

SPP

Carbon accounting report

The aim of this report is to get an overview of the organisation's greenhouse gas (GHG) emissions, which is an integrated part of the company's climate strategy. The carbon accounting is a fundamental tool in order to identify concrete measures to reduce the energy consumption and corresponding GHG emissions. The annual report enables the organisation to benchmark performance indicators and evaluate progress over time.

This report comprises all daily activities at the SPP office locations in Sweden, including stationary- and mobile energy use.

The input data is based on information from both internal and external data sources and then converted into tonnes CO₂-eq. The analysis is based on the international standard; A Corporate Accounting and Reporting Standard, developed by the Greenhouse Gas Protocol Initiative (GHG protocol). This is the most important standard for measuring greenhouse gas emissions and was the basis for the ISO standard 14064-1.

This report is provided by CO2focus AS.

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Energy and GHG emissions

Category	Description	Consumption	Unit	Energy (MWh eqv)	Emissions (tCO ₂ e)	Emissions (distribution)
Scope 1 total						
<i>Electricity</i>				655.1	59.6	9.8%
Electricity Nordic mix		654 560.0	kWh	654.6	59.6	9.8%
Electric car, Nordic mix		3 135.0	pkm	0.5	-	-
<i>District heating</i>				868.2	53.6	8.8%
District heating SE/Göteborg		15 081.0	kWh	15.1	0.8	0.1%
District heating SE/Stockholm		552 750.0	kWh	552.8	31.5	5.2%
District cooling SE/Stockholm		163 500.0	kWh	163.5	3.9	0.6%
District heating SE/Vasteras		74 250.0	kWh	74.3	13.3	2.2%
District heating SE/Malmö		45 288.0	kWh	45.3	3.4	0.6%
District cooling SE/Göteborg		8 371.0	kWh	8.4	0.3	-
District heating SE/Sundsvall		8 942.0	kWh	8.9	0.4	0.1%
Scope 2 total				1 523.3	113.2	18.6%
<i>Air travel</i>				-	371.7	61.1%
Flights		371.7	tCO ₂	-	371.7	61.1%
<i>Other travel</i>				12.6	1.1	0.2%
Train (SE)		179 763.0	pkm	12.6	1.1	0.2%
<i>Waste</i>				-	10.9	1.8%
Waste, incinerated		19 205.0	kg	-	9.6	1.6%
Paper, recycled		22 870.0	kg	-	0.7	0.1%
Glas, recycled		544.0	kg	-	-	-
Metal, recycled		161.0	kg	-	-	-
Organic, recycled		14 491.0	kg	-	0.5	0.1%
Plastic, recycled		518.0	kg	-	-	-
Special waste	Annet avfall	510.0	kg	-	-	-
<i>Materials & services</i>				438.6	111.3	18.3%
Diesel (B5)	km-godtgjørelse	11 754.4	liters	116.6	29.8	4.9%
Petrol	km-godtgjørelse	35 263.1	liters	322.0	81.5	13.4%
Scope 3 total				451.1	495.0	81.4%
Total				1 974.4	608.2	100.0%

The Energy and Carbon Accounting report for 2014 shows a total reduction in GHG emissions of 7,2 %, equivalent to 47,5 tonnes CO₂ eq. The main contributors to this result is a reduction in car allowance distance and purchased district heating in Stockholm. Furthermore, the emission factor for Nordic electricity is updated and reduced for 2014, leading to a more substantial emissions cut than the actual reduction in electricity consumption. In spite of a strong growth in air travels, SPP have achieved significant reductions from all other emission sources, leading to an overall emissions abatement. The number of full time positions increased by 25 in 2014.

Scope 1

SPP do not produce any Scope 1 emissions. Due to revised Scope 3 guidelines in the GHG Protocol, emissions from car allowance are considered indirect for the company and thus transferred to Scope 3.

Scope 2

Electricity: Actual (not temperature corrected) electricity consumption in own or rented premises (buildings) including

share of communal and/or tenant-specific consumption. Electricity consumption has been reported from the SPP locations in Stockholm (Klaraporten), Gothenburg (New offices in Nordstaden), Sundsvall, Västerås, Linköping and Malmö. All locations, except Gothenburg, have reported lower consumption in 2014. In addition to an actual reduction in usage of 3,6 %, the emissions factor for Nordic electricity was reduced by 19 % since 2013, due to a more renewable energy mix in the grid. In total, this led to an emissions reduction of almost 22 %.

The energy use in Linköping is revised for 2013, and transferred from the district heating category to electricity.

District heating/cooling: Actual and estimated energy consumption in own or rented premises (buildings). District heating consumption has been reported from the SPP locations in Stockholm (Klaraporten), Västerås, Sundsvall and Gothenburg. In addition, district cooling is used in Stockholm, Gothenburg and Västerås. Due to unavailable emission factor for district cooling in Västerås, the factor for district heating has been applied.

In 2014, the energy use in Stockholm was almost halved, while the new offices in Gothenburg consumed 80 % less energy than the previous, estimated figures. In total, the emissions from District heating and cooling decreased by almost 49 % in one year. The office area was reduced by 6 % in the same period.

Scope 3

Air and business travel: Annual air- and train travel reported by company travel agent. Employees at SPP travelled almost 2 230 000 km by air in 2014; a 45 % increase since 2013. Due to a different mix of travel routes, the calculated emissions increased by 42,5 %. SPP travelled 39 % less by train in 2014, compared to the previous year.

Car allowance (Materials & services): The estimated emissions from reported travel distance decreased by 44 % compared to 2013. The calculation is based on the average national car fleet in Sweden. There was a higher share of diesel run cars in 2014 compared to 2013.

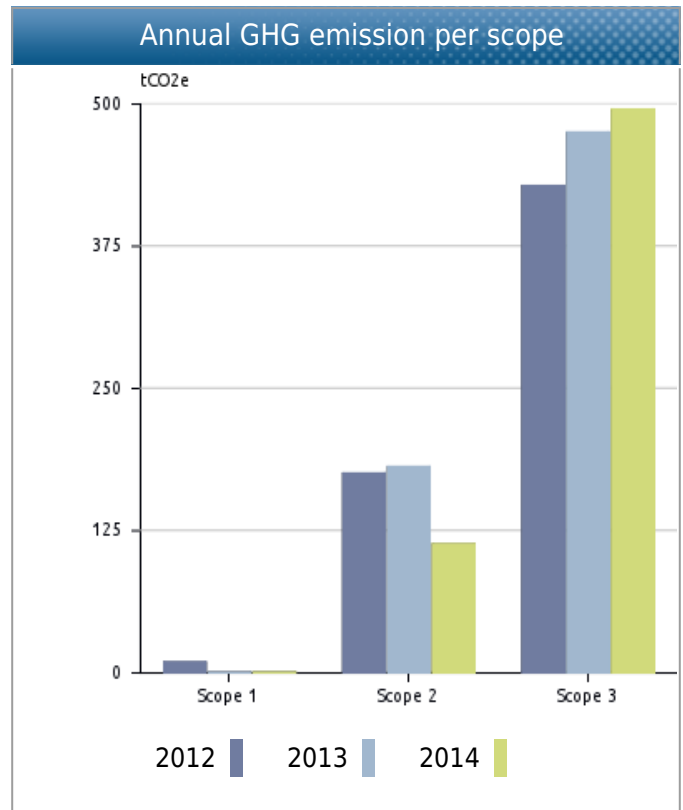
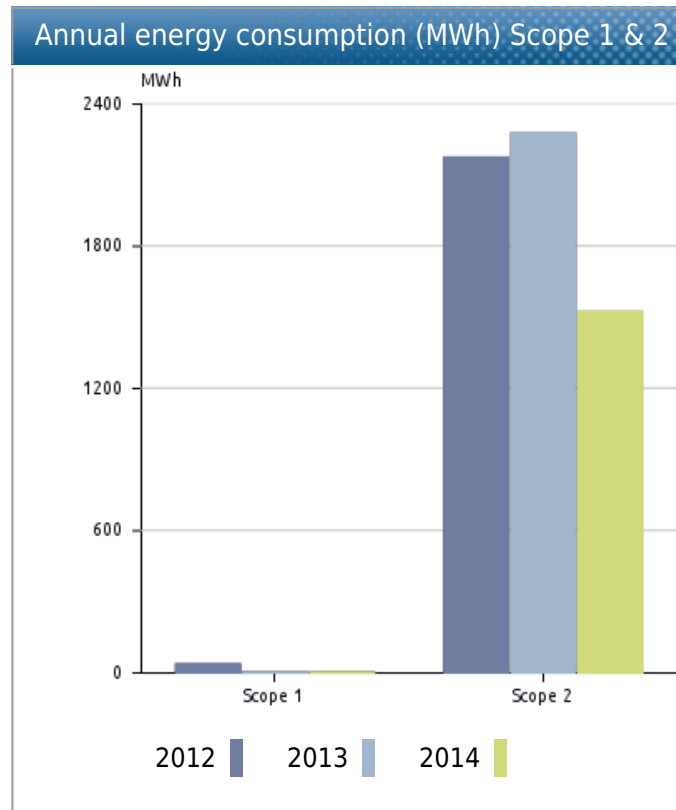
Waste: Reported waste fractions in kg and treatment method, reported by waste management company. The emission factors reflect treatment methods and also emissions generated by waste transportation. The waste volumes were revised for 2013 due to incomplete reporting by the waste management company. The organic waste fraction was introduced for 2013 and 2014. The overall waste volumes increased by 7 % in 2014, mainly due to increased organic waste.

Yearly report - GHG emissions (tCO₂e)

Category	Description	2012	2013	2014	% change from previous year
<i>Transportation</i>		9.2			-
Diesel (B5)	Leasing	1.2			-
Petrol	Leasing	8.0			-
Scope 1 Emissions		9.2			-
<i>District heating</i>		75.5	104.8	53.6	-48.9%
District cooling SE/Goteborg				0.3	100.0%
District cooling SE/Stockholm		11.3	7.3	3.9	-46.3%
District heating SE/Göteborg		7.0	7.0	0.8	-89.3%
District heating SE/Linköping			0.8		-100.0%
District heating SE/Malmö				3.4	100.0%
District heating SE/Stockholm		57.2	83.7	31.5	-62.4%
District heating SE/Sundsvall				0.4	100.0%
District heating SE/Vasteras			6.0	13.3	120.5%
<i>Electricity</i>		99.6	76.0	59.6	-21.6%
Electric car, Nordic mix				-	-
Electricity Nordic mix		99.6	76.0	59.6	-21.7%
Scope 2 Emissions		175.1	180.9	113.2	-37.4%
<i>Materials & services</i>		126.0	198.6	111.3	-43.9%
Diesel (B5)	km-godtgjørelse	16.0	25.2	29.8	18.0%
Petrol	km-godtgjørelse	110.0	173.3	81.5	-53.0%
<i>Air travel</i>		286.2	260.8	371.7	42.5%
Flights		286.2	260.8	371.7	42.5%
<i>Waste</i>		11.4	12.8	10.9	-14.7%
Glas,recycled		-	-	-	-
Metal,recycled		-	-	-	-
Organic,recycled			0.3	0.5	36.9%
Paper,recycled		0.7	0.6	0.7	24.5%
Plastic,recycled		-	-	-	-
Special waste	Annet avfall	-	-	-	-
Waste,incinerated		10.6	11.8	9.6	-18.0%
<i>Other travel</i>		4.1	2.7	1.1	-58.0%
Train (SE)		4.1	2.7	1.1	-58.0%
Scope 3 Emissions		427.8	474.8	495.0	4.3%
Total		612.1	655.7	608.2	-7.2%
Percentage change			7.1%	-7.2%	

Key energy and climate performance indicators

Name	Unit	2012	2013	2014	% change from previous year
Sum locations KWh/m2		179.0	193.1	64.6	-66.5%
tCO2e/årsverk	Gjennomsnitt årsverk	1.2	1.3	1.2	-11.6%
MWh/FTE		4.3	4.6	2.9	-36.2%



Methodology and sources

The Greenhouse Gas Protocol Initiative (GHG protocol) is developed by the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). This analysis is according to A Corporate Accounting and Reporting Standard Revised edition, currently one of four GHG Protocol accounting standards explaining how to calculate and report GHG emissions. The reporting considers the following greenhouse gases, all converted into CO₂ equivalents: CO₂, CH₄ (methane), N₂O (laughing gas), SF₆, HFCs and PFCs.

This analysis is based on the operational control aspect that defines what should be included in the carbon inventory, as well as in the different scopes. When using the control approach to consolidate GHG emissions, companies shall choose between either the operational control or financial control criteria. Under the control approach, a company accounts for the GHG emissions from operations over which it has control. It does not account for GHG emissions from operations in which it owns an interest but has no control.

The carbon inventory is divided into three main scopes of direct and indirect emissions.

Scope 1 Mandatory reporting includes all direct emission sources where the organisation has operational control. This includes all use of fossil fuels for stationary combustion or transportation, in owned, leased or rented assets. It also includes any process emissions, from e.g. chemical processes, industrial gases, direct methane emissions etc.

Scope 2 Mandatory reporting includes indirect emissions related to purchased energy; electricity or heating/cooling where the organisation has operational control. The electricity emissions factors used in CEMAsys is based on national gross electricity production mixes on a 5 year rolling average (IEA Stat). The Nordic electricity mix covers the weighted production in Sweden, Norway, Finland and Denmark, which reflects the common Nord Pool market area. Emission factors per fuel type are based on assumption in the IEA methodological framework. Factors for district heating/cooling are either based on actual (local) production mixes, or average IEA stat.

Scope 3 Voluntary reporting of indirect emissions from purchased products or services in the value chain. The scope 3 emissions are a result of the company's different activities, which are not controlled by the company, i.e. they're indirect. Examples are business travel, goods transportation, waste handling, consumption of products etc. In general, the GHG report should include information that users, both internal and external to the company need for their decision making. An important aspect of relevance is the selection of an appropriate inventory boundary that reflects the substance and economic reality of the company's business relationships.

References:

DEFRA (2013). Environmental reporting guidelines: Including mandatory greenhouse gas emissions reporting guidance. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/206392/pb13944-env-reporting-guidance.pdf

DEFRA (2014). 2014 guidelines to DEFRA/DECC's GHG conversion factor for company reporting (updated 19.11.2014). Produced by AEA for the Department of Energy and Climate Change (DECC) and the Department for Environment, Food, and Rural Affairs (DEFRA).

IEA (2014). CO₂ emission from fuel combustion: Highlights (2014 edition). International Energy Agency (IEA), Paris.

IEA (2014). Electricity information (2014 edition). International Energy Agency (IEA), Paris.

IMO (2014). Reduction of GHG emissions from ships - Third IMO GHG Study 2014 (Final report). International Maritime Organisation, <http://www.iadc.org/wp-content/uploads/2014/02/MEPC-67-6-INF3-2014-Final-Report-complete.pdf>

International Standard Organisation (2009). ISO 14064: International standard for GHG emissions inventories and verification (2009 review). Raleigh, NC: 16th Annual International Emissions Inventory Conference.

IPCC (2014). IPCC fifth assessment report: Climate change 2013 (AR5 updated version November 2014). <http://www.ipcc.ch/report/ar5>

OFV (2014). Bilstatistikk 2001-2014. Opplysningsrådet for Veitrafikken, <http://www.ofv.no>

SCB (2014). Fordon 2006-2013. Statistiska centralbyrån, www.scb.se

SimaPro (2014). Ecoinvent (3.version). SimaPro life cycle analysis version 8 (software).

WBCSD/WRI (2004). The greenhouse gas protocol. A corporate accounting and reporting standard (revised edition). World Business Council on Sustainable Development (WBCSD), Geneva, Switzerland /World Resource Institute (WRI), Washington DC, USA, 116 pp.

WBCSD/WRI (2011). Corporate value chain (Scope 3) accounting and reporting standard: Supplement to the GHG Protocol corporate accounting and reporting standard. World Business Council on Sustainable Development (WBCSD), Geneva, Switzerland /World Resource Institute (WRI), Washington DC, USA, 149 pp.

WBCSD/WRI (2015). GHG protocol Scope 2 guidance: An amendment to the GHG protocol corporate standard. World Business Council on Sustainable Development (WBCSD), Geneva, Switzerland /World Resource Institute (WRI), Washington DC, USA, 117 pp.