



Carbon Accounting Report 2019

Skagen AS

This report provides an overview of the organisation's greenhouse gas (GHG) emissions, which is an integrated part of the organisation's climate strategy. Carbon accounting is a fundamental tool in identifying tangible measures to reduce GHG emissions. The annual carbon accounting report enables the organisation to benchmark performance indicators and evaluate progress over time.

This report comprises the following organisational locations; Norway (Stavanger (main office), Bergen, Oslo, Trondheim, Ålesund), Sweden, Denmark, Germany, Holland and UK.

The input data is based on consumption data from internal and external sources, which are converted into tonnes CO₂-equivalents (tCO₂e). The carbon footprint analysis is based on the international standard; *A Corporate Accounting and Reporting Standard*, developed by the Greenhouse Gas Protocol Initiative (GHG Protocol). The GHG Protocol is the most widely used and recognised international standard for measuring greenhouse gas emissions and is the basis for the ISO standard 14064-1.

Reporting Year Energy and GHG Emissions

Emission source	Description	Consumption	Unit	Energy (MWh)	Emissions tCO ₂ e	% share
Electricity total				341.1	25.5	12.5 %
Electricity Nordic mix		283,278.7	kWh	283.3	11.0	5.4 %
Electricity Denmark 125		41,645.0	kWh	41.6	8.4	4.1 %
Electricity Sweden		627.5	kWh	0.6	-	-
Electricity Germany		2,459.0	kWh	2.5	1.1	0.5 %
Electricity Netherlands		6,915.0	kWh	6.9	3.2	1.6 %
Electricity United Kingdom		6,147.0	kWh	6.1	1.8	0.9 %
DH Nordic locations total				63.8	1.5	0.7 %
District heating SE/Stockholm		1,431.0	kWh	1.4	0.1	0.1 %
District heating NO/Oslo		24,297.0	kWh	24.3	0.4	0.2 %
District cooling SE/Stockholm		575.0	kWh	0.6	-	-
District heating NO/Trondheim		10,569.0	kWh	10.6	0.5	0.2 %
District heating NO/Bergen		23,662.0	kWh	23.7	0.5	0.2 %
District heating NO/Aalesund		3,264.0	kWh	3.3	-	-
Scope 2 total				404.9	27.0	13.2 %
Waste total				-	2.7	1.3 %
Residual waste, incinerated		5,193.0	kg	-	2.6	1.3 %
Paper waste, recycled		2,202.2	kg	-	-	-
Glass waste, recycled		552.4	kg	-	-	-
Metal waste, recycled		65.5	kg	-	-	-
Organic waste, recycled		490.0	kg	-	-	-
Plastic waste, recycled		51.8	kg	-	-	-
EE waste, recycled		25.9	kg	-	-	-
Hazardous waste, recycled		2.7	kg	-	-	-
Business travel total				-	173.6	85.2 %
Hotel nights, world		3.0	nights	-	0.1	0.1 %
Hotel nights, Nordic		128.0	nights	-	2.0	1.0 %
Hotel nights, Europe		29.0	nights	-	0.7	0.3 %
Mileage all. car (NO)		18,974.0	km	-	2.7	1.3 %
Mileage all. el car Nordic		-	km	-	-	-
Continental/Nordic, RF		359,193.0	pkm	-	56.9	27.9 %
Intercontinental, RF		224,633.0	pkm	-	43.9	21.5 %
Domestic, RF		251,524.0	pkm	-	64.1	31.4 %
Mileage all. avg. car		18,073.0	km	-	3.2	1.6 %
Mileage all. car (DK)		-	km	-	-	-
Purchased goods and services total				-	0.6	0.3 %
Water supply, municipal		1,725.6	m ³	-	0.6	0.3 %
Scope 3 total				-	176.9	86.8 %
Total				404.9	203.9	100.0 %
KJ				1,457,532,720.0		

Reporting Year Market-Based GHG Emissions

Category	Unit	2019
Electricity market-based	tCO ₂ e	53.8
Scope 2 market-based	tCO ₂ e	55.2
Total market-based	tCO ₂ e	232.1

Please note that a - in the table over Waste means that it is less than 0.1 tonne, and therefore the number is not shown. On the left the amount of kilograms are shown.

Annual GHG Emissions

Category	Description	2019	2019	2019	% change from previous year
Electricity total		25.5	25.5	25.5	-
Electricity Nordic mix		11.0	11.0	11.0	-
Electricity Denmark 125		8.4	8.4	8.4	-
Electricity Sweden		-	-	-	-
Electricity Germany		1.1	1.1	1.1	-
Electricity Netherlands		3.2	3.2	3.2	-
Electricity United Kingdom		1.8	1.8	1.8	-
DH Nordic locations total		1.5	1.5	1.5	-
District heating SE/Stockholm		0.1	0.1	0.1	-
District heating NO/Oslo		0.4	0.4	0.4	-
District cooling SE/Stockholm		-	-	-	-
District heating NO/Trondheim		0.5	0.5	0.5	-
District heating NO/Bergen		0.5	0.5	0.5	-
District heating NO/Aalesund		-	-	-	-
Scope 2 total		27.0	27.0	27.0	-
Waste total		2.7	2.7	2.7	-
Residual waste, incinerated		2.6	2.6	2.6	-
Paper waste, recycled		-	-	-	-
Glass waste, recycled		-	-	-	-
Metal waste, recycled		-	-	-	-
Organic waste, recycled		-	-	-	-
Plastic waste, recycled		-	-	-	-
EE waste, recycled		-	-	-	-
Hazardous waste, recycled		-	-	-	-
Business travel total		173.6	173.6	173.6	-
Hotel nights, world		0.1	0.1	0.1	-
Hotel nights, Nordic		2.0	2.0	2.0	-
Hotel nights, Europe		0.7	0.7	0.7	-
Mileage all. car (NO)		2.7	2.7	2.7	-
Mileage all. el car Nordic		-	-	-	-
Continental/Nordic, RF		56.9	56.9	56.9	-
Intercontinental, RF		43.9	43.9	43.9	-
Domestic, RF		64.1	64.1	64.1	-
Mileage all. avg. car		3.2	3.2	3.2	-
Mileage all. car (DK)		-	-	-	-
Purchased goods and services total		0.6	0.6	0.6	-
Water supply, municipal		0.6	0.6	0.6	-
Scope 3 total		176.9	176.9	176.9	-
Total		203.9	203.9	203.9	-
Percentage change		100.0 %	100.0 %	100.0 %	

Annual energy consumption (MWh) Scope 1 & 2

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Annual GHG emission per scope

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Annual Market-Based GHG Emissions

Category	Unit	2019	2019	2019
Electricity market-based	tCO ₂ e	53.8	53.8	53.8
Scope 2 market-based	tCO ₂ e	55.2	55.2	55.2
Total market-based	tCO ₂ e	232.1	232.1	232.1
Percentage change		100.0 %	100.0 %	100.0 %

Annual Key Energy and Climate Performance Indicators

Name	Unit	2019	2019	2019	% change from previous year
Total emissions (s1+s2+s3) (tCO2e)		203.9	203.9	203.9	-

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 on calculating and reporting GHG emissions. The reporting considers the following greenhouse gases, all converted into CO₂-equivalents: CO₂, CH₄ (methane), N₂O (laughing gas), SF₆, HFCs and PFCs.

For corporate reporting, two distinct approaches can be used to consolidate GHG emissions: the equity share and the control approaches. The most common consolidation approach is the control approach, which can be defined in either financial or operational terms.

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

Scope 1 includes all direct emission sources. This includes all use of fossil fuels for stationary combustion or transportation, in owned and, depending on the consolidation approach selected, leased, or rented assets. It also includes any process emissions, from e.g. chemical processes, industrial gases, direct methane emissions etc.

Scope 2 includes indirect emissions related to purchased energy; electricity and heating/cooling where the organisation has operational control. The electricity emission factors used in Cemsys are based on national gross electricity production mixes on 3 years rolling average from the International Energy Agency's statistics (IEA Stat). Emission factors per fuel type are based on assumptions in the IEA methodological framework. Factors for district heating/cooling are either based on actual (local) production mixes, or average IEA statistics.

In January 2015, the GHG Protocol published new guidelines for calculating emissions from electricity consumption. Primarily two methods are used to "allocate" the GHG emissions created by electricity generation to the end consumers of a given grid. These are the location-based and the market-based method. The location-based method reflects the average emissions intensity of grids on which energy consumption occurs, while the market-based method reflects emissions from electricity that companies have purposefully chosen (or not chosen).

Organisations who report on their GHG emissions will now have to disclose both location-based emissions from the production of electricity and the market-based emissions related to the potential purchase of Guaranties of Origin (GoO) and Renewable Energy Certificates (RECs).

The purpose of this amendment in the reporting method is on the one hand to show the impact of energy efficiency measures, and on the other hand to display how the acquisition of GoOs or RECs affect the GHG-emissions. Using both methods in the emission reporting highlights the effect of all measures regarding electricity consumption.

The location-based method: The location-based method is based on statistical emissions information and electricity output aggregated and averaged within a defined geographic boundary and during a defined time period. Within this boundary, the different energy producers utilize a mix of energy resources, where the use of fossil fuels (coal, oil, and gas) result in direct GHG-emissions. These emissions are reflected in the location-based emission factor.

The market-based method: The choice of emission factor using this method is determined by whether the business acquires GoOs/RECs or not. When selling GoOs or RECs, the supplier certifies that the electricity is produced exclusively by renewable sources, which has an emission factor of 0 grams CO₂e per kWh. However, for electricity without the GoO or REC, the emission factor is based on the remaining electricity production after all GoOs and RECs for renewable energy are sold. This is called a residual mix, which is normally substantially higher than the location-based factor. As an example, the market-based Norwegian residual mix factor is approximately 7 times higher than the location-based Nordic mix factor. The reason for this high factor is due to Norway's large export of GoOs/RECs to foreign consumers. In a market perspective,

this implies that Norwegian hydropower is largely substituted with an electricity mix including fossil fuels.

Scope 3 includes indirect emissions resulting from value chain activities. The scope 3 emissions are a result of the company's upstream and downstream activities, which are not controlled by the company, i.e. they are indirect. Examples are business travel, goods transportation, waste handling, consumption of products etc.

In general, the carbon accounting 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.