

Climate change disclosure methodology

February 2025

About this document

This document provides an overview of the methodologies underpinning the Nordea Group’s disclosures under European Sustainability Reporting Standard (ESRS) E1 Climate change in accordance with the Corporate Sustainability Reporting Directive (CSRD).

This document also describes our greenhouse gas (GHG) emissions recalculation methodology in order to provide transparency on how we track our climate targets. The methodology is aligned with regulatory requirements and voluntary external commitments.

This publication has been prepared for information purposes only. Our CSRD disclosures and further information on our work regarding climate change and sustainability can be found in the Sustainability Statement in our Annual Report. Our policies and sector guidelines regarding climate change can be found at [Nordea.com](https://www.nordea.com).

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1 Introduction

In line with European Sustainability Reporting Standard (ESRS) E1 Climate change, this document sets out the methodological approach adopted by the Nordea Group for quantitative greenhouse gas (GHG) emissions disclosures.

This methodology is also aligned with the GHG Protocol Corporate Accounting and Reporting Standard, the GHG Protocol Scope 2 Guidance and the complementary Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Furthermore, the methodology for scope 3 category 15 GHG emissions, referred to as “Financed emissions”, is aligned with the Partnership for Carbon Accounting Financials (PCAF) Global GHG Accounting and Reporting Standard for the Financial Industry.

Our objective is to become a net-zero emissions bank by 2050 at the latest. To reach this goal, we have set a group of targets to support the reduction of carbon emissions across our lending portfolio¹, investment portfolio towards 2030 mid-term. In addition, we have set an internal target to reduce carbon emissions from our internal operations by more than 50% by the end of 2030 and achieve a net positive carbon contribution (through offsetting).

1.1 Scope

This document covers our interpretation of the following ESRS E1 Climate change requirements:

Strategy

- Disclosure Requirement related to ESRS 2 SBM-3 – Material impacts, risks and opportunities and their interaction with strategy and business model

Metrics and targets

- Disclosure Requirement E1-4 – Targets related to climate change mitigation and adaptation
- Disclosure Requirement E1-5 – Energy consumption and mix
- Disclosure Requirement E1-6 – Gross Scopes 1, 2, 3 and Total GHG emissions
- Disclosure Requirement E1-7 – GHG removals and GHG mitigation projects financed through carbon credits.

Disclosure Requirement E1-8 – Internal carbon pricing and Disclosure Requirement E1-9 – Anticipated financial effects from material physical and transition risks and potential climate-related opportunities will be reported based on a phase-in plan. They will not be reported in the 2024 Sustainability Statement; thus, requirement interpretations are not included in our current climate change methodology.

We acknowledge that regulatory requirements are continuously developing and are committed to extending our reporting scope accordingly.

1.2 Governance

This methodology has been approved for publication by the Nordea Group Sustainability and Ethics Committee. The methodology underpins the GHG emissions accounting and reporting in our Annual Report.

The methodology will be continually updated and reviewed in accordance with the characteristics of our portfolio and progress in data quality enhancement. It will be approved on an annual basis by our

¹ For further details on our targets, see “Climate target methodologies for the lending portfolio” at [Nordea.com](https://www.nordea.com).

management committee and controlled through the quarterly risk appetite monitoring carried out by our second line of defence.

2 Methodology: ESRS 2 SBM-3 – Material impacts, risks and opportunities and their interaction with strategy and business model

ESRS 2 SBM-3 requires companies to disclose their material climate-related physical risks and material climate-related transition risks, and the scenarios used to define them.

We conducted resilience analysis for climate-related risk through:

1. Firm-wide stress testing covering various aspects of climate- and environment-related risk in alignment with Internal Capital Adequacy Assessment Process (ICAAP) requirements.
2. The climate and environmental (C&E) materiality assessment (MA), where we assessed the impact of C&E risk drivers on existing risk categories, in alignment with our risk taxonomy.

In 2024 we performed a C&E MA for Nordea, focusing on the impact of C&E risks on the following prudential risk types: credit, market, liquidity, operational (including reputational, legal and compliance) and business model (strategy). The MA included a thorough risk identification process and both qualitative and quantitative analyses informed by other ESG internal processes such as the climate stress test, sector deep dives and C&E heatmaps. As part of the MA, we developed a comprehensive and science-based taxonomy of C&E risk factors, referred to as the “ESG Taxonomy”, which also covers social and governance factors. The MA concluded that we are materially exposed to various C&E risk drivers across prudential risk categories, mainly via counterparties but also partly via our own operations.

The identified material climate-related impacts are mainly driven by water-related hazards in Denmark and Sweden, industries vulnerable to transition risk, and greenwashing. The impacts are thus split between climate-related physical and climate-related transition risk.

We defined the following horizons for each C&E hazard identified in the MA for the existing risk categories:

1. short term: less than or equal to one year (≤ 1 year)
2. medium term: up to five years ($>1-5$ years)
3. long term: five to ten years (5–10 years)
4. very long term: longer than ten years (≥ 10 years), extending to at least 30 years.

The four time horizons are aligned with those provided in the ESRS. The short-term (1 year) horizon also aligns with the horizon for the prudential MA on which internal capital allocation is based.

Transition effects are more likely to materialise in the short-to-long term but may also materialise in the very long term if there is a delayed transition or no transition ahead of 2050. Chronic physical risks are more likely to materialise in the medium-to-very-long term. Acute climate-related physical hazards can already materialise in the short term, but the intensity, frequency and severity of extreme weather events will likely increase in the very long term as global temperatures continue to rise.

2.1.1 Lending portfolio

Our analysis of climate-related transition risk was informed by a heatmapping exercise. The heatmaps enabled us to identify industries, countries and/or regions potentially vulnerable to certain environmental factors. In this way, they provided a starting point for the assessment of risk materiality, indicating areas to assess in more detail.

Regarding climate-related physical risk, for the lending portfolio, we used C&E stress scenarios to gain insights into the climate vulnerabilities of our exposures. This involved assessing how physical hazards could impact the valuations of properties over time up to the year 2100. We used vulnerability mapping to identify assets sensitive to impact from chronic and acute climate change events. The vulnerability mapping combined physical hazard sensitivity and asset distributions in areas where physical hazard risks were considered potentially material. Physical hazard sensitivity was calculated at the postal code level.

We assessed our exposures to climate-related physical risks in three Representative Concentration Pathway (RCP) scenarios (RCPs 2.6, 4.5 and 8.5), covering the short, medium and long terms up to the year 2100 (2011–2040, 2041–2070 and 2071–2100). The RCPs correspond to different scenarios for GHG emissions defined by the United Nations and global scientific community. RCP 2.6 is aligned with the Paris Agreement, while RCP 8.5 is the most severe climate scenario. The results reported show exposures subject to climate-related risks in RCP 4.5 for the time period 2011–2040. To support the assessment, we used physical hazard data from the Swedish Meteorological and Hydrological Institute (SMHI). The data used consists of information on 12 different climate hazard indices, which can be divided into climate indices, hydrological indices, and fire risk indices. Each hazard index indicates the change in the respective physical hazard due to climate change.

Our exposures with collateral were allocated to postal codes with a physical location. Additionally, a review of scientific studies was conducted to determine the actual possible impact on the value of properties that were identified as being at risk due to physical hazards.

2.1.2 Investment portfolio

For the investment portfolio, we applied the climate value at risk (CVaR) methodology. The CVaR methodology is designed to facilitate a forward-looking and return-based valuation assessment in order to measure climate-related risks and opportunities in an investment portfolio across a range of scenarios. The fully quantitative methodology offers deep insights into how climate change could affect company valuations.

The methodology assesses three drivers of climate-related risks and opportunities: policy risk, technology opportunity, and physical risk. The VaR is expressed as a percentage of the company's market value and is calculated for a period of 15 years into the future. The drivers of climate-related risks and opportunities are assessed across three scenarios. The scenarios, derived from the Network for Greening the Financial System (NGFS), are Net Zero 2050 (leading to a temperature increase of approximately 1.5°C by 2100), Delayed Transition (leading to a temperature increase of approximately 2°C by 2100), and Nationally Determined Contributions (leading to a temperature increase of approximately 3°C by 2100). The applicable asset classes are listed equities and corporate bonds.

3 Methodology: E1-4 – Targets related to climate change mitigation and adaptation

3.1 Our targets

We have defined relevant targets for each part of the portfolio:

Our portfolio	Target	Metric ²
Own operations	Reduce carbon emissions from our internal operations by more than 50% by the end of 2030 and achieve a net positive carbon contribution (through offsetting)	Absolute (tCO ₂ e)
Lending	Reduce financed emissions in the lending portfolio by 40–50% by the end of 2030 compared with the 2019 baseline	Absolute (tCO ₂ e)
Investment (Nordea Asset Management)	Reduce the weighted average carbon intensity (WACI) for listed equities and corporate bonds by 50% by the end of 2030 compared with the 2019 baseline	Intensity (tCO ₂ e/EURm in sales revenue)
Investment (Nordea Life & Pension)	Reduce emission intensity in the investment portfolio by 40–50% by 2030 compared with 2019 ³ , complemented by targets for engagement with top emitters, and increases in the share of investments supporting nature and the climate transition	Intensity (tCO ₂ e/USDm invested)

Table 1. Nordea's targets

From 2024, we have had eight sector targets across the lending portfolio. Detailed information can be found on our website under [Policies & sector guidelines](#).

3.2 Decarbonisation levers

Decarbonisation levers are aggregated types of mitigation actions. We have interpreted the CSRD requirements regarding decarbonisation levers (E1-4 AR 30-31) as follows:

- Define what constitutes a climate change mitigating action for achieved (historical) and expected (forecast for the period 2024 to 2030) emission reductions and present these under decarbonisation levers.
- Strive for client and societal transition that cannot be directly linked to our mitigating actions. In other words, own actions should be isolated from the emission reduction due to counterparty (customer and societal) actions.
- In qualitative terms, describe whether and how we have considered a diverse range of climate scenarios, including at least a climate scenario compatible with limiting global warming to 1.5°C, to

² Tonnes of carbon dioxide equivalent (tCO₂e).

³ The scope of this target includes listed equities, corporate bonds and directly held real estate in Denmark, Finland, Norway and Sweden. The target is to be achieved by the end of 2029.

detect relevant environmental, societal, technology-related, market-related and policy-related developments to determine the decarbonisation levers.

In terms of reporting:

- When listing the mitigation actions taken in the reporting year and planned for the future, present the climate change mitigation actions under decarbonisation levers (CSRD E1-3 AR29a) and per each applicable Nordea GHG target.
- Describe the expected decarbonisation levers and their overall quantitative contributions to the GHG emission reduction targets (CSRD E1-4 AR34f).

Our decarbonisation levers should also be in line with other commitments related to the eligible targets, such as those made by the Net Zero Banking Alliance (NZBA) and Net Zero Asset Owners (NZAO). This is particularly important since there is not currently any entity-specific CSRD guidance for financial institutions.

Achieved emission reductions form part of the outcome of the actions for climate change mitigation in the current situation versus the baseline (based on CSRD E1-3 29b).

Expected emission reductions form part of the outcome of the actions for climate change mitigation towards the GHG emissions reduction targets (based on CSRD E1-4 AR31 and ER1-6 AR48). Expected emission reductions can be understood as forecast emissions from the current year to the target year. The forecasting models used to estimate the expected emission reductions employ both customer-specific and national or sectoral emission reduction target trajectories. The estimates for expected emission reductions are thus dependent on customers and society delivering on their reduction plans.

For the lending and investment portfolios, our achieved and expected emission reductions can be divided at a high level into three categories: exposure changes, counterparty reduction, and other drivers, including market fluctuations and data quality changes. We have a higher degree of control over exposure changes (through customer selection), and a lower degree of control over counterparty reduction, where customer and societal reductions contribute to our financed emissions reduction.

For own operations, our achieved and expected emission reductions can be categorised under the following significant initiatives: air travel emissions reduction, electric company cars only policy, paperless banking, and building energy consumption reduction.

4 Methodology: E1-5 – Energy consumption and mix

ESRS E1-5 requires banks to provide information on their own operations' energy consumption and energy mix (ESRS E1 Paragraphs 35-43). The disclosure required by paragraph 35 includes the total energy consumption in MWh related to own operations disaggregated by total energy consumption from fossil sources, total energy consumption from nuclear sources and total energy consumption from renewable sources. The total energy consumption from renewable sources must be further disaggregated by (i) fuel consumption from renewable sources, including biomass (which includes industrial and municipal waste of biologic origin), biofuels, biogas, hydrogen from renewable sources, etc., (ii) consumption of purchased or acquired electricity, heat, steam, and cooling from renewable sources, and (iii) consumption of self-generated non-fuel renewable energy. We decided to report on three consecutive years to enable data comparison.

Actual energy consumption data was collected for the headquarter offices in Denmark, Finland, Norway and Sweden. For the Luxembourg headquarters, the data was extrapolated from employee numbers.

Company car-related energy activity data was reported for the fleet vendors in Denmark, Finland, Norway and Sweden. Compressed natural gas (mobile combustion) activity data was reported for the fleet vendor in Sweden. Diesel and Petrol usage (in litres) and compressed natural gas usage (in kg) were calculated based on fuel cards purchased over the total fuel consumption period.

Fuel cards are not used in Poland and Estonia. The actual activity data was sourced for Estonia, while for Poland activity data was extrapolated from employee numbers.

Paragraph 38 of E1-5 Energy consumption requires undertakings with operations in high climate impact sectors to further disaggregate their total energy consumption from fossil sources. Based on ESRS E1-5 Energy consumption and EFRAG Q&A Platform Question ID 338, we are not an undertaking within a high climate impact sector, as high climate impact sectors are those listed in NACE Sections A to H and Section L. The scope of E1-5 Energy consumption only includes own operation activities.

Paragraphs 40–43 regarding energy intensity associated with activities in high climate impact sectors are not applicable to us for the aforementioned reasons. However, we have still decided to report on energy intensity based on the formula provided in paragraph 40, i.e. total energy consumption per net revenue. The total operating income line item in the Nordea Group income statement is treated as the net revenue.

5 Methodology: E1-6 – Gross Scopes 1, 2, 3 and Total GHG emissions

ESRS E1-6 requires gross scope 1, 2 and 3 emissions and total emissions in metric tCO₂e to be disclosed (ESRS E1 Paragraphs 44–52). ESRS E1-6 Application Requirement (AR) 48 and AR 54 provide the table structure for emissions disclosure.

5.1 Scope 1, Scope 2 and Scope 3 Category 1 to Category 14 emissions

The Scope 1, Scope 2 and Scope 3 Category 1 to Category 14 emissions are referred to internally as the Nordea Operational Carbon Footprint (OCF). The OCF calculation includes headquarter offices and employees in Denmark, Finland, Norway, Sweden, Estonia, Poland and Luxembourg.

In 2024 GHG emissions under the Nordea OCF were calculated as follows:

$$\text{Nordea's OCF} = \text{activity data} \times \text{emission factor} \times \text{GWP}$$

GWP: global warming potential

For achieved emissions, activity data is a quantitative measure of a level of activity that results in GHG emissions. An emission factor is a factor that converts activity data into GHG emissions data. GWP is a measure of the climate impact of a GHG compared with CO₂ over a time horizon. GHG emissions have different GWP values depending on their atmospheric lifetime and on how efficiently they absorb longwave radiation. The GWP values used in GHG accounting include the six GHGs covered by the United Nations Framework Convention on Climate Change (UNFCCC) and Kyoto Protocol, and combinations of these. Third-party service providers are responsible for assigning the right emission factor and GWP in operational carbon footprint calculations.

For the Nordea OCF, the milestone and target reporting is based on a linear reduction towards the total OCF target as the actual forecasting is still under development.

5.1.1 Scope 1 GHG emissions

Based on the GHG Protocol, scope 1 includes all GHG emissions that can be directly managed by the organisation (direct GHG emissions). For Nordea OCF scope 1 emissions, stationary combustion and mobile combustion were included in the calculation:

Category	Emission sources	Boundary
Stationary combustion	Generation of electricity and heat	Included
Mobile combustion	Company-owned or leased vehicles	Included
Physical or chemical processing	Manufacture or processing of chemicals and materials	Not applicable
Fugitive emissions	Emissions from the use of cooling systems and AC equipment, leakage from CO ₂ tanks or methane tubes	Not included

Table 2. Scope 1 GHG emissions

The current reporting scope is based on the consolidated accounting group, including the parent and subsidiaries. The scope 1 emissions must also cover investees such as associates, joint ventures or unconsolidated subsidiaries that are not fully consolidated in the financial statements of the consolidated accounting group, as well as contractual arrangements that are joint arrangements not structured through an entity (i.e. jointly controlled operations and assets), for which Nordea has operational control. We plan to report investee scope 1 emissions for the first time in our 2026 Annual Report. The 2026 timeline also applies to the disclosure of the percentage of scope 1 GHG emissions from regulated emissions trading schemes.

Biogenic emissions of CO₂ from the combustion or biodegradation of biomass were included in scope 1 GHG emissions under ESRS E1-6 AR 45 based on national proxies.

The European Union Emissions Trading System (EU ETS) covers all stationary combustions. Thus, the percentage of scope 1 GHG emissions from regulated emission trading schemes for stationary combustion is 100%. On the other hand, mobile combustion is not covered by the EU ETS, so the percentage of scope 1 GHG emissions from regulated emission trading schemes for mobile combustion is 0%.

5.1.2 Scope 2 GHG emissions

Based on the GHG Protocol Scope 2 Guidance, scope 2 includes indirect GHG emissions from the generation of electricity, steam, heat or cooling purchased by the organisation from external energy providers. For the Nordea OCF scope 2 emissions, the following were included in the calculation:

Category	Emission sources	Boundary
Electricity	Purchased electricity	Included
Steam	Purchased steam	Not applicable
Heating	Purchased heating	Included
Cooling	Purchased cooling	Included

Table 3. Scope 2 GHG emissions

To calculate and report market-based scope 2 emissions, the emission factors were associated with the qualifying contractual instruments we own.

For location-based scope 2 GHG emissions calculations, two different emission factors were used: regional or subnational production emission factors and national production emission factors.

The regional or subnational emission factors are average emission factors representing all electricity production occurring in a defined grid distribution region approximating a geographically precise energy distribution and use area.

The national production emission factors are average emission factors representing all electricity production information from geographic boundaries that are not necessarily related to dispatch region, such as state or national borders. No adjustment is made for physical energy imports or exports which are not representative of the energy consumption area.

Based on ESRS E1-6 AR 45, the share and types of contractual instruments under scope 2 GHG emissions should be disclosed. The market-based method quantifies scope 2 GHG emissions based on indirect emissions from the generation of purchased or acquired electricity, steam, heat, or cooling consumed by the reporting company (GHG Protocol Scope 2 Guidance). These emissions may be bundled with instruments such as Guarantees of Origin or Renewable Energy Certificates. A Guarantee of Origin is an EU guarantee (based on the Renewable Energy Directive) that a given amount of power is produced from a specific source. We purchase 100% renewable electricity through Guarantees of Origin to match our annual electricity consumption for the following countries: Denmark, Finland, Norway, Sweden, Estonia, Poland, and Luxembourg.

GHG emissions were disclosed as market-based emissions after deducting the share of renewable electricity.

Biogenic emissions of CO₂ from the combustion or biodegradation of biomass were included in scope 2 GHG emissions under ESRS E1-6 AR 45 based on national proxies.

5.1.3 Scope 3 GHG emissions

Scope 3 emissions include other indirect emissions, such as emissions from the extraction and production of purchased materials and services; vehicles not owned or controlled by the reporting entity; outsourced activities; and waste disposal. Scope 3 includes both upstream scope 3, i.e. category 1 to category 8, and downstream scope 3, i.e. category 9 to category 15. The following table provides an overview of the emission sources considered in our scope 3 disclosure:

Category	Emission sources	Boundary
Category 1 – Purchased goods and services	Purchased goods and services	Partially included
Category 2 – Capital goods	Production of capital goods (machinery, IT equipment, etc.)	Partially included
Category 3 – Fuel- and energy-related activities (not included in scope 1 or scope 2)	Upstream lifecycle emissions from fuel and electricity generation, incl. transmission and distribution losses	Partially included
Category 4 – Upstream transportation and distribution	Transportation and distribution of goods and services to the company	Not included
Category 5 – Waste generated in operations	Waste management of operational waste (landfilling, recycling, etc.)	Partially included

Category	Emission sources	Boundary
Category 6 – Business travel	Travel and accommodation of employees/contractors	Partially included
Category 7 – Employee commuting	Employee travel between home and work	Not included
Category 8 – Upstream leased assets	Operation of assets leased by the company (lessee) in the reporting year and not included in scope 1 or scope 2	Not applicable
Category 9 – Downstream transportation and distribution	Transportation and distribution of products sold by the company	Not included due to immateriality
Category 10 – Processing of sold products	Processing of intermediate products sold by the company	Not applicable
Category 11 – Use of sold products	Use of sold goods that require energy to operate	Not applicable
Category 12 – End-of-life treatment of sold products	Waste disposal and treatment of sold products	Not applicable
Category 13 – Downstream leased assets	Operation of assets owned by the company (lessor) and leased to other entities, not included in scope 1 or scope 2	Not included due to immateriality
Category 14 – Franchises	Operation of franchises not included in scope 1 or scope 2	Not applicable
Category 15 – Investment	Financed emissions (lending and investment)	Included

Table 4. Scope 3 GHG emissions

- **Category 1 – Purchased goods and services.** Paper and postal data is monitored directly and is thus primary data. For water consumption, in Finland, Norway and Estonia, meters were read automatically through the global energy system. Denmark, Sweden and Poland are not part of the global energy system for meter reading. Luxembourg data was extrapolated.
- **Category 2 – Capital goods.** The rooftop solar panel data was extrapolated and is thus not primary activity data.
- **Category 3 – Fuel- and energy-related activities (not included in scope 1 or scope 2).** This data currently uses scope 1 and scope 2 activity data and thus does not fulfil the primary activity data criteria.
- **Category 5 – Waste generated in operations.** Waste activity data was collected manually by third-party service providers for Denmark, Norway and Sweden. For Finland, the data was collected manually internally. For water waste management, in Finland, Norway and Estonia, meters were read automatically through the global energy system. Denmark, Sweden and Poland are not part of the global energy system for meter reading. Luxembourg data was extrapolated.
- **Category 6 – Business Travel.** Use of own car activity data was collected in kilometres for Denmark, Finland, Norway, Sweden, Poland and Estonia, and is thus primary data. Data regarding flight travel, taxis and hotel nights was extrapolated.

5.2 Scope 3 Category 15 emissions – Financed emissions

Our financed emissions accounting mainly follows the PCAF Standard and covers relevant asset classes across the lending and investment portfolios.

Nordea portfolio	Nordea asset classes
Lending portfolio	Business loans (including project finance and shipping)
	Commercial real estate
	Residential real estate
	Motor vehicles
Investment portfolio: <ul style="list-style-type: none"> Nordea Asset Management (NAM) Nordea Life & Pension (NLP) Group Treasury 	Listed equities and corporate bonds (NAM and NLP)
	Directly held real estate (NLP)
	Sovereign debt

Table 5. Scope 3 Category 15 GHG emissions

The methodology applies the same general attribution principles across the reported asset classes:

1. Financed emissions are calculated by multiplying an attribution factor (specific to that asset class) by the emissions of the borrower or investee.
2. The attribution factor is defined as the share of total annual GHG emissions of the borrower or investee that is allocated to the loan(s) or investment(s). The attribution factor is calculated by dividing the share of the outstanding amount of loans and investments of a financial institution by a specific denominator depending on the asset class.
 - a. For business loans, the denominator is the total equity and debt of the company, project, etc. to which the financial institution has lent money.
 - b. For motor vehicles, residential real estate and commercial real estate, the denominator is the asset value (i.e. vehicle or property value).
 - c. For sovereign debt, the denominator is the purchase power parity (PPP)- adjusted GDP.
 - d. For listed equities and corporate bonds, the denominator is the enterprise value including cash (EVIC).
3. Emissions data is obtained by applying the following methods: a) emissions verified and reported directly or indirectly by customers, b) estimated emissions based on primary data on physical activity, and c) estimated emissions based on economic activity.

$$\text{Financed emissions} = \sum_i \text{Attribution factor}_i \times \text{Emissions}_i$$

(with i = borrower)

Figure 1. Financed emissions formula

We estimate customers' scope 1, 2 and 3 emissions. To avoid double counting and ensure transparency, our scope 1 and 2 financed emissions are reported separately from customers' scope 3 emissions (see the Annual Report).

5.2.1 Financed emissions data quality hierarchy

The quality and availability of emissions data vary between asset classes and are generally better for portfolios with a high concentration of listed corporate entities. We rely on the PCAF methodology to score the emissions data depending on the source and quality of the information. The scores range from 1 to 5, with 1 corresponding to the most accurate emissions data (audited GHG emissions data or actual primary energy data) and 5 to the most uncertain data (estimated data with very limited support).

Data quality hierarchy according to PCAF

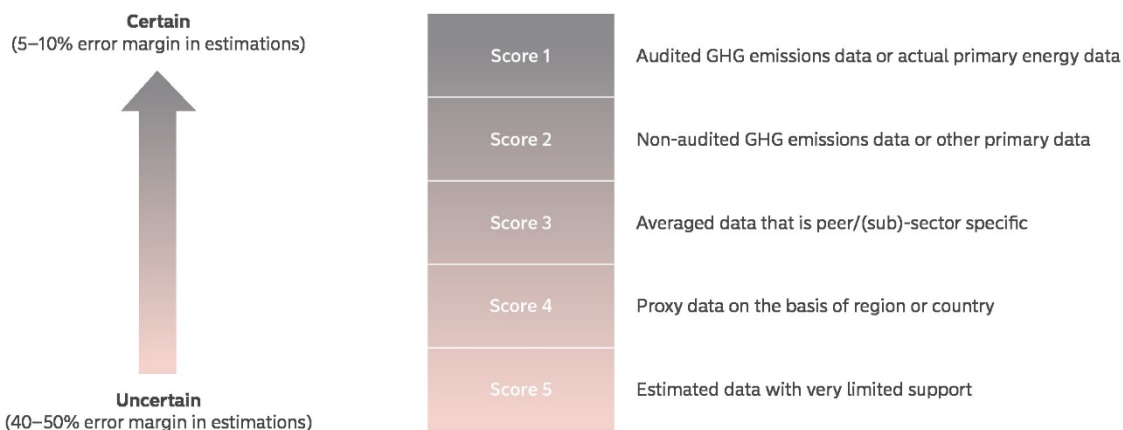


Figure 2. Financed emissions data quality hierarchy

5.2.2 Asset classes calculation methodology

5.2.2.1 Business loans

Scope

Business loans are defined as our on-balance sheet loans or lines of credit for general corporate purposes to businesses, non-profit organisations, and any other organisations⁴ not traded on the market. For loans with a potentially variable outstanding amount, only those outstanding on the year-end balance sheet are included. In the current methodology, we have chosen to classify project finance as business loans and to estimate its emissions using the business loans approach. Equity investments for general corporate purposes in businesses, non-profit organisations, and any other organisations not traded on the market are also treated as business loans.

Financed emissions are calculated based on the general formula (see Figure 1 above).

Attribution factor

The attribution factor is calculated using the book value to obtain the enterprise value including cash (EVIC). The attribution factor for business loans should not exceed 100%.

Estimated emissions

The main data quality challenge for this asset class is the limited availability of reported customer-specific emissions data, which is biased towards the largest corporate customers. Consequently, financed emissions estimates for most business loans are based on the country- and industry-specific proxy emission factors from 2015 provided by the PCAF.

⁴ This includes, for example, government-owned enterprises.

Business loan financed emissions include customers' absolute scope 1, 2 and 3 emissions across all relevant sectors in the portfolio. To ensure data quality and transparency, scope 3 emissions are reported separately from scope 1 and 2 emissions.

For emissions in the Power Production sector, we have introduced a green production proxy for fully renewable energy producers that do not report emissions. Based on information from the Intergovernmental Panel on Climate Change (IPCC) and the United Nations Economic Commission for Europe (UNECE), we estimate that those customers can generate 5gCO₂/kWh, which is multiplied by the company's power production, thus improving the data quality score from 5 to 3.

For Oil & Gas Exploration and production companies without reported scope 3 emissions, in 2019 and 2022 we used internal estimates based on applicable combustion-related emission factors from regional peers and production data, and assessed this as data quality score 3. In 2023 all customers in this segment reported scope 3 emissions, which means that no estimates were used.

5.2.2.2 Shipping

Scope

The PCAF standard does not provide guidelines for Shipping. Therefore, we calculate the emissions based on the Danish CO₂ model guidelines. Shipping includes exposures that are secured by vessel collateral.

Attribution factor

Financed emissions are calculated using the oldest market value available (i.e. from 2019), which is maintained as the reference point for future estimations. The attribution factor is multiplied by the emissions of each vessel to obtain the financed emissions.

Estimated emissions

For shipping vessels that are eligible under the Poseidon Principles, emissions data is based on fuel consumption, which is assessed as PCAF data quality score 1. For exposures linked to shipping vessels and offshore vessels which do not follow the Poseidon Principles, we apply our own dynamic (i.e. annually updated) shipping proxy, built using emissions per nautical mile from the actual vessel fleet that we finance. With this, we consider the customers' operating costs, so financed emissions are based on the actual operational activity of the customers/vessels.

5.2.2.3 Commercial real estate and residential real estate

Scope

Commercial real estate (CRE) is real estate for which a loan has been taken out by a Real Estate Management Industry (REMI) customer and which is secured by commercial or residential real estate collateral. Residential real estate (RRE) is real estate for which a loan has been taken out by a natural person and which is secured by residential real estate collateral. RRE covers most financed emissions from tenant-owner associations (TOAs)⁵ as these are mainly used for residential purposes.

Financed emissions for CRE and RRE are calculated as the sum of the building emissions across each building in the portfolio multiplied by the attribution factor.

⁵ A TOA consists of a housing association made up of a number of members or shareholders who have bought the right to occupy an apartment within a shared building. The association will have a loan with the bank for the purchase or construction of the building, while individual members of the association will independently have loans for the purchase of their "shares", with the apartment (or share) as collateral.

Attribution factor

The attribution factor is the ratio of the outstanding amount of the loan to the value of the property at origination. For properties with no value at origination, we use the oldest available property value. The method for calculating the attribution factor is the same for both RRE and CRE loans.

Furthermore, we have developed our own attribution approach for TOAs, as there is no PCAF standard currently available. The majority of TOAs are included under RRE, as their purpose is normally residential rather than income-generating. Our approach to TOAs is to minimise undercounting financed emissions at the risk of double counting emissions. Emissions are calculated separately for lending to the TOA and lending against the apartments. We look forward to aligning our TOA approach with a more standardised methodology together with our peers in the Nordics.

Estimated emissions

The emissions for CRE and RRE are calculated using Energy Performance Certificates (EPCs) where available. Most of the financed emissions for both asset classes are calculated based on floor area or building level approximation, using emission factors according to country and property type sourced from the 2018 PCAF European building emission factor database. We treat EPCs that expired up to five years ago as valid and give them a data quality score of 4.

Within CRE, we apply an internal proxy to financed emissions with a data quality score of 5, allowing us to close the information gap on physical emission intensity. Our proxy consists of using the floor area from properties with data quality scores of 3 and 4 to estimate the floor area of similar properties with a data quality score of 5. This estimated floor area is then used in combination with the floor-area based PCAF proxy to calculate the financed emissions for properties with a data quality score of 5, making it possible to report the physical emission intensity for the total CRE portfolio.

5.2.2.4 Motor vehicles

Scope

Motor vehicles include lending and leasing secured by motor vehicles. While the PCAF standard only provides guidance for motor vehicles lending, we have decided to include leasing by calculating it and treating it in the same way as lending. The decision to include leasing was due to customers always gaining possession of the vehicle after the short lease period. There are no additional inclusions or exclusions, except for a distinction made between boats for recreational use (included) and those used for commercial transport (excluded, as they fall under the Shipping sector within business loans).

The financed emissions from motor vehicles are calculated by multiplying the attribution factor by the emissions of the motor vehicle.

Attribution factor

The attribution factor is obtained by dividing the outstanding amount by the total value at origination. In all cases, the calculated attribution factors are capped at 100%.

Estimated emissions

For passenger cars and vans, the emissions are sourced from external data providers based on the vehicle's model (data quality score 2). **For these motor vehicles, we also use the average annual driving distance based on national statistical data.** For the rest of the vehicles, we use estimates of emissions sourced from the PCAF database, which provides annual emissions per vehicle type, representing the weighted average national

emissions considering the distribution of petrol, diesel, hybrid and electric in the region, as well as the average distance travelled (data quality score 4).

5.2.2.5 Listed equities and corporate bonds

Scope

According to the PCAF, this asset class includes all listed corporate bonds and all listed equity that are traded on a market and are for general corporate purposes (i.e. have an unknown use of proceeds as defined by the GHG Protocol). These include the following: all types of corporate bonds for general corporate purposes, common stock, and preferred stock.

For indirect investments (e.g. investments in funds) that incorporate listed equity and bonds, the methodological approach is the same, provided that information on the individual holdings is available.

Green bonds, sovereign debt, and derivative financial products (e.g. futures, options and swaps) are not covered by this asset class.

Attribution factor

The attribution factor is calculated using the book value to obtain the enterprise value including cash (EVIC).

Estimated emissions

Nordea Asset Management (NAM) and Nordea Life & Pension (NLP) cover the absolute scope 1, 2 and 3 emissions of investees across all relevant sectors in the portfolio. For reporting purposes and to ensure data quality and transparency, scope 3 emissions are reported separately from scope 1 and 2 emissions. NAM and NLP retrieve investees’ emissions data and modelled emissions estimates from MSCI.

The MSCI production model (E.PROD) is used for electric utilities (data quality score 2); the company-specific intensity model (E.CSI) is used for companies where historical emissions are available but not current emissions (data quality score 2); and the industry segment-specific intensity model (E.Segmt) is used to obtain sector averages for companies with no reported emissions data (data quality score 2).

For scope 3 emissions, NAM and NLP deviate from PCAF recommendations and prioritise estimated data over reported data. This is to avoid the risk of systematic underreporting of scope 3 emissions.

In addition, NAM complements MSCI data with data from ISS. The data reported from ISS is assigned a data quality score of 2 and modelled emissions are assigned a data quality score of 4.

For its directly held real estate portfolio, NLP uses vendor-specific reported data corresponding to a score of 1 in the PCAF data quality hierarchy for CRE.

5.2.2.6 Sovereign debt

Scope

Group Treasury, NAM and NLP report on sovereign debt financed emissions. Each of them have adapted the scope according to their portfolios characteristics:

Sovereign debt PCAF scope	Group Treasury	NAM	NLP
Within the PCAF asset class scope	In scope (yes/no)		
<ul style="list-style-type: none"> Sovereign bonds and loans of all maturities issued in domestic or foreign currencies 	Yes	Yes	Yes

<ul style="list-style-type: none"> Debt issued by central banks on behalf of national governments⁶ 	Yes	Yes	Yes
Out of the PCAF asset class scope			
<ul style="list-style-type: none"> Cash, foreign exchange and derivative (repo) transactions 	No	No	No
<ul style="list-style-type: none"> Sub-sovereign and municipal debt 	No	No	No
May be included in the PCAF asset class scope			
<ul style="list-style-type: none"> Supranational debt 	No	Yes (European Union)	No

Table 6. Sovereign debt scope

Attribution factor

The attribution factor is calculated as per the PCAF guidance. This requires the use of Purchase Power Parity (PPP)-adjusted GDPs. Here, the value of a country’s output as a proxy for the “value of the country” is adjusted by the PPP factor to improve the comparison between actual economy sizes. The attribution of emissions is then obtained by dividing the outstanding amount by the PPP-adjusted GDP.

Estimated emissions

Two sovereign emission metrics are calculated in Group Treasury, NAM and NLP:

- production emissions (scope 1) excluding land use, land use change, and forestry (LULUCF),
- production emissions (scope 1) including LULUCF.

Group Treasury sources sovereign debt emissions directly from the PCAF database, while NAM and NLP source emissions from ISS and MSCI, respectively. The PCAF database includes primary emissions data up to the year 2021 (data quality score 1). MSCI and ISS include the same emissions from the PCAF database and emissions from estimated models from the year 2022 onwards (data quality score 4). Sovereign debt emissions in Group Treasury are accordingly assigned a data quality score of 1 and sovereign debt emissions in NAM and NLP a data quality score of 4.

⁶ In some countries, central banks also issue debt on behalf of the national government. In those cases, central banks are assigned the emissions of the respective national government.

5.2.3 Methodology deviation and extension

Due to specific considerations regarding our corporate lending portfolios, we have deviated from the PCAF standard in some areas.

Nordea lending portfolio	Deviations from PCAF	Extensions of PCAF and own approaches
Business loans	<ul style="list-style-type: none"> • Embedding of project finance exposures in business loans (no separate treatment) • Use of the book value instead of the market value for calculating EVIC to mitigate the effect of market volatility in the financed emissions attribution 	<ul style="list-style-type: none"> • Use of an own proxy for fully renewable energy producers within Power Production • Inclusion of Shipping within business loans and calculation of financed emissions based on the Danish CO₂ model • Use of an own proxy for shipping vessels and offshore vessels that do not follow the Poseidon Principles • Use of an own proxy for Oil & Gas Exploration and production companies without reported scope 3 emissions
CRE	<ul style="list-style-type: none"> • Use of the indexed value instead of the market value, applied at the point of loan origination for all exposures 	<ul style="list-style-type: none"> • Development of an own emissions accounting methodology for TOAs to address the double counting of properties • Use of EPCs that expired up to 5 years ago as valid, assigned a data quality score of 4 • Use of an own proxy for financed emissions within data quality score 5
RRE	<ul style="list-style-type: none"> • Use of the indexed value instead of the market value, applied at the point of loan origination for all exposures 	<ul style="list-style-type: none"> • Development of an own emissions accounting methodology for TOAs to address the double counting of properties • Use of EPCs that expired up to 5 years ago as valid, assigned a data quality score of 4
Motor vehicles	-	<ul style="list-style-type: none"> • Application of the PCAF financed emissions rationale (formula) to motor vehicle leasing

Listed equities and corporate bonds	<ul style="list-style-type: none"> • Inclusion of covered bonds and green bonds in NAM listed equities and corporate bonds⁷ • Inclusion of green bonds and a portion of covered bonds in NLP listed equities and corporate bonds¹² 	-
Directly held real estate	<ul style="list-style-type: none"> • Use of primary data on direct fuel use, purchased electricity and heating and tenant energy consumption • Application of emission factors as available 	<ul style="list-style-type: none"> • Estimation of GHG emissions for NLP directly held real estate in accordance with the GHG Protocol. The emissions data is systematically collected and is based on accurate data on direct fuel use (scope 1), purchased electricity and heating (scope 2) and tenant energy consumption (scope 3). Best available emission factors are applied to calculate total emissions.
Sovereign debt	-	-

Table 7. Nordea's deviations and extensions of the PCAF standard and own approaches

5.2.4 Emissions intensities

Our financed emissions disclosures in the Annual Report include a further breakdown of emission intensities, in particular for our sector-specific targets. This enhances the transparency of our targets and improves comparability across peers in the industries in question. Our absolute financed emissions are translated into physical or economic intensities depending on the case, using the formulas specified in the PCAF standard⁸.

Metric	Formula
Economic emission intensity	$\text{Economic emission intensity} = \frac{\text{Absolute financed emissions}}{\text{Loan volume (EUR)}}$ <p>e.g. in Agriculture, tCO₂e/EURm</p>
Physical emission intensity	$\text{Physical emission intensity} = \frac{\text{Absolute financed emissions}}{\text{Financed physical activity or output}}$ <p>e.g. in Power Production, gCO₂e/kWh</p>

⁷ NAM's and NLP's methodologies for covered bonds will be amended once guidance from the PCAF becomes available.

⁸ The exception is for the Shipping portfolio. Here, the calculation method follows the Poseidon Principles practices, i.e. the physical emission intensity is calculated using the Annual Efficiency Ratio (AER) metric, where carbon intensity is a quotient of fuel consumption by distance travelled times dead weight tonnage (dwt). More information can be found in our Climate target methodologies for the lending portfolio at Nordea.com.

Table 8. Formulas for emission intensities

5.3 Total emissions

Total emissions are the sum of scope 1, scope 2 and scope 3 category 1 to category 15 emissions. The total emissions calculations are based on the formulas below, which distinguish between location-based and market-based emissions in the underlying scope 2 GHG emissions.

Total GHG emissions_{location-based}(tCO₂eq) = gross scope 1 + gross scope 2_{location-based} + gross scope 3

Total GHG emissions_{market-based}(tCO₂eq) = gross scope 1 + gross scope 2_{market-based} + gross scope 3

Figure 3 Total emissions formula

The total emissions intensity calculation (E1-6 AR 53) is based on the formula below.

$$\frac{\text{Total GHG emissions (t CO}_2\text{eq)}}{\text{Net revenue (Monetary unit)}}$$

Figure 4 Total emissions intensity formula

We have decided to treat the total operating income line item in the Nordea Group income statement as the net revenue. This is to ensure that the data can be reconciled. Breakdowns by industries, etc. will potentially be developed based on future requirements and market practice.

5.4 Baseline recalculation for GHG emissions

In line with the GHG Protocol, we have defined GHG emissions recalculation methodologies applicable to our GHG emissions baselines, accounting, and absolute and sector-specific targets. The methodologies define the circumstances under which base year GHG emissions must be recalculated and the significant threshold that triggers a recalculation. The circumstances that trigger a recalculation are significant structural changes (i.e. acquisitions and divestitures), significant impacts due to changes in GHG emission estimation models, and significant improvements to or errors in the data. We also recalculate when there are significant changes in the base year emissions of sector-specific targets that affect the actuals and either the absolute GHG emissions or the physical emission intensities within the sectors. The significant threshold triggering a recalculation is >5%.

To ensure accurate tracking of progress towards our emission intensity targets and the highest possible quality of information and transparency over time, we must adjust our base year GHG emissions starting point (i.e. 2019) in the event of the significant changes mentioned above. We may also choose to recalculate our base year emissions for changes deemed less significant to ensure the consistency, comparability and relevance of the reported emissions data over time.

6 Methodology: E1-7 – GHG removals and GHG mitigation projects financed through carbon credits

ESRS E1-7 requires companies to disclose (i) removals and storage of GHG in metric tCO₂e resulting from projects they may have developed, and (ii) removals and storage of GHG in metric tCO₂e through climate change mitigation projects outside their value chain that they have financed or intend to finance through a purchase of carbon credits (ESRS E1 Paragraphs 56-61).

This requirement is aimed at gaining an understanding of (i) companies' actions to permanently remove or actively support the removal of GHG from the atmosphere, potentially in order to achieve net zero targets,

and (ii) the extent and quality of carbon credits the company has purchased or intends to purchase from the voluntary market.

Our target for operational emissions is to achieve a net positive carbon contribution by 2030 (currently, a reduction of at least 50% compared with 2019 baseline) while being on course to achieve net zero emissions by 2050 across our value chain. We started phasing in the development of GHG emission removal activities for own operations in 2024 as part of our climate transition targets and plan (CSRD E1-1).

Financed emissions removals are not yet covered in any of our disclosures. However, in 2024 we progressed with the development of our internal methodology for emission removals accounting. We aim to report financed emissions removals in the near future once more data becomes available.

7 Limitations

Our methodology for GHG emissions can change due to updates from external data sources or new guidelines from the regulators. We must internally assess such updates to understand their potential impact on GHG emissions accounting and define our approach to them.

Data quality and availability vary between asset classes and are better for listed corporate entities. The absence of actual customer data is compensated for by using proxies. While this helps us provide estimates of financed emissions, such estimates are associated with a higher level of uncertainty. In addition, emission factors based on old proxies present a challenge since they do not reflect recent emission trends, especially in the Nordic context. Different emission factor databases across countries and regions can significantly impact the result, which can increase reporting inconsistencies. Therefore, deep analysis and understanding of the best options to use for estimating financed emissions in the most accurate way is needed.

As regards our operational carbon footprint, data quality and availability similarly vary between different scopes and categories. The absence of actual suppliers' data is compensated for by using proxies. In addition, emission factors based on old proxies present a challenge since they do not reflect recent emission trends, especially in the Nordic context. Different emission factor databases across countries and regions can significantly impact the result, which can increase reporting inconsistencies. We currently rely on third-party data.

Double counting is a common challenge in financed emissions accounting and is in many cases unavoidable. To mitigate the risk of double counting, and following the recommendations set out in the PCAF Standard, we report counterparties' scope 1 and 2 emissions separately from their scope 3 emissions.

Due to delays between the availability of customer emissions information and our external reporting, we must report with a data access delay, meaning that our financed emissions for 2024 will be based on customers' financial data from that same year, but on emissions data from 2023 or earlier, depending on the latest available information.

8 Disclaimer

This document has been prepared by the Nordea Group. It is provided for information purposes only and should not be considered investment, legal or tax advice. In addition to the limitations previously described, our methodology can be affected or modified by factors including but not limited to (i) changes in the regulatory environment and other government actions, (ii) updates to external guidelines on financed emissions, and (iii) methodological and data improvements and the adoption of new internal approaches. In all cases, we seek to comply with all regulatory requirements, our voluntary commitments, and stakeholders' expectations. This document does not imply that Nordea has undertaken to revise these statements beyond what is required by applicable law or applicable stock exchange regulations if and when circumstances arise that lead to changes following their publication.