

# Carbon Accounting Report 2022

---

## Storebrand & SPP

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 units: Storebrand ASA, including the headquarter in Norway and SPP office in Sweden.

The input data is based on consumption data from internal and external sources, which are converted into tonnes CO<sub>2</sub>-equivalents (tCO<sub>2</sub>e). 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 <sub>2</sub> e	% share
<b>Transportation total</b>				<b>4.1</b>	<b>0.8</b>	<b>0.1 %</b>
	Diesel (NO)	393.4	liters	4.1	0.8	0.1 %
<b>Scope 1 total</b>				<b>4.1</b>	<b>0.8</b>	<b>0.1 %</b>
<b>Electricity total</b>				<b>3,125.1</b>	<b>81.3</b>	<b>12.0 %</b>
	Electricity Nordic mix	3,125,068.0	kWh	3,125.1	81.3	12.0 %
<b>District heating location total</b>				<b>2,401.2</b>	<b>31.8</b>	<b>4.7 %</b>
	District heating NO/Lysaker/Fornebu/Lilleaker	1,841,043.0	kWh	1,841.0	15.1	2.2 %
	District heating SE/Stockholm	397,009.0	kWh	397.0	16.7	2.5 %
	District cooling SE/Stockholm	163,149.0	kWh	163.1	-	-
<b>Scope 2 total</b>				<b>5,526.3</b>	<b>113.0</b>	<b>16.6 %</b>
<b>Waste total</b>				<b>-</b>	<b>20.5</b>	<b>3.0 %</b>
	Residual waste, incinerated	37,738.0	kg	-	18.9	2.8 %
	Paper waste, recycled	26,169.0	kg	-	0.6	0.1 %
	Glass waste, recycled	5,254.0	kg	-	0.1	-
	Plastic waste, recycled	4,330.0	kg	-	0.1	-
	Organic waste, treated	32,649.0	kg	-	0.7	0.1 %
	Special waste	134.0	kg	-	-	-
	EE waste, recycled	2,600.0	kg	-	0.1	-
	Wood waste, recycled	1,376.0	kg	-	-	-
	Metal waste, recycled	464.0	kg	-	-	-
<b>Business travel total</b>				<b>-</b>	<b>544.2</b>	<b>80.0 %</b>
	Flights	513.5	tCO <sub>2</sub> e	-	513.5	75.5 %
	Mileage all. car (NO)	237,331.0	km	-	17.8	2.6 %
	Mileage all. el car Nordic	64,574.0	km	-	0.3	-
	Taxi	59,938.0	km	-	12.5	1.8 %
	Train (SE)	302,029.0	pkm	-	0.1	-
<b>Water total</b>				<b>-</b>	<b>1.4</b>	<b>0.2 %</b>
	Water supply, municipal	9,305.0	m <sup>3</sup>	-	1.4	0.2 %
<b>Scope 3 total</b>				<b>-</b>	<b>566.1</b>	<b>83.3 %</b>
<b>Total</b>				<b>5,530.4</b>	<b>679.9</b>	<b>100.0 %</b>
<b>KJ</b>			<b>19,909,283,133.6</b>			

## Reporting Year Market-Based GHG Emissions

Category	Unit	2022
Electricity Total (Scope 2) with Market-based calculations	tCO <sub>2</sub> e	-
Scope 2 Total with Market-based electricity calculations	tCO <sub>2</sub> e	31.8
Total Market-based	tCO <sub>2</sub> e	598.7

In the carbon accounting for 2022, Storebrand and SPP had a total of 598.7 tons of CO<sub>2</sub>-equivalents (tCO<sub>2</sub>e), market based. This was an increase of 395.5 tCO<sub>2</sub>e, or 194.6%, compared to 2021. The main source of emissions is Scope 3, Business Travel. Even though emissions from this category have increased since 2021, total emissions from business travels are reduced by 806.3 tCO<sub>2</sub>e or 57.4% compared to the last pre-pandemic year 2019. Showing that some of the new working habits with digital meetings and home office has had a significant impact and reduced the need for travel. A doubling of residual waste shows that our workers have returned to the office after the pandemic.

The greenhouse gas (GHG) emissions in 2022 were separated into scopes 1, 2, and 3 in the following way:

<b>Scope 1:</b>	0.8 tCO <sub>2</sub> e	(0.1 %)
<b>Scope 2:</b>	113.0 tCO <sub>2</sub> e	(16.6 %)
<b>Scope 3:</b>	566.1 tCO <sub>2</sub> e	(83.3 %)

From 2021 to 2022 there has been an increase in emissions for Scope 1 and 3, and a decrease for Scope 2.

### Scope 1

**Company cars:** Diesel consumption includes the only company car, in Norway.

### Scope 2

**Electricity:** Measured use of electricity in company-owned or leased locations. The table shows emissions from electricity with the location-based emission factor Nordic Mix. Note that the emission factor Nordic Mix has decreased by 16.13% compared to 2021. Electricity with a market-based emission factor, called Market-based electricity (GoO & residual), is presented on page 5. Guaranties of Origin (GoO) have been purchased for 100% of the electricity consumption. For consumption with GoO, the emission factor is zero. For consumption of electricity without GoO's the emissions factor Nordic Residual Mix is used. This practice of presenting electricity with two different emissions factors was introduced in 2015. This is further explained under Scope 2 in the Methodology section.

**District heating and cooling:** Consumption of energy from district heating and cooling per location reported.

From 2020 scope 2 emissions cover headquarters in Norway and Sweden only.

### Scope 3

**Air travel:** Annual emissions from air travel reported in tCO<sub>2</sub>e from the travel agency.

**Mileage allowance:** Emissions from traveling with employees' own vehicles from mileage allowance, reported in km.

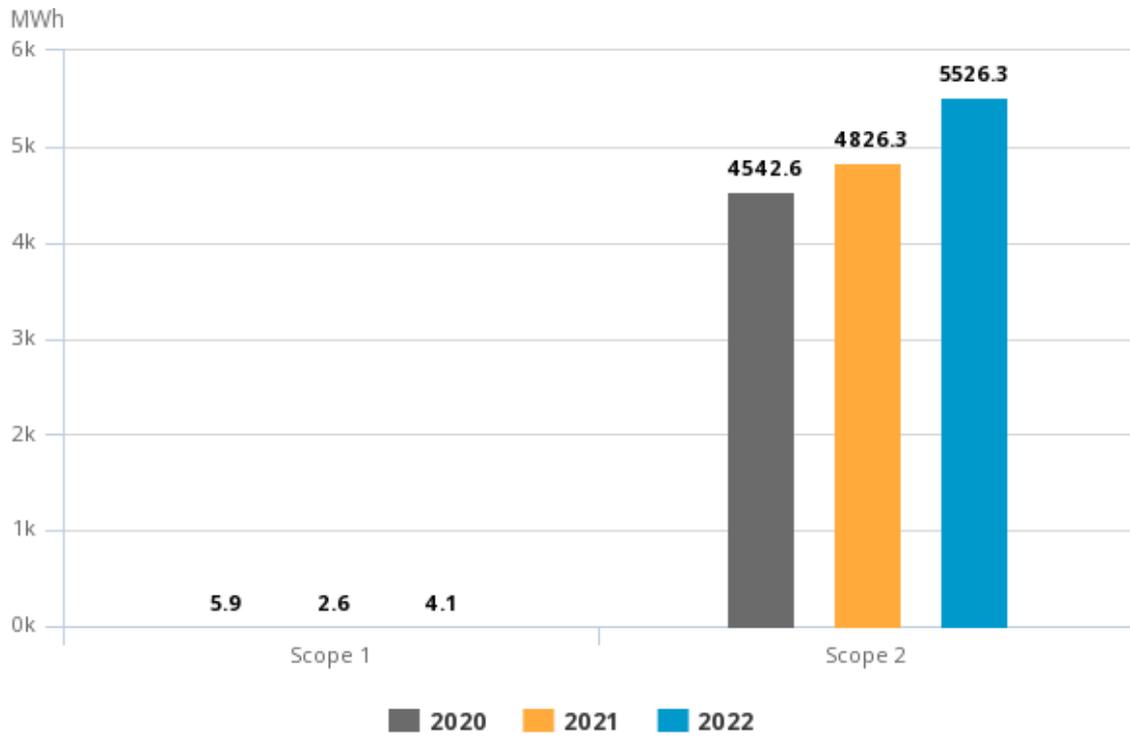
**Waste:** Reported annual waste generation in kg per type and recycling or incineration processes.

**Other travel:** Reported travel by train in Sweden.

## Annual GHG Emissions

Category	Description	2020	2021	2022	% change from previous year
<b>Transportation total</b>		<b>1.2</b>	<b>0.5</b>	<b>0.8</b>	<b>57.0 %</b>
Diesel (NO)		1.2	0.5	0.8	57.0 %
<b>Scope 1 total</b>		<b>1.2</b>	<b>0.5</b>	<b>0.8</b>	<b>57.0 %</b>
<b>Electricity total</b>		<b>107.1</b>	<b>78.0</b>	<b>81.3</b>	<b>4.2 %</b>
Electricity Nordic mix	Lysaker	83.5	60.2	-	-100.0 %
Electricity Nordic mix	Stockholm	23.6	17.8	-	-100.0 %
Electricity Nordic mix		-	-	81.3	100.0 %
<b>District heating location total</b>		<b>41.2</b>	<b>41.5</b>	<b>31.8</b>	<b>-23.4 %</b>
District heating NO/Lysaker/Fornebu/Lilleaker		12.3	14.0	15.1	8.2 %
District heating SE/Stockholm		28.9	27.5	16.7	-39.4 %
District cooling SE/Stockholm		-	-	-	-
<b>Scope 2 total</b>		<b>148.3</b>	<b>119.5</b>	<b>113.0</b>	<b>-5.4 %</b>
<b>Business travel total</b>		<b>257.3</b>	<b>149.7</b>	<b>544.2</b>	<b>263.5 %</b>
Flights		230.1	130.2	513.5	294.4 %
Mileage all. car (NO)		26.8	13.7	17.8	30.1 %
Mileage all. el car Nordic		0.3	0.2	0.3	28.0 %
Taxi		-	5.6	12.5	124.7 %
Train (SE)		-	-	0.1	303.4 %
<b>Waste total</b>		<b>21.2</b>	<b>10.7</b>	<b>20.5</b>	<b>90.7 %</b>
Residual waste, incinerated		17.7	9.0	18.9	110.3 %
Paper waste, recycled		0.6	0.7	0.6	-21.5 %
Glass waste, recycled		0.1	-	0.1	158.1 %
Metal waste, recycled		-	-	-	-73.8 %
Plastic waste, recycled		0.1	0.1	0.1	-28.4 %
Organic waste, treated		1.0	0.4	0.7	60.9 %
Special waste		0.2	-	-	3.9 %
EE waste, recycled		1.5	-	0.1	43.6 %
Wood waste, recycled		-	0.3	-	-91.5 %
<b>Water total</b>		<b>2.3</b>	<b>0.8</b>	<b>1.4</b>	<b>74.7 %</b>
Water supply, municipal		2.3	0.8	1.4	74.7 %
<b>Scope 3 total</b>		<b>280.8</b>	<b>161.3</b>	<b>566.1</b>	<b>251.0 %</b>
<b>Total</b>		<b>430.3</b>	<b>281.2</b>	<b>679.9</b>	<b>141.8 %</b>
<b>Percentage change</b>		<b>100.0 %</b>	<b>-34.6 %</b>	<b>141.8 %</b>	

### Annual energy consumption (MWh) Scope 1 & 2



### Annual Market-Based GHG Emissions

Category	Unit	2020	2021	2022
Electricity Total (Scope 2) with Market-based calculations	tCO <sub>2</sub> e	-	-	-
Scope 2 Total with Market-based electricity calculations	tCO <sub>2</sub> e	41.2	41.5	31.8
Total Market-based	tCO <sub>2</sub> e	323.2	203.2	598.7
Percentage change		100.0 %	-37.1 %	194.6 %

## Annual Key Energy and Climate Performance Indicators

Name	Unit	2020	2021	2022	% change from previous year
Scope 1 + 2 emissions (tCO <sub>2</sub> e)		149.5	120.0	113.8	-5.1 %
Total emissions (s1+s2+s3) (tCO <sub>2</sub> e)		430.3	281.2	679.9	141.8 %
Total energy scope 1 + 2 (MWh)		4,548.5	4,828.9	5,530.4	14.5 %
Sum energy per location (MWh)		4,542.6	4,826.3	5,526.3	14.5 %
Sum square meters (m <sup>2</sup> )		36,314.0	36,314.0	36,314.0	-
Sum locations kWh/m <sup>2</sup>		125.1	132.9	152.2	14.5 %

## Methodology and sources

The Greenhouse Gas Protocol initiative (GHG Protocol) was developed by the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). This analysis is done 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 CO<sub>2</sub>-equivalents: CO<sub>2</sub>, CH<sub>4</sub> (methane), N<sub>2</sub>O (laughing gas), SF<sub>6</sub>, HFCs, PFCs and NF<sub>3</sub>.

For corporate reporting, two distinct approaches can be used to consolidate GHG emissions: the equity share approach and the control approach. 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 CEMAsys are based on national gross electricity production mixes 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 methods. The location-based method reflects the average emission intensity of the 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 the location-based emissions from the production of electricity, and the market-based emissions related to the potential purchase of Guarantees of Origin (GoOs) and Renewable Energy Certificates (RECs).

The purpose of this amendment in the reporting methodology 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 factors when 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 CO<sub>2</sub>e 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 which reflects the substance and economic reality of the company's business relationships.

## References

[Department for Business, Energy & Industrial Strategy](#) (2021). Government emission conversion factors for greenhouse gas company reporting (DEFRA)

IEA (2021). CO2 emission from fuel combustion, International Energy Agency (IEA), Paris. IEA (2019). Electricity information, International Energy Agency (IEA), Paris.

IMO (2021). 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>

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

AIB, RE-DISS (2021). Reliable disclosure systems for Europe – Phase 2: European residual mixes.

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.