Carbon Accounting Report 2023

Storebrand Real Estate

Storebrand Eiendomsfond Norge (SEN KS)

The aim of this report is to get an overview of the organization's greenhouse gas (GHG) emissions, which is an integrated part of the company's climate strategy. Carbon accounting is a fundamental tool to assess and identify concrete measures to reduce GHG emissions. The annual report enables the organization to benchmark performance indicators like carbon intensity and evaluate progress over time. The report covers 100 % of the SEN KS portfolio with (for comparability) a full operational year in the company's ownership, consisting of 20 properties totaling 450 326 m2 in 2023, as listed below. The fund invests in properties in Norway only.

SEN KS:

1. Grev Wedels Plass 9, including Skippergata 3
2. Brynsalleen 6
3. Nydalsveien 36-38
4. Gullhaug Torg 2B
5. Philip Pedersens vei 7-9 (Lysaker Polaris)
6. Solheimsgaten 7A-E
7. Dikeveien 28 (Østfoldhallen Kjøpesenter)
8. Dikeveien 17-19 (Østfoldhallene Big Box)
9. Biblioteksgata 30 (Metro Kjøpesenter)
10. Gneisveien 18 (Bergerterminalen)
11. Gneisveien 12 (Berger Omlastningssentral)
12. Stormåsan 19 (Deli Skog Syd Øst)
13. Bonntjennsvegen 12 – 14
14. Martin Linges Vei 2 (Fornebu Hotell)
15. Lagårdsveien 44 (Statens hus)
16. Destilleriveien 11
17. Innspurten 7 (Helsfyr Hotell)
18. Stillverksveien 28 (Portalen Hotell)
19. Lagårdsveien 46 (Skattens hus)
20. Dr. Hansteins Gate 13-17 (Spor X)

The accounts include the buildings' full operational emissions from energy and water consumption and waste production and handling. Tenant energy emissions are allocated in Scopes 1 and 2. The practice of allocating energy-related emissions from tenant spaces in scope 3 is becoming common and is allowed according to the GHG protocol. This will be considered going forward.

Reporting Year Energy and GHG Emissions

Emission source	Description	Consumption	Unit	Energy (MWh)	Emissions tCO_2e	% share
Stationary combustion total				**313.3**	**67.3**	**3.1 %**
LPG		-	kWh	-	-	-
LPG	Oppv/kjol	311,464.0	kWh	311.5	66.8	3.1 %
Burning oil	Oppv/kjol	1,836.0	kWh	1.8	0.5	-
Scope 1 total				**313.3**	**67.3**	**3.1 %**
Electricity total				**48,131.3**	**1,347.7**	**63.0 %**
Electricity Nordic mix	Fellesanlegg	7,874,569.1	kWh	7,874.6	220.5	10.3 %
Electricity Nordic mix	Leietakere	40,256,706.9	kWh	40,256.7	1,127.2	52.7 %
District heating location total				**15,932.4**	**111.5**	**5.2 %**
District heating NO/Oslo		6,629,280.1	kWh	6,629.3	59.0	2.8 %
District heating NO/Fredrikstad		1,242,475.7	kWh	1,242.5	4.6	0.2 %
District heating NO/Stavanger/Sandnes		1,100,498.0	kWh	1,100.5	0.8	-
District heating NO/Bergen		1,456,950.5	kWh	1,457.0	1.7	0.1 %
District heating NO/Nydalen		926,295.3	kWh	926.3	12.2	0.6 %
District cooling NO/Nydalen		275,951.6	kWh	276.0	1.8	0.1 %
District heating NO/Lysaker/Fornebu/Lilleaker		1,958,370.0	kWh	1,958.4	11.0	0.5 %
District cooling NO/Sandvika		1,110,780.0	kWh	1,110.8	7.1	0.3 %
District heating NO/Drammen		179,939.0	kWh	179.9	6.9	0.3 %
District cooling NO/Bergen		1,051,890.4	kWh	1,051.9	6.3	0.3 %
District heating general total				**306.8**	**-**	**-**
District heating, renewable	Bioolje	306,834.0	kWh	306.8	-	-
Scope 2 total				**64,370.5**	**1,459.1**	**68.2 %**
Waste total				**-**	**583.4**	**27.3 %**
Residual waste, incinerated	Usortert	939,000.0	kg	-	517.4	24.2 %
Mixed waste, recycled	Sortert	3,069,484.0	kg	-	65.4	3.1 %
Mixed waste, recycled	sortert	30,708.0	kg	-	0.7	-
Water total				**-**	**28.8**	**1.3 %**
Water supply, municipal		162,655.7	m^3	-	28.8	1.3 %
Scope 3 total				**-**	**612.2**	**28.6 %**
Total				**64,683.8**	**2,138.6**	**100.0 %**
KJ				**232,861,826,160.0**		

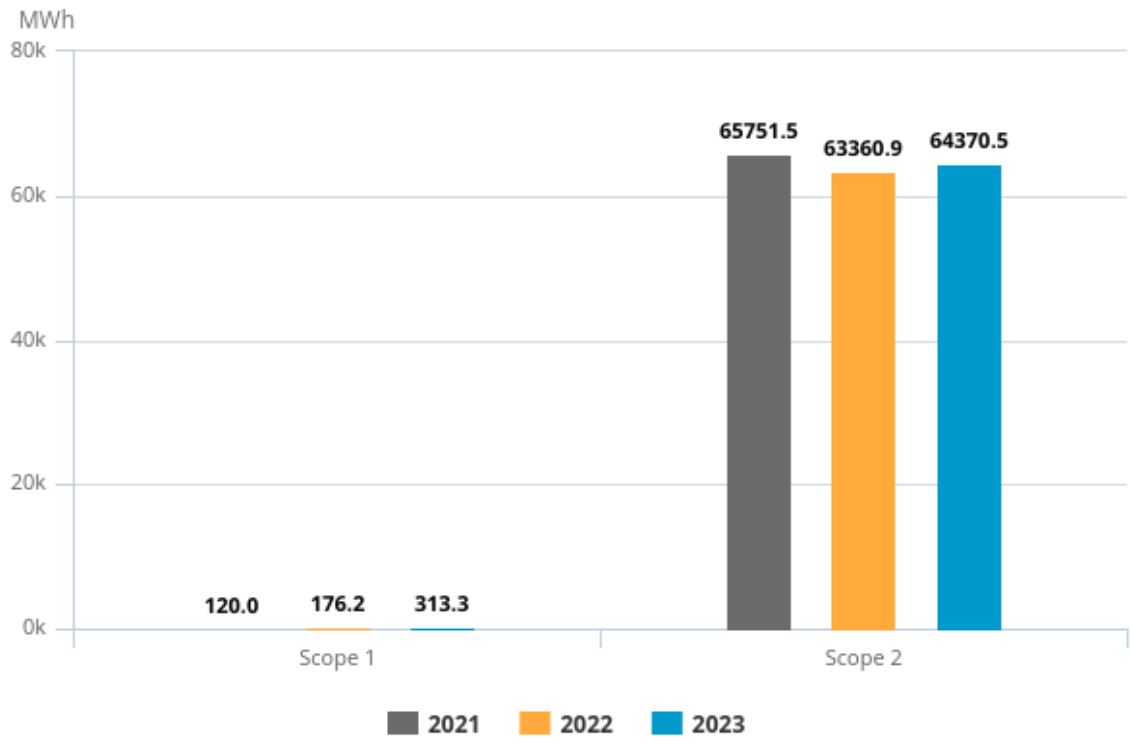
Reporting Year Market-Based GHG Emissions

Category	Unit	2023
Electricity Total (Scope 2) with Market-based calculations	tCO_2e	15,787.1
Scope 2 Total with Market-based electricity calculations	tCO_2e	15,898.5
Scope 1+2+3 Total with Market-based electricity calculations	tCO_2e	16,578.0

Annual GHG Emissions

Category	Description	2021	2022	2023	% change from previous year
Stationary combustion total		**25.8**	**37.8**	**67.3**	**78.0 %**
LPG		-	-	-	-
LPG	Oppv/kjol	25.6	-	66.8	100.0 %
LPG	Oppv/kjøl	-	37.7	-	-100.0 %
Burning oil	Oppv/kjol	0.2	-	0.5	100.0 %
Burning oil	Oppv/kjøl	-	0.2	-	-100.0 %
Refrigerants total		**-**	**8.8**	**-**	**-**
R-452A		-	8.8	-	-100.0 %
Scope 1 total		**25.8**	**46.6**	**67.3**	**44.4 %**
Electricity location-based total		**1,533.5**	**1,265.4**	**1,347.7**	**6.5 %**
Electricity Nordic mix	Fellesanlegg	262.7	208.6	220.5	5.7 %
Electricity Nordic mix	Leietakere	1,256.8	934.4	1,127.2	20.6 %
Electricity Nordic mix		14.0	122.4	-	-100.0 %
District heating location total		**127.3**	**120.2**	**111.5**	**-7.2 %**
District heating NO/Oslo		77.6	64.3	59.0	-8.2 %
District heating NO/Fredrikstad		8.6	7.5	4.6	-38.7 %
District heating NO/Stavanger/Sandnes		-	-	0.8	100.0 %
District heating NO/Bergen		3.0	1.9	1.7	-10.5 %
District cooling NO/Bergen		-	6.8	6.3	-7.4 %
District heating NO/Nydalen		16.1	11.3	12.2	8.0 %
District cooling NO/Nydalen		-	2.0	1.8	-10.0 %
District cooling NO/Sandvika		16.6	11.2	7.1	-36.6 %
District heating NO/Lysaker/Fornebu/Lilleaker		5.4	3.4	11.0	223.5 %
District heating NO/Drammen		-	6.6	6.9	4.5 %
District heating Norway mix		-	5.3	-	-100.0 %
District heating general total		**-**	**-**	**-**	**-**
District heating, renewable	Bioolje	-	-	-	-
Scope 2 total		**1,660.8**	**1,385.6**	**1,459.1**	**5.3 %**
Waste total		**585.1**	**556.9**	**583.4**	**4.8 %**
Residual waste, incinerated	Usortert	517.7	486.4	517.4	6.4 %
Mixed waste, recycled	Sortert	67.4	70.5	65.4	-7.2 %
Mixed waste, recycled	sortert	-	-	0.7	100.0 %
Water total		**18.1**	**21.4**	**28.8**	**34.6 %**
Water supply, municipal		18.1	21.4	28.8	34.6 %
Scope 3 total		**603.2**	**578.3**	**612.2**	**5.9 %**
Total		**2,289.7**	**2,010.6**	**2,138.6**	**6.4 %**
Percentage change		**100.0 %**	**-12.2 %**	**6.4 %**	

Annual energy consumption (MWh) Scope 1 & 2



Annual Market-Based GHG Emissions

Category	Unit	2021	2022	2023
Electricity Total (Scope 2) with Market-based calculations	tCO_2e	11,526.0	12,946.1	15,787.1
Scope 2 Total with Market-based electricity calculations	tCO_2e	11,653.3	13,066.3	15,898.5
Scope 1+2+3 Total with Market-based electricity calculations	tCO_2e	12,282.2	13,691.3	16,578.0
Percentage change		**100.0 %**	**11.5 %**	**21.1 %**

Annual Key Energy and Climate Performance Indicators

Name	Unit	2021	2022	2023	% change from previous year
Total energy scope 1 +2 (MWh)		65,871.5	63,537.1	64,683.8	1.8 %
Sum energy per location (MWh)		65,751.5	63,360.9	64,370.5	1.6 %
Sum square meters (m2)		425,018.2	444,900.2	450,326.2	1.2 %

Methodology and sources

Methodology

The Greenhouse Gas Protocol Initiative (GHG Protocol) was developed by the World Resources Institute (WRI) and the 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 for calculating and reporting GHG emissions. The report considers the following greenhouse gases, all converted into CO2-equivalents: CO2, CH4 (methane), N2O (laughing gas), SF6, HFCs, PFCs, and NF3.

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.

Scope1 includes all direct emission sources. This includes all use of fossil fuels for stationary combustion or transportation, is owned and, depending on the consolidation approach selected, leased, or rented assets. It also includes any process emissions, e.g. chemical processes, industrial gases, direct methane emissions, etc.

Scope2 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 location-based emissions from the production of electricity, and 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 twofold. On one hand, it shows the impact of energy efficiency measures, and on the other hand, this amendment displays how the acquisition of GoOs or RECs affects GHG emissions. Using both methods in 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 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, GHG emissions accounting should include information that users, both internal and external to the company, need for their decision-making. A relevant consideration is the selection of an appropriate inventory boundary which reflects the substance and economic reality of the company's business relationships.

Sources

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The reference list above is incomplete but contains the essential references used in CEMAsys. In addition, several local/national sources may be relevant, depending on which emission factors are used.