storebrand

# Carbon accounting report 2018

## Storebrand Livsforsikring (SBL) - Vekst AS

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.

The report covers 15 properties from Vekst AS in Storebrand Livsforsikring (SBL), as listed below. The fund invests only in properties in Norway. The report includes all Vekst AS properties, and the climate accounts have therefore a coverage ratio of 100% with a total of 170 565 m2.

- Hoffsveien 1 A
- Hoffsveien 1 B
- Hoffsveien 1 C
- Hoffsveien 1 D
- Hoffsveien 1 E
- Lysaker Torg 5
- Lysaker Torg 15
- Lysaker Torg 25
- Møllergt. 24, Oslo
- Holmen Kjøpesenter
- Holmen Kjøpesenter II
- Vogellund - Skeidar
- Holmen Utvikling
- Tiller Torget
- Ivar Lykkesvei 5

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-I.

# Energy and GHG emissions

| *Category* | *Description* | *Consumption* | *Unit* | *Energy* (MWh eqv) | *Emissions* (tCO2e) | *Emissions* (distribution) |
|---|---|---|---|---|---|---|
| *Stationary combustion* | | | | *191.5* | *47.2* | *3.3%* |
| Burning oil | | 191 479.0 | kWh | 191.5 | 47.2 | 3.3% |
| Scope 1 total | | | | 191.5 | 47.2 | 3.3% |
| *Electricity** | | | | *23 387.7* | *1 052.4* | *73.7%* |
| Electricity Nordic mix | | 2 401 499.0 | kWh | 2 401.5 | 108.1 | 7.6% |
| Electricity Nordic mix | Leietakere | 20 986 165.0 | kWh | 20 986.2 | 944.4 | 66.2% |
| *DH Nordic locations* | | | | *8 034.6* | *128.5* | *9.0%* |
| District heating NO/Oslo | | 4 033 812.0 | kWh | 4 033.8 | 60.5 | 4.2% |
| District heating NO/Lysaker | | 4 000 800.0 | kWh | 4 000.8 | 68.0 | 4.8% |
| Scope 2 total | | | | 31 422.3 | 1 181.0 | 82.7% |
| *Waste* | | | | *-* | *175.8* | *12.3%* |
| Waste, energy recovered | Usortert | 327 311.4 | kg | - | 164.3 | 11.5% |
| Waste mix, recycled | Sortert | 538 861.6 | kg | - | 11.5 | 0.8% |
| *Vann* | | | | *-* | *23.5* | *1.6%* |
| Water,ground | | 40 807.0 | m3 | - | 23.5 | 1.6% |
| Scope 3 total | | | | - | 199.3 | 14.0% |
| *Total* | | | | *31 613.8* | *1 427.5* | *100.0%* |
| **Alternative Electricity emissions-Market based method (RECs, GoO)* | | | | | *6759* | |

# Yearly report – GHG emissions (tCO2e)

| *Category* | *Description* | *2016* | *2017* | *2018* | *% change from previous year* |
|---|---|---|---|---|---|
| *Stationary combustion* | | | | | - |
| Burning oil | | 61.8 | 55.9 | 47.2 | -15.5% |
| *Scope 1 Emissions* | | 61.8 | 55.9 | 47.2 | -15.5% |
| *DH Nordic locations* | | | | | - |
| District heating NO/Lysaker | | 49.0 | 55.5 | 68.0 | 22.6% |
| District heating NO/Oslo | | 54.6 | 58.2 | 60.5 | 3.9% |
| *Electricity** | | | | | - |
| Electricity Nordic mix | Fellesanlegg | 426.8 | 267.8 | | -100.0% |
| Electricity Nordic mix | | 132.4 | 278.0 | 108.1 | -61.1% |
| Electricity Nordic mix | Leietakere | 638.8 | 665.7 | 944.4 | 41.9% |
| *Scope 2 Emissions* | | 1 301.5 | 1 325.3 | 1 181.0 | -10.9% |
| *Waste* | | | | | - |
| Waste mix, recycled | Sortert | 19.1 | 18.1 | 11.5 | -36.7% |
| Waste, energy recovered | Usortert | 190.6 | 161.9 | 164.3 | 1.5% |
| *Vann* | | | | | - |
| Water,ground | | 22.6 | 23.8 | 23.5 | -1.1% |
| *Open category 1* | | | | | - |
| Water,ground | | | 0.7 | | -100.0% |
| *Scope 3 Emissions* | | 232.3 | 204.5 | 199.3 | -2.5% |
| Total | | 1 595.6 | 1 585.7 | 1 427.5 | -10% |
| *Percentage change* | | | *-0.6%* | *-10.0%* | |
| **Alternative Electricity emissions-Market based method (RECs, GoO)* | | *6182.3* | *6407.3* | *6759* | |
| *Percentage change* | | | *3.6%* | *5.5%* | |

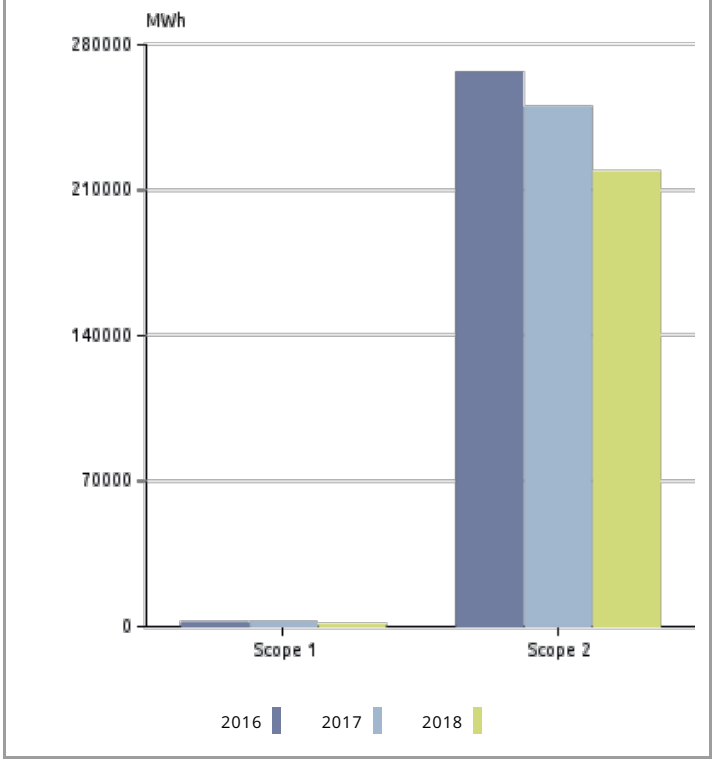
***Key Figures Consumption***

| | Category | Description | Unit | **2016** | **2017** | **2018** |
|---|---|---|---|---|---|---|
| ***Scope 1*** | | | | | | |
| | **Stationary combustion** | | | | | |
| | Burning oil | | kWh | 250 390 | 226 562 | 191 479 |
| ***Scope 2*** | | | | | | |
| | **DH Nordic locations** | | | | | |
| | District heating NO/Lysaker | | kWh | 3 178 770 | 3 264 430 | 4 000 800 |
| | District heating NO/Oslo | | kWh | 3 641 274 | 3 881 265 | 4 033 812 |
| | **District heating general** | | | | | |
| | District heating Renewable | Biofyringsolje | kWh | | | |
| | **Electricity*** | | | | | |
| | Electricity Nordic mix | | kWh | 2 363 800 | 5 347 003 | 2 401 499 |
| | Electricity Nordic mix | Leietakere | kWh | 11 407 344 | 12 802 187 | 20 986 165 |
| | Electricity Nordic mix | Fellesanlegg | kWh | 7 621 026 | 5 150 065 | |
| ***Scope 3*** | | | | | | |
| | **Waste** | | | | | |
| | Waste mix, recycled | Sortert | kg | 597 189 | 566 979 | 538 862 |
| | Waste, energy recovered | Usortert | kg | 379 690 | 322 431 | 327 311 |
| | **Vann** | | | | | |
| | Water, ground | | m3 | 39 126 | 41 261 | 40 807 |
| | **Open category 1** | | | | | |
| | Water, ground | | m3 | | 1 225 | |

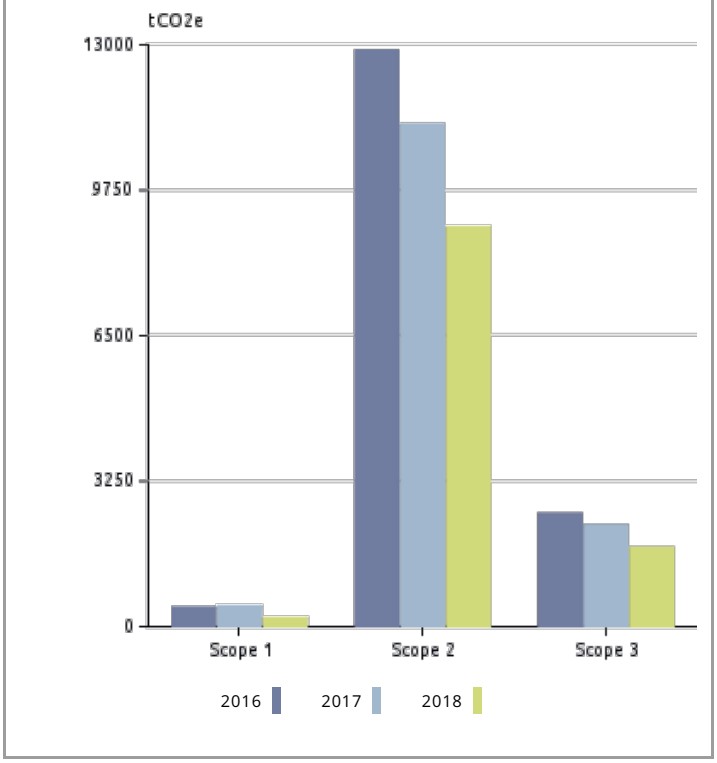
# Key energy and climate performance indicators

| Name | *Unit* | *2016* | *2017* | *2018* | *% change from previous year* |
|---|---|---|---|---|---|
| Sum locations kWh/m2 | | 192.4 | 190.6 | 185.3 | -7.7% |
| Sum square meters (m2) | | 147 912 | 160 841 | 170 565 | 6.0 % |
| Total energy scope 1 +2 (MWh) | | 28 462.2 | 30 671.5 | 31 613.8 | 3.1 % |
| Total emissions (s1+s2+s3) (tCO2e) | | 1 595.5 | 1 585.7 | 1 427.5 | -10.0% |
| Scope 1 + 2 emissions (tCO2e) | | 1 363.2 | 1 381.2 | 1 228.2 | -11.0% |
| kgCO2/m2 (Scope1+2) | m2 | 9.2 | 8.5 | 7.2 | -15.2 % |
| Total eiendom kgCO2e/m2 (Scope1+2+3) | m2 | 10.7 | 9.8 | 8.3 | -15.3% |

Annual energy consumption (MWh) Scope 1 & 2




Annual GHG emission per scope



## 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 3 years 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.

*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 their lack of choice).

Businesses who report on their GHG emissions will now have to disclose both location-based emissions from the production of electricity and the marked-based emissions related to the potential purchase of Guaranties of Origin (GoO).

The purpose of this amendment in the reporting method is on one hand to show the impact of energy efficiency and saving measures, and on the other hand to display how the acquisition of GoOs 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 or not. When selling GoOs, the supplier certify that the electricity is produced by only renewable sources, which has an emission factor of 0 grams of CO2e per kWh. However, for electricity without the guarantee of origin, the emission factor is based on the remaining electricity production after all GoOs 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 to foreign consumers. In a market perspective, this implies that Norwegian hydropower is largely substituted with an electricity mix including fossil fuels.

**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:**

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This list of references may not be complete. Depending on the use of the CEMAsys emission factors database, there are a number of different local and national sources. If necessary, please contact CEMAsys Help Desk for further details.