x.

For PM₁₀ – PM emission factors have been applied to fuels consumed on board own and chartered vessels. For emissions from intermodal transport and slot charter, see NO_x.

Source of emission factors: For the NO_x and PM emissions of own and chartered ships, UK Defra factors were used, the calculation of SO₂ emissions is based on the amount of fuel consumed and the sulfur content of the fuels. The calculations for intermodal transport and slot charter were carried out using EcoTransIT World.