

Solstad Shipping AS


This report is an independent review of the company's Carbon Footprint Analysis based on the total energy consumption related to corporate operations. The carbon footprint gives a general overview of the company's greenhouse gas emissions, converted into CO₂ - equivalents and it is based on reported data from internal and external systems.

The analysis facilitates the identification of possible measures to reduce the energy consumption and thus also the overall carbon footprint. The purposes of the carbon indicators are to measure the carbon intensity per employee and per value creation in addition to showing environmental transparency towards external players.

The analysis is based on the international standard **Greenhouse Gas Protocol Initiative (GHG protocol)**, which is the most important standard for measuring greenhouse gas emissions, developed by World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). The GHG protocol consists of two accounting standards explaining how to calculate and report GHG emissions and was the basis for the ISO standard 14064-I. The GHG protocol founds its carbon inventory and reporting on three main scopes of direct and indirect emissions. The reporting considers the following greenhouse gases, all converted into CO₂ equivalents: CO₂, CH₄ (methane), N₂O (laughing gas), SF₆, HFCs and PFCs.

The company's total amount for 2009 are **355 908,2** tonnes CO₂.

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for CO2focus AS

Key figures emissions

Category	Consumption	Energy eq. (MWh) ¹	Emissions (tonnes CO ₂)	Percentage
Petrol	6 594 l	63,3	16,1	0 %
E85	- l	-	-	-
Diesel	9 892 l	95,0	24,2	0 %
Marine gas oil	118 247 000 l	1 194 295	326 026	92 %
Intermediate fuel oil	8 267 000 l	85 150	23 966	7 %
Electric cars	- kWh	-	-	-
Fuel oil / kerosene	- l	-	-	-
Propane / LPG	- l	-	-	-
Natural gas	- m3	-	-	-
Sum scope 1		1 279 603 MWh	350 032 tonnes CO₂	98 %
Electricity	831 000 kWh	831	82	0 %
District heating	- kWh	-	-	-
Sum scope 2		831 MWh	82 tonnes CO₂	0 %
Flight hours	75 438 hours		5 703	2 %
Train	- km	-	-	-
Transportation of goods	- tonne km	-	-	-
General waste	324 688 kg		88	0 %
Paper	136 244 kg		-	0 %
Glass	83 414 kg		3	0 %
Metal	60 000 kg		-	0 %
Plastic	85 000 kg		-	0 %
Organic waste	143 728 kg		-	0 %
Sum scope 3		-	5 794 tonnes CO₂	2 %
Total corporate CO₂ emissions		1 280 434 MWh	355 908 tonnes CO₂	100 %

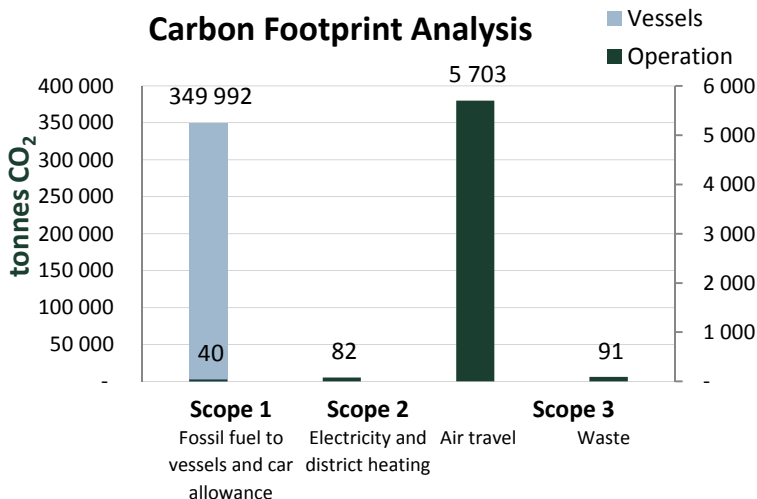
1) Energy equivalent is calculated for the corporate main operations (scope 1 and 2) to show the yearly energy intensity related to the corporate daily activities.

Energy and carbon indicators

2009

Total corporate CO ₂ emissions:	355 908
Total energy consumption scope 1 and 2 (MWh):	1 280 434
Energy consumption per vessel (kWh / vessel)	45 694
CO ₂ emissions per employee (tonnes CO ₂ / employee)	324
CO ₂ emissions per turnover (tonnes CO ₂ / million NOK)	142

Carbon Footprint Analysis



Reporting according to the Greenhouse Gas Protocol

Scope 1: Direct emissions

Comprises all direct emissions from company controlled sources, such as company vehicles, own power and heat generation, transportation of employees etc.

Scope 2: Indirect emissions

This level concerns all emissions from purchased energy, mainly electricity or district heating.

Scope 3: Indirect emissions

Comprises other indirect emissions from company activities originating from sources not controlled by the company, such as, emissions from sub-suppliers, service and waste management.

Key figures emissions

Category	2007	2008	Notes	2009	08/09
Petrol			1	16	
E85				-	
Diesel			1	24	
Marine gas oil			2	326 026	
Intermediate fuel oil			2	23 966	
Electric cars				-	
Fuel oil / kerosene				-	
Propane / LPG				-	
Natural gas				-	
Sum scope 1				350 032	
Electricity			3	82	
District heating				-	
Sum scope 2				82	
Air travel			4	5 703	
Train travel				-	
Transportation of goods				-	
General waste				88	
Paper			5	0	
Glass			5	3	
Metal			5	0	
Plastic			5	0	
Organic waste			5	0	
Sum scope 3				5 794	
Total corporate CO₂ emissions				355 908	

Notes

1. Reported annual fuel consumption from car allowance.
2. Reported annual fuel consumption from 28 vessels.
3. The factor used to calculate the emissions from electricity is based on a Nordic electricity production mix, the Nord Pool (2004-2008) and gives a value of 0,099 kg CO₂/KWh in 2009.
4. Air travel is based on travel hours, corresponding to 11 717 return flights. The data has been provided by HRG Nordic.
5. The amount of paper, glass, metal, organic waste and plastic, that is recycled, gives in this context zero emission. Glass that is recycled have a climate impact, that is much lower than if it was not recycled.

Reference

- Scope 1 - Carbon indicator for fuel; IMO, SFT (Norwegian Pollution Control Authority) and Energilink (Teknisk Ukeblad)
- Energy converting for fuel; Energilink and NVE, NP, BP and Statoil Forskningscenter (2001-2008).
- Scope 2 - Carbon indicator for electricity is calculated from a Nordic production mix. Reference: Nordel and PointCarbon.
- Carbon indicator for district heating is calculated out of an energy mix, reported from the district heating supplier.
- Scope 3 - Carbon indicator for flights is calculated based on information from Lavutslippsutvalget and DEFRA.
- Carbon indicator for transportation of goods; SINTEF, DEFRA, SSB, NSB, Swedish National Road and Transport Research Institute.
- Carbon indicator for the management of general waste: Grønn Byggallianse and recycled waste (energy- or material recycle) from Avfall Norge. Either the process of waste is energy- or recycling of waste materials, it gives in this context. zero emission.