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Financed emissions lending – Methodology

The financed emission calculations cover the entirety of the lending portfolio and disclosed in different groupings depending on sector and counterparty size. The baseline emissions and any following calculations have been performed by applying methodology from Partnership for Carbon Accounting Financials (PCAF), providing a standardised methodology and thus aiding transparency and comparability of disclosed financed emissions.

Mortgages and Commercial Real Estate

The financed emissions calculations are based on data as at end-of-year and only includes on-balance-sheet exposures. For inclusion in the analysis, the base requirement is that the exposure is secured by immovable property. If one loan pertains to several properties, the loan volume is attributed to each property based on the share of their value compared to the total value of the relevant properties. Calculations cover real estate in the Bank's four home markets – Sweden, Norway, UK and the Netherlands. The property value applied to the calculations depends on if the exposure to the property existed in the previous calculation of our financed emissions or not. If the exposure did not exist in the previous calculation, the value of the latest approved valuation is used. If the exposure did exist and has not been refinanced (loan value has not increased), the property value used in the previous calculation is applied. If the exposure did exist and has been refinanced (loan value has increased), the property value is updated and the value of the latest approved valuation is applied. The fluctuation in property value due to exchange rate fluctuations over time is eliminated.

Property-specific energy data applied in the calculations are collected from national agencies or independent data sources for each country respectively. Where information on energy label for a property is split between several buildings on one property, we firstly calculate the emissions from each building before aggregating this to property level.

The granularity of the emission factors applied to the calculations will depend on whether the energy label for a building is available, and also how much of the underlying data to the energy label is available. This creates five different scenarios, which will determine calculation method, emission factor data applied and data quality score. Where energy label or underlying data to the energy label is missing, estimates from PCAF are applied, using 2020 as reference year. For all scenarios, the attribution factor is calculated by dividing the loan value by the property value (LTV). The property emissions are multiplied by the attribution factor to get Handelsbanken's financed emissions per property.

In case of lending secured by immovable property to a company within a high emitting sector, the emissions will be included in the sector specific calculations for that sector rather than the real estate sector, using methods for the relevant sector.

To track the progress of the Bank's real estate portfolio, the emissions intensities for Mortgages and Commercial Real Estate are benchmarked against reference pathways aligned with 1.5 degrees. The reference pathways are calculated using data and methodology from the Science Based Targets initiative (SBTi). Pathways are calculated based on building type and country, and then aggregated and weighted based on exposure.

Methodology for Tenant-Owner Associations and Tenant-Owned Apartments

For the asset classes Tenant-Owner Associations and Tenant-Owned Apartments, PCAF does not currently provide a methodology. Handelsbanken has therefore applied the calculation methodology recommended by the Swedish Banker's Association, which has been developed in collaboration between banks and is based on the PCAF principles. While the methodology is developed for Swedish Tenant-Owner Associations and Tenant-Owned Apartments, Handelsbanken has applied the same methodology for these asset classes in our Norwegian portfolio, in the absence of another methodology.

For Tenant-Owner Associations, the property emissions are calculated using the PCAF methodology for Commercial Real Estate. To avoid extensive double counting while at the same time calculating emissions conservatively a distribution factor of 0.3/1.0 is applied, meaning that the property emissions are divided between the Tenant-Owner Association and the Tenant-Owned Apartments where 30 per cent of the property emissions are attributable to the Tenant-Owner Association and 100 per cent of the property emissions are attributable to the Tenant-Owned Apartments. This means that there may be cases where the emissions from a Tenant-Owner Associations and the associated Tenant-Owned Apartments are overcalculated.

The Bank's financed emissions are calculated by multiplying the property emissions attributable to the Tenant-Owner Association by the association's attribution factor. When calculating emissions from individual Tenant-Owned Apartments, the emissions intensity per square metre of the building in which the apartment is located is applied. The emission intensity per square metre is multiplied by the floor area of the specific apartment, resulting in the emissions for that apartment. If the floor area of the specific apartment is not available, an average apartment area for the specific country is applied. The Bank's financed emissions are calculated by multiplying the emissions attributable to the apartment by the attribution factor of that apartment.

Emission factors and other data applied to calculations
Emission factors, Sweden

Energy source	Emission factor (gCO2e/kWh)	Source	Reference year
Biofuel	0	IPCC Table A.III.2 / GHG protocol	2014
District heating	49.6	Energiföretagen	2024
Electricity	Licensed data	IEA	2023
Gas	203.96	Naturvårdsverket	2023
Oil	268.12	Naturvårdsverket	2023

Household and tenant activity consumption, Sweden

Building type	Energy intensity (kWh/m2)	Source
Single-family houses	28	Energimyndigheten,
Multi-family houses	46	energiindikatorer i siffror 2025
Premises	137	(reference year 2023)
Tenant-Owner Associations	13.8	
Tenant-Owner Associations	46	

Average building areas
Source: PCAF European Real Estate Database (excl. apartments)

	Single-family houses	Multi-family houses	Apartments	Premises
Sweden	126	1,086	67	244
Norway	154	1,201	72	1,225
United Kingdom	192	2,044	61	624
Netherlands	132	576	77	1,213

Fossil fuels

The scope of the calculations for the Fossil Fuel sector covers corporate loan exposures in the sector codes listed in the table below. The sector codes included align with the proposed sector codes to define fossil fuels in future Pillar 3 reporting. To further clarify Handelsbanken's real exposure to the Fossil Fuel sector, a manual analysis of each exposure within the listed sector codes has been performed. As sector codes tend to be wide ranging, companies may be covered by one of the listed sector codes without engaging in activities related to the fossil fuel sector. The analysis is therefore performed to assess the company's activities and if the exposure is to be included in the emissions calculations for fossil fuels, or for another sector. Total exposure to the fossil fuel sector codes is disclosed, together with the categorisation based on the manual analysis.

If the company is deemed to be active within fossil fuels, emissions are calculated and reported in the Fossil Fuel category. Exposures that are deemed to be active in other activities not related to fossil fuels, are included in the category for Other sectors. Emission factors applied will be based on the official sector code of the company, no matter which category the emissions are calculated in.

Where reported emissions data is available, this will be applied. Where reported data is not available, estimates from PCAF will be applied firstly, and secondly emission estimates from other data providers. PCAF estimates are based on the most detailed NACE code available and country specific. Estimates are firstly calculated based on revenue, secondly based on assets.

The Bank's attribution factor per company is calculated by dividing lending exposure by Enterprise Value Including Cash in case of a listed company. For non-listed companies, the attribution factor is calculated by dividing the lending exposure by the combined value of equity and debt for the company.

Emissions are calculated and reported as absolute financed emissions.

Sector codes related to fossil fuels

NACE	Description	Type of fossil fuel	Part of value chain
05. 051. 052	Mining of coal and lignite	Coal	Upstream
091	Petroleum and natural gas extraction services	Oil and Gas	Upstream
19. 191. 192	Manufacture of coke and refined petroleum products	Oil and Gas	Downstream
352	Gas supply	Oil and Gas	Downstream
3521	Gas production	Oil and Gas	Upstream
3522	Gas distribution	Oil and Gas	Midstream
3523	Gas trading	Oil and Gas	Midstream
4612	Wholesale on a fee or contract basis of fuels, ores, metals and chemical raw materials	Oil and Gas	Downstream
4671	Wholesale of solid, liquid and gaseous fuels and related products	Oil and Gas	Downstream
4730	Retail sale of automotive fuel	Oil and Gas	Downstream
06. 061. 062	Extraction of petroleum and natural gas	Oil and Gas	Upstream
0892	Peat extraction	Peat	Upstream

Power Generation

The scope of the calculations for the Power Generation sector covers corporate loan exposures in the sector codes listed in the table below. Companies that are deemed to have a diversified business where power generation is a small part of the overall business are not included in the category for Power Generation, but instead included in the category for Other sectors. Emission factors applied will be based on the official sector code of the company, no matter which category the emissions are calculated in.

Where reported activity data is available (production data), this will be applied to calculate emissions intensity (tCO2e/MWh produced). When activity data is not available, activity levels will be estimated based on average emission intensity for the type of power production. For emission intensity estimates, please see table below. If neither activity data or emissions data is available, emission intensity per m SEK lending is applied for the same type of production, within the portfolio, to calculate absolute emissions. This is only applied for renewable energy, where emissions intensities tend to be similar across companies. As no production data is available or possible to calculate, these companies are excluded from the emissions intensity calculations, and only included in the absolute emissions calculations.

Emissions from other companies, active in non-renewable power generation without reported data, are calculated using estimates from PCAF. PCAF estimates are based on the most detailed NACE code available and country specific. Estimates are firstly calculated based on revenue, secondly based on assets. As no production data is available or possible to calculate, these companies are excluded from the emissions intensity calculations, and only included in the absolute emissions calculations.

The Bank's attribution factor per company is calculated by dividing lending exposure by Enterprise Value Including Cash in case of a listed company. For non-listed companies, the attribution factor is calculated by dividing the lending exposure by the combined value of equity and debt for the company.

Emissions are calculated and reported as absolute financed emissions as well as financed emissions intensity (tCO2e/MWh).

To track the progress of the Bank's power generation portfolio, the emissions intensities for Power Generation are benchmarked against reference pathways aligned with 1.5 degrees. The reference pathways are calculated using data and methodology from the Science Based Targets initiative (SBTi).

Power Generation Sector codes

NACE	Description
3511	Electricity generation
3530	Steam supply, air conditioning

Type of Power Generation	Estimate of emission intensity (production phase only) gCO2e/kWh	Source
Wind power	0	Naturvårdsverket
Hydropower	0	Energiföretagen
Solar power	0	Världsnaturfonden WWF
District heating, Sweden	49.6	Energiföretagen

Large Corporates, high-emitting sectors

The scope of the calculations for Large Corporates, high-emitting sectors covers companies defined as large corporations using the definition provided by the EU commission, with sectors listed below.

Large corporate definition

Staff headcount AND	Turnover OR	Balance sheet
> 250	> 50 M EUR	> 43 M EUR

High-emitting sectors	
Agriculture	
Aluminium	
Automotive	
Aviation	
Cement	
Chemicals	
Forestry	
Freight transport	
Iron and steel	
Passenger transport	
Shipping	

Where reported emissions data is available, these are applied. Where reported data is not available, estimates from PCAF are applied as a first step, followed by emission estimates from other data providers where necessary. PCA Festimates are based on the CEDA data set based on the most detailed NACE code available and are country specific. Estimates are primarily calculated based on revenue, and secondarily based on assets.

The Bank's attribution factor per company is calculated by dividing the lending exposure by Enterprise Value Including Cash for listed companies. For non-listed companies, the attribution factor is calculated by dividing the lending exposure by the combined value of equity and debt for the company.

Emissions are calculated and reported as absolute financed emissions as well as financed emissions intensity (tCO2e/m SEK lending).

Large Corporates, other sectors

The scope of the calculations for Large Corporates, other sectors covers companies defined as large corporations using the definition provided by the EU commission (see definition in the previous section) across all sector codes not defined as high-emitting sectors. Exposures that have been manually analysed as part of the process for Fossil fuels and Power Generation may also be included in the calculations for Other sectors, if they do not qualify for those sector calculations and are defined as large corporates.

Where reported emissions data is available, these are applied. Where reported data are not available, estimates from PCAF are applied as a first step, followed by emission estimates from other data providers where necessary. PCAF Festimates are based on the CEDA data set based on the most detailed NACE code available and are country specific. Estimates are primarily calculated based on revenue, and secondarily based on assets.

The Bank's attribution factor per company is calculated by dividing lending exposure by Enterprise Value Including Cash for listed companies. For non-listed companies, the attribution factor is calculated by dividing the lending exposure by the combined value of equity and debt.

Emissions are calculated and reported as absolute financed emissions as well as financed emissions intensity (tCO2e/m SEK lending).

Small and medium sized enterprises (SMEs)

The scope of the calculations for SMEs covers companies that do not fulfil the criteria to be defined as large corporates, in all sectors unless included in calculations for Fossil fuels or Power Generation. Exposures that have been manually analysed as part of the process for Fossil fuels and Power Generation may also be included in the calculations for Other sectors, if they do not qualify for those sector calculations and are not defined as large corporates.

Where reported emissions data is available, these are applied. Where reported data are not available, estimates from PCAF are applied as a first step, followed by emission estimates from other data providers where necessary. PCAF Festimates are based on the CEDA data set using the most detailed NACE code available and are country specific. Estimates are primarily calculated based on revenue, and secondarily based on assets.

The Bank's attribution factor per company is calculated by dividing lending exposure by Enterprise Value Including Cash in case of a listed company. For non-listed companies, the attribution factor is calculated by dividing the lending exposure by the combined value of equity and debt.

Emissions are calculated and reported as absolute financed emissions as well as financed emissions intensity (tCO2e/m SEK lending).

Data quality score

To transparently disclose data quality in the calculations, the PCAF methodology provides a data quality matrix. With the exception of Tenant-Owner Associations and Tenant-Owned Apartments, all included exposures have been assigned a data quality score based on the data quality matrix from PCAF. Tenant-Owner Associations and Tenant-Owned Apartments have been assigned a data quality score based on the calculation method recommended by the Swedish Banker's Association for these asset classes. These data quality scores are built on the same principles as the data quality scores from PCAF. When data with different data quality scores have been used in the calculations, this is indicated by a weighted average data quality score, calculated according to the PCAF methodology.

For categories where Scope 1 + 2 and Scope 3 emissions have been calculated separately, PCAF Data Quality Score has also been calculated separately, and disclosed in the report.

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