# Carbon Accounting Report 2022

## Storebrand Eiendom - Trygg AS

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 energy consumption and corresponding GHG emissions. The annual report enables the organization to benchmark performance indicators like carbon intensity and evaluate progress over time. The report covers 97 % of the Storebrand Eiendom Trygg AS. portfolio, consisting of 8 properties totaling 225.560 m2 in 2022, as listed below. The properties Luramyrveien 9 and 11 (5.775 m2) are not included due to a lack of data. The fund invests in properties in Norway only. The 2022 accounts include the buildings' tenant 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.

1. Akersgt. 35-39
2. Ruseløkkvn 3/5
3. Ruseløkkvn 14
4. Haakon VIIs gate 10
5. City Syd (kjøpesenter)
6. Kvadrat (kjøpesenter)
7. Aker Brygge Parkering
8. Ruseløkkveien 26 (included from 2022)

# Reporting Year Energy and GHG Emissions

| Emission source | Description | Consumption | Unit | Energy (MWh) | Emissions $tCO_2e$ | % share |
|---|---|---|---|---|---|---|
| **Electricity total** | | | | **30,126.2** | **783.3** | **62.5 %** |
| Electricity Nordic mix | Fellesanlegg | 9,387,098.0 | kWh | 9,387.1 | 244.1 | 19.5 % |
| Electricity Nordic mix | Leietakere | 20,739,059.7 | kWh | 20,739.1 | 539.2 | 43.0 % |
| **District heating location total** | | | | **4,620.0** | **61.1** | **4.9 %** |
| District heating NO/Oslo | | 2,426,342.4 | kWh | 2,426.3 | 23.1 | 1.8 % |
| District heating NO/Stavanger/Sandnes | | 853,419.9 | kWh | 853.4 | - | - |
| District cooling NO/Stavanger/Sandnes | | 309,510.0 | kWh | 309.5 | 3.5 | 0.3 % |
| District heating NO/Trondheim | | 1,030,750.0 | kWh | 1,030.8 | 34.5 | 2.8 % |
| **Scope 2 total** | | | | **34,746.2** | **844.4** | **67.4 %** |
| | | | | | | |
| **Waste total** | | | | **-** | **364.4** | **29.1 %** |
| Residual waste, incinerated | Usortert | 668,590.0 | kg | - | 335.6 | 26.8 % |
| Mixed waste, recycled | Sortert | 1,348,726.3 | kg | - | 28.7 | 2.3 % |
| **Water total** | | | | **-** | **44.0** | **3.5 %** |
| Water supply, groundwater | | 76,276.3 | $m^3$ | - | 44.0 | 3.5 % |
| **Scope 3 total** | | | | **-** | **408.4** | **32.6 %** |
| **Total** | | | | **34,746.2** | **1,252.7** | **100.0 %** |
| **KJ** | | | | **125,086,248,000.0** | | |

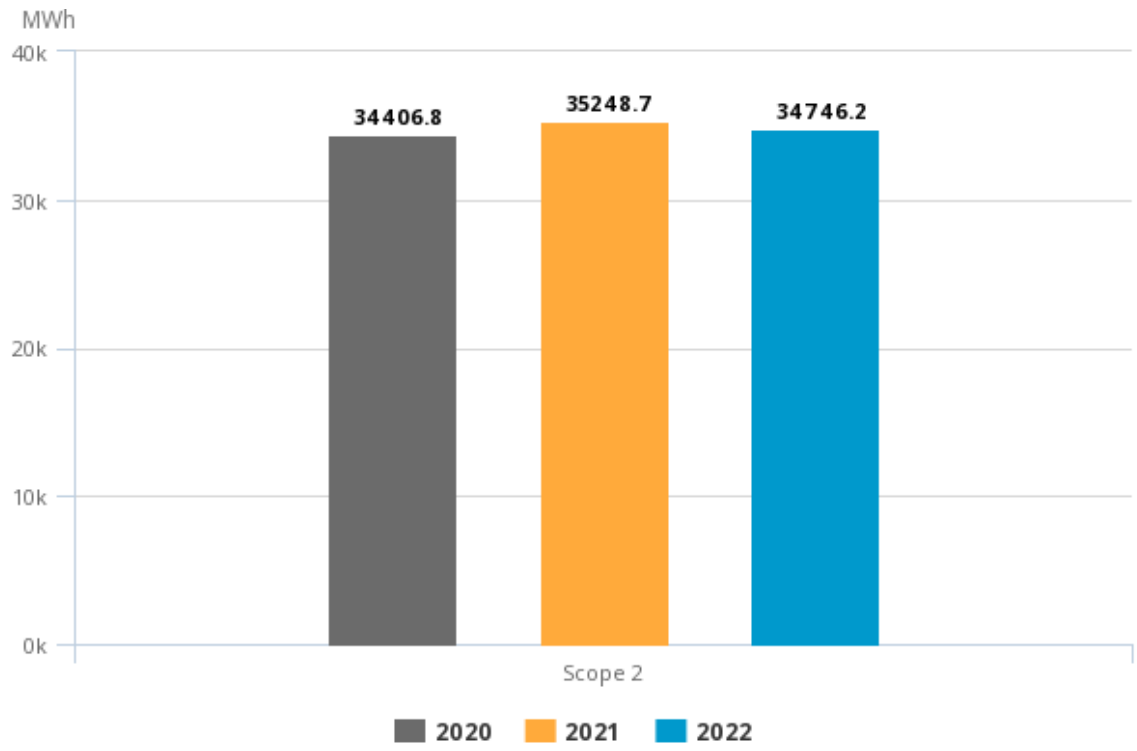
## Reporting Year Market-Based GHG Emissions

| Category | Unit | 2022 |
|---|---|---|
| Electricity Total (Scope 2) with Market-based calculations | $tCO_2e$ | 8,013.6 |
| Scope 2 Total with Market-based electricity calculations | $tCO_2e$ | 8,074.6 |
| Scope 1+2+3 Total with Market-based electricity calculations | $tCO_2e$ | 8,483.0 |

# Annual GHG Emissions

| Category | Description | 2020 | 2021 | 2022 | % change from previous year |
|---|---|---|---|---|---|
| **Electricity total** | | **1,122.3** | **831.9** | **783.3** | **-5.8 %** |
| Electricity Nordic mix | Fellesanlegg | 458.8 | 332.4 | 244.1 | -26.6 % |
| Electricity Nordic mix | Leietakere | 663.5 | 499.6 | 539.2 | 7.9 % |
| **District heating location total** | | **110.4** | **77.9** | **61.1** | **-21.6 %** |
| District heating NO/Oslo | | 65.8 | 50.7 | 23.1 | -54.5 % |
| District cooling NO/Stavanger/Sandnes | | 1.6 | 4.1 | 3.5 | -15.5 % |
| District heating NO/Stavanger Seafront | | - | - | - | - |
| District heating NO/Trondheim | | 43.0 | 23.1 | 34.5 | 49.7 % |
| District heating NO/Stavanger/Sandnes | | - | - | - | - |
| **Scope 2 total** | | **1,232.7** | **909.8** | **844.4** | **-7.2 %** |
| | | | | | |
| **Waste total** | | **303.5** | **293.1** | **364.4** | **24.3 %** |
| Residual waste, incinerated | Usortert | 275.6 | 269.0 | 335.6 | 24.8 % |
| Mixed waste, recycled | Sortert | 27.9 | 24.1 | 28.7 | 19.2 % |
| **Water total** | | **18.9** | **29.4** | **44.0** | **49.6 %** |
| Water supply, municipal | | 18.9 | - | - | - |
| Water supply, groundwater | | - | 29.4 | 44.0 | 49.6 % |
| **Scope 3 1 total** | | **-** | **-** | **-** | **-** |
| Water supply, municipal | | - | - | - | - |
| **Scope 3 total** | | **322.4** | **322.5** | **408.4** | **26.6 %** |
| **Total** | | **1,555.1** | **1,232.3** | **1,252.7** | **1.7 %** |
| **Percentage change** | | **100.0 %** | **-20.8 %** | **1.7 %** | |

## 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 | $tCO_2e$ | 7,199.2 | 6,253.0 | 8,013.6 |
| Scope 2 Total with Market-based electricity calculations | $tCO_2e$ | 7,309.5 | 6,330.9 | 8,074.6 |
| Scope 1+2+3 Total with Market-based electricity calculations | $tCO_2e$ | 7,632.0 | 6,653.4 | 8,483.0 |
| **Percentage change** | | **100.0 %** | **-12.8 %** | **27.5 %** |

# Annual Key Energy and Climate Performance Indicators

| Name | Unit | 2020 | 2021 | 2022 | % change from previous year |
|---|---|---|---|---|---|
| Total energy scope 1 +2 (MWh) | | 34,406.8 | 35,248.7 | 34,746.2 | -1.4 % |
| Sum energy per location (MWh) | | 34,406.8 | 35,248.7 | 34,746.2 | -1.4 % |
| Sum square meters (m2) | | 224,398.0 | 224,398.0 | 225,560.0 | 0.5 % |
| Sum locations kWh/m2 | | 153.3 | 205.2 | 158.1 | -23.0 % |
| kgCO2/m2 (Scope1+2) | | 5.5 | 4.1 | 3.7 | -7.7% |
| kWh/m2 (Scope1+2) | | 153.3 | 157.1 | 154.0 | -1.9% |
| Total eiendom kgCO2e/m2 (Scope1+2+3) | | 6.9 | 5.5 | 5.6 | 1.1% |

# Methodology and sources

Methodology

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 for 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, PFCs, and NF3.

Two distinct approaches can be used for corporate reporting 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 direct and indirect emissions scopes.

Scope 1 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.

Scope 2 includes indirect emissions related to purchased energy; electricity and heating/cooling where the organization 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 the electricity that companies have purposefully chosen (or not chosen).

Organizations who report on their GHG emissions will now have to disclose both the location-based emissions from the production of electricity and the marked-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 affects GHG emissions. Using both methods in the emission reporting highlights the effect of all measures regarding electricity consumption.

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) results in direct GHG emissions. These emissions are reflected in the location-based emission factor.

In 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 have 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 7 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. From 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, 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.

# References

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