



Economic Commentary

The green asset ratio – a metric to measure banks contribution to a green transition

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No. 2 2025, 12 February

How can banks contribute to the green transition?

Banks are important to society, not least as lenders. This role also gives them the opportunity to contribute to the green transition by steering their lending towards projects that favour sustainability. For example, lending to certain types of housing can lead to energy efficiency and renovations providing us with low energy buildings that reduce the need for fossil fuels. At the same time, it can be risky for banks to lend against collateral in the form of buildings that are at risk of flooding and other climate impacts. This Economic Commentary¹ looks at different ways of assessing how green a bank is and, in particular, describes a new metric that measures banks' EU taxonomy aligned engagement, the green asset ratio (GAR). In addition to contributing to the financial stability analysis, information on the extent to which banks are financing green projects may also lead to discussions between management, investors and customers on the future sustainability strategy, which could accelerate the green transition.

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How “green” are the banks

To achieve Sweden's climate goal of net-zero emissions by 2045 and international climate goals, such as the Paris agreement, capital is needed to enable investment in fossil-free energy and innovation.³ The financial sector can contribute to the green transition by allocating capital and savings to sustainable investments while reducing its exposure to climate-related risks. The major Swedish banks (SEB, SHB and Swedbank) have also signed up to the Net Zero Banking Alliance (NZBA) and will thus actively contribute to a green transition and to achieving the climate goals of the Paris Agreement. In order to analyse climate-related risks in the financial system, there must be standardised and comparable climate-related data.

¹ Economic Commentaries are brief analyses of issues with relevance for the Riksbank. They may be written by individual members of the Executive Board or by Riksbank staff. Staff commentaries are approved by the relevant head of department, while Executive Board members are themselves responsible for the content of the commentaries they write.

² Thanks to David Forsman, Magnus Georgsson, Lukas Guan Hallquist, Mia Holmfeldt and Katarina Werder for valuable comments and feedback.

³ The Paris Agreement is an international climate agreement. In the agreement, countries agreed to limit global warming to well below 2°C and preferably to 1.5°C by reducing greenhouse gas emissions and promoting sustainable development.

Information on climate-related risks is still in its infancy and many transparency requirements have yet to be fully implemented. This means that it is still difficult to compare companies, but as better reporting is put in place, metrics and key figures will be developed.

To stimulate a climate transition, the EU has developed an Action Plan on sustainable finance.⁴ The action plan aims to increase transparency for investors, avoid greenwashing and reorient more capital towards sustainable economic activities. Greenwashing means that a company creates a false image that they or their products are environmentally friendly. As part of this work, enhanced reporting requirements have been introduced. Major listed banks in the EU must disclose standardised information on their climate-related risks under Pillar 3.⁵ An important part of this work is that the EU has defined which economic activities are to be considered environmentally sustainable, as set out in its classification system, the EU taxonomy (Taxonomy Regulation, EU 2020/852). Work is ongoing to update the EU taxonomy to include new types of sustainable activities. These updates should reflect new research and the development of new technologies.

Standardised metrics or key performance indicators are needed to monitor, evaluate and compare how banks contribute to the climate transition. The EU has developed the Green Asset Ratio (GAR) to measure the banks’ green engagement in a standardised and comparable way.

The share of green assets differs between banks

The key performance indicator GAR is a ratio that measures a bank’s assets that are compliant with the EU taxonomy (so-called “green” assets), as a share of the bank’s total assets.⁶ The metric can be used to evaluate banks’ green engagement by putting a percentage figure on how green a bank is. The aim is to make the GAR easy to understand. It should be possible to compare how green different banks are according to the EU taxonomy, as they use the same methodology and classification of what is green.

The purpose with the indicator is that a high GAR should signal a bank’s commitment to contribute to a positive environmental impact. Green finance includes loans, investments and other services that target sustainable projects. Examples include renewable energy (for example investments in solar and wind power, as well as other renewable energy sources), energy-efficient housing, and investments in electric vehicles. Lending that finances activities using fossil fuels, such as oil and coal, is not considered sustainable under the EU taxonomy. Lending that finance real estate that are

⁴ See https://ec.europa.eu/commission/presscorner/detail/sv/ip_18_1404

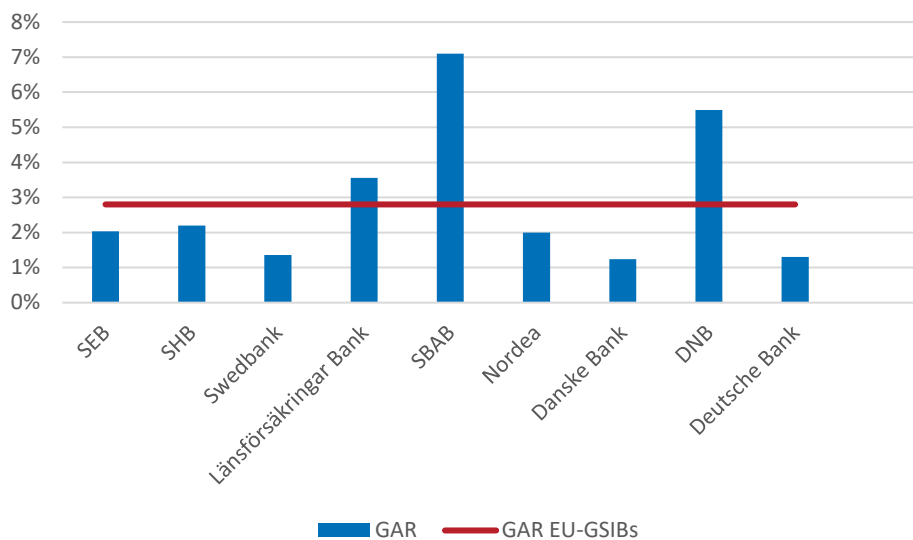
⁵ Pillar 3 consists of requirements for banks to disclose information about their own operations so that the bank’s risk profile can be assessed. Article 449a of the Capital Requirements Regulation (CRR) requires major listed banks to disclose their climate risks under Pillar 3. The European Banking Authority is working on introducing climate-related disclosure requirements in Pillar 3 for smaller banks (based on proportionality).

⁶ In Pillar 3, the measure is based on turnover. The GAR should be calculated for the stock and the flow (the change over the period). Data presented in this report refer to stock.

not energy-efficient or where sustainability information is missing are not included in the banks' green assets, and this asset class currently constitutes a relatively large portion of the Swedish banks' assets.

A summary of a sample of banks shows that there are differences between banks in terms of the proportion of their balance sheet that is green; see Figure 1.

Figure 1. GAR for a sample of banks



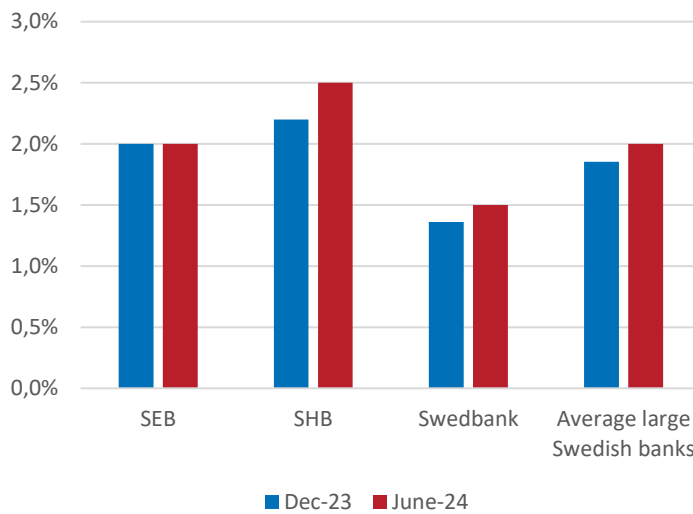
Note: Data refers to December 2023. EU-GSIBs refers to the large European systemically important banks. Source: Banks' Pillar 3 reports.

The figure shows that the major Swedish banks have a marginally lower GAR than other systemically important European banks (EU-GSIBs).⁷ Thus, according to the GAR, they appear to be slightly less green compared to major European banks. The banks' business models may explain some of the differences in the GAR. For example, the GAR will be lower if the bank has lending to companies outside the EU or to small and medium-sized enterprises in the EU, as such lending cannot be classified as a green asset in the GAR.

As the GAR is a relatively new measure, there are only limited possibilities so far to analyse developments over time. However, it can be seen that the share of green assets for the major Swedish banks since last year has increased; see Figure 2.⁸

⁷ Based on December 2023 data, the GAR is 2.8 per cent (average) for EU GSIBs. Source: S&P GSIB report (2024).

⁸ So far, the major Swedish banks have reported the GAR on two occasions. The GAR will next be reported in spring 2025. Major listed banks in the EU report the GAR semi-annually in their risk reports (Pillar 3). There is no regulatory requirement for a minimum GAR level, only a reporting requirement.

Figure 2. GAR in the major Swedish banks

Note: Refers to December 2023 and June 2024. Average refers to the major Swedish banks.
Source: Banks’ Pillar 3 reports.

The GAR levels reported by banks so far are significantly lower than the European Banking Authority (EBA) reported when it made a pilot study of the measure. In the study, it estimated an average GAR of 7.9 per cent for 29 EU banks, which is clearly above what most banks report today.⁹

The major banks’ green assets according to the EU taxonomy

Only a very limited part of the banks’ balance sheets is currently green according to the EU taxonomy. The *green assets* (the numerator) that a bank can credit are those economic activities that are aligned under the EU taxonomy. The *covered assets* (denominator) consist of the bank’s total assets excluding exposures to government securities, central banks and trading books.¹⁰ The GAR is calculated as the ratio of green assets to covered assets. See the Appendix for a more detailed description of the GAR and its components.

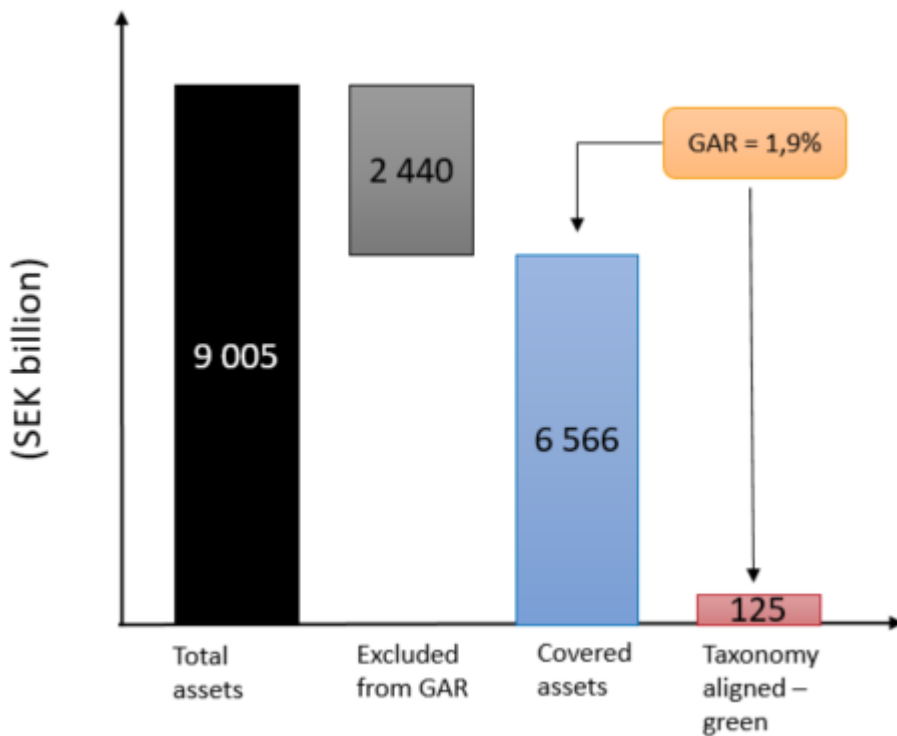
The major Swedish banks have a large share of assets that are excluded from the GAR measure; see Figure 3. The excluded assets represent about 27 per cent (SEK 2,440 billion) of the balance sheet and consists largely of the banks’ liquidity reserves. This leaves around 73 per cent of the stock of assets (covered assets) included in the denominator (SEK 2,189 billion). The covered assets consist for the most part of loans to households and companies. At the end of 2023, banks held SEK 125 billion (of which

⁹ The GAR level calculated by the EBA should not be seen as the expected level. It is bank-specific and can be both higher and lower. See <https://eba.europa.eu/publications-and-media/press-releases/eba-publishes-results-eu-wide-pilot-exercise-climate-risk>

¹⁰ Exposures to governments and central banks are excluded as there is insufficient data to assess their carbon footprint. Trading books are excluded as these assets are temporary.

SEK 105 billion related to green mortgages) in taxonomy-compliant green assets, resulting in a GAR of 1.9 per cent.

Figure 3. Decomposition of GAR



Note: Aggregate data for the major Swedish banks. Data refers to December 2023. Source: Banks’ Pillar 3 reports.

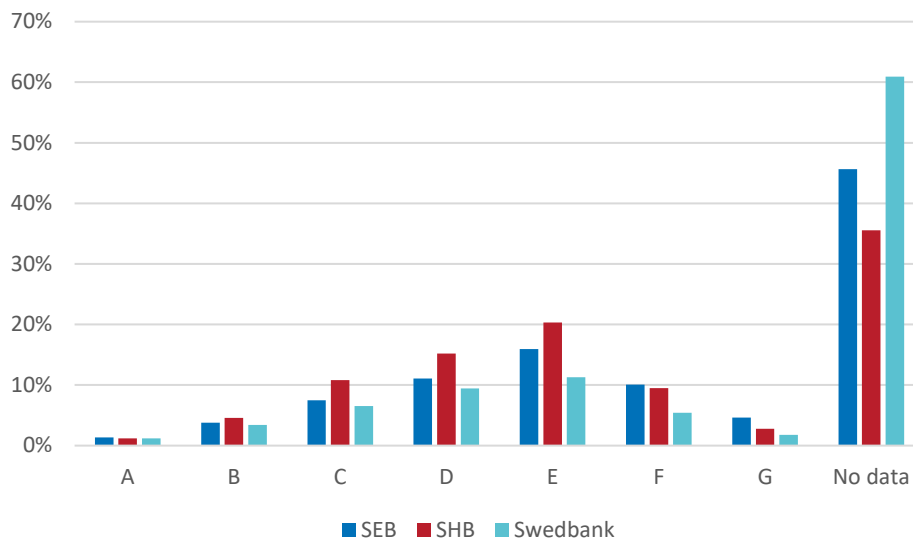
The banks’ green assets consist mostly of lending to households in the form of green mortgages and a smaller share of corporate lending. The green corporate lending is largely related to real estate such as renting and operating of real estate and to a smaller extent to other corporate lending such as manufacture of turbines.

Buildings and housing – important for the GAR and for reducing the carbon footprint

As a significant share of the banks’ green assets consists of green mortgages, energy-efficient housing is central to the banks’ GAR calculations. For a housing loan to be compliant with the EU taxonomy and thus be classified as green, the energy performance of the building needs to correspond to energy class A or be within the top 15 per cent of the national stock.¹¹ Data for the major Swedish banks show that only a very low proportion of homes have the highest energy class, which is A. In addition, a large proportion of homes have no energy rating; see Figure 4.

¹¹ Energy efficiency is measured in seven steps by energy class from A-G where A is the most energy efficient. Under Pillar 3, the banks must disclose the energy efficiency breakdown of residential and commercial property exposures. See Pillar 3, Template ESG2.

Figure 4. Distribution of energy classes for housing



Note: Refers to loans to households with a mortgage on a residential property. A-G represents the energy class of the housing. Source: Banks' Pillar 3 reports (June 2024).

The presence of housing that have a high energy classification are probably underestimated, because energy data is missing and thus an energy classification for many houses. Over time, the number of homes in Sweden that have an energy class will increase, as there is a requirement for buildings that are newly constructed or are up for sale to have an energy declaration.¹² For example, to help reduce energy use, the major Swedish banks offer interest rate discounts on mortgages for energy efficient houses. From a life-cycle perspective, Swedish buildings account for more than one-fifth of Sweden’s greenhouse gas emissions.¹³ Making a larger proportion of buildings more energy efficient would thus have a major impact on carbon emissions.

How can banks increase the GAR

It is likely that the GAR will increase as the scope of reporting under the CSRD¹⁴ increases and more companies begin to report sustainability data that can be included in the metric. This is because exposures to companies that do not comply with the

¹² However, the criteria for energy classification differ between countries, which means that the figure is not fully comparable between countries. This means that housing with energy class B in Sweden would not necessarily have the same energy class in another country.

¹³ See <https://www.naturvardsverket.se/amnesomraden/klimatomstallningen/omraden/klimatet-och-bygg--och-fastighetssektorn/>

¹⁴ The CSRD (Corporate Sustainability Reporting Directive) is based on companies reporting their actions and results in environmental, social and governance-related areas (ESG). The CSRD became applicable in 2024 and replaces the NFRD (Non-Financial Reporting Directive).

NFRD/CSRD are not included in aligned green assets.¹⁵ A bank can also increase its GAR by making investments, increasing its financing of aligned green projects (increasing the numerator) or reducing its lending to non-aligned economic activities (reducing the denominator). Furthermore, it is likely that GAR will increase when better data on buildings energy performance are available.

Alternative ways of measuring how green a bank is

As described above, the GAR is not a comprehensive measure of how green a bank is. GAR should therefore be complemented by other measures to obtain a more comprehensive picture of the banks’ contribution to sustainable development.

Another way to measure is by looking at banks’ direct and indirect carbon emissions. Indirect emissions are emissions related to a bank’s lending activities. One way to do this is to investigate the sectors to which the banks have lent and relate this to the level of emissions in each sector.¹⁶ If a bank has high lending to a high-emission (carbon-intensive) sector, it is considered less green. Examples of sectors with high emissions are oil and gas extraction and transport. Another approach is to study the banks’ financed emissions from lending by sector. Financed emissions are the greenhouse gas emissions that a bank finances through its lending activities.

Major listed banks in the EU must disclose how much lending to non-financial companies they have against carbon-intensive sectors.¹⁷ The sectors classified as carbon-intensive are specified in EU Delegated Regulation 2020/1818, referring to sectors that contribute significantly to climate change. Data show that there are large differences among the major Swedish banks in their financed emissions and that corporate lending to carbon-intensive sectors accounts for a significant majority of the loan portfolio (average about 84 per cent for the major banks); see Figure 5. A study of 22 European banks showed an average of 70 per cent.¹⁸ The major Swedish banks have a large share of lending to the real estate sector, which is classified as carbon-intensive, driving up the result. The figure also shows that the bank with the lowest share of corporate lending to carbon-intensive sectors had the highest financed emissions. This is because the bank has lending to sectors that account for a larger share of emissions, such as the manufacturing industry.

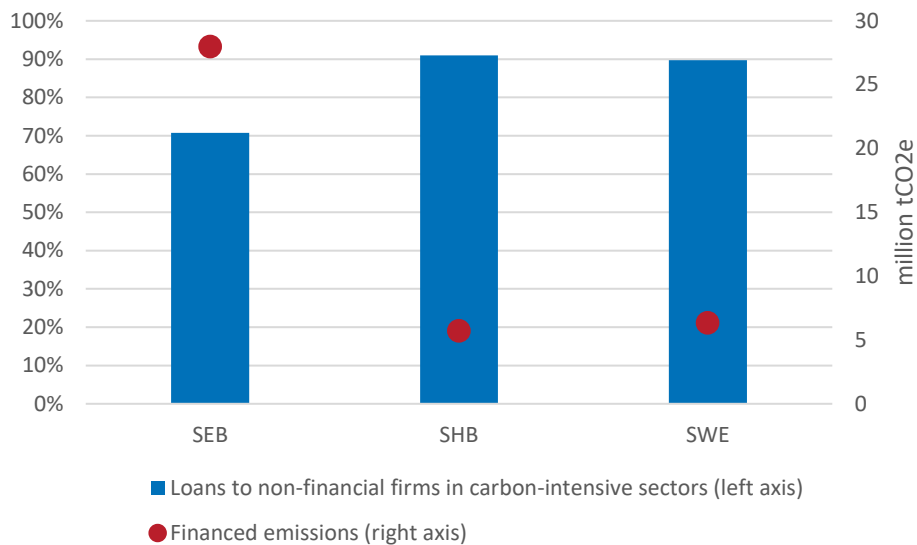
¹⁵ Other types of assets excluded in the numerator are for example goodwill and commodities. For the major Swedish banks, almost half of the covered assets in the numerator are excluded because they are non-qualified according to the EU taxonomy. This also means that their maximum possible GAR amounts to around 52 per cent.

¹⁶ A study by Finansinspektionen and the Riksbank (2022) analysed the extent to which the Swedish banking system is exposed to various corporate sectors with high carbon emissions. The analysis indicated that around 12 per cent of the banks’ corporate lending went to companies in sectors with high and medium carbon emissions.

¹⁷ See Pillar 3, Template ESG1 (transition risks).

¹⁸ See ABN AMRO (2024).

Figure 5. The banks’ share of the loan portfolio to non-financial corporations in carbon-intensive sectors and their financed emissions



Note: Lending to non-financial corporations in carbon-intensive sectors in relation to total corporate lending (left-hand axis). Financed emissions (right axis) in million tonnes of carbon dioxide equivalent (tCO₂e). Data refers June 2024. Source: The banks’ Pillar 3 reports.

One problem with using sectoral emissions is that it is not always clear what is classified as carbon intensive, since reports use different definitions.¹⁹ Standardising and using established definitions is therefore an important step forward for greater transparency. It is also not always clear what the lending is used for. If lending to a sector with high emissions is used to invest in a green transition, the transition risk can be reduced. This is positive for the climate and reduces climate-related risks. Some alternative ways of evaluating the greenness of a bank are presented below. Few of these measures are harmonised and standardised and the reader therefore must exercise some caution when comparing measures.

In addition to the GAR, Pillar 3 includes the BTAR²⁰ measure, which the EBA recommends that banks publish. The BTAR is EU-taxonomy compatible and is based on GAR, but it is a broader measure. The advantage of the BTAR is that the banks can include assets related to companies that do not comply with the NFRD/CSRD (exposures to small and medium-sized enterprises) that are excluded in the GAR.

ESG ratings are an alternative way of evaluating how green a bank is.²¹ An ESG rating is an overall score for a bank’s commitment to sustainability. ESG ratings are produced by independent rating agencies and each agency has its own models for calcu-

¹⁹ See Sajtos et al. (2022)

²⁰ BTAR stands for Banking Book Taxonomy Alignment Ratio. Publication of the BTAR is voluntary for the banks. See <https://eba.europa.eu/publications-and-media/press-releases/eba-publishes-binding-standards-pillar-3-disclosures-esg>

²¹ ESG refers to information on environmental, social and governance-related areas.

lating the score. As there is no standard or harmonisation of how these ratings are calculated, banks are assessed differently depending on which rating agency is the provider.²² ESG ratings can therefore be difficult to use as a single indicator of a bank’s green commitment.²³

Some banks also publish their own metrics and key performance indicators to monitor how they fulfil internal environmental objectives.²⁴ For example, SEB has a measure, Fossil Exposure Index, which shows the fossil credit exposure in SEB’s energy portfolio²⁵. The banks’ own measures are not comparable with those of other banks and may change over time (sector classification and calculation method). However, they can still give some indication of the extent to which the bank is actively working towards a climate transition.

Concluding remarks

Banks can play a major role in society’s green transition. They can provide funding for green projects and help achieve international climate goals. Sufficient transparency is needed to monitor the progress of the banks’ climate work. The key performance indicator GAR is a step forward, as it increases transparency and comparability between banks in how they finance a green transition in accordance with the EU taxonomy. There is still some work to be done regarding data reporting before the measure becomes fully representative, but hopefully, the new transparency requirements can contribute to the transition to a more sustainable society and reduce the risk of banks engaging in greenwashing.

Investors and customers should also look at other metrics to get a more comprehensive. One voluntary measure that banks should use as a supplement is the BTAR. It gives a broader picture of their green engagement but is based on the same principles as the GAR. ESG ratings, the banks’ lending to carbon-intensive sectors, emissions financed and the banks’ own metrics can also be used to get a more comprehensive picture of how green banks are. Increased transparency of climate information represents an important development in which sustainability and financial stability go hand in hand.

²² Work is ongoing in the EU to increase the reliability and comparability of ESG ratings. See <https://www.consilium.europa.eu/en/press/press-releases/2024/02/05/environmental-social-and-governance-esg-ratings-council-and-parliament-reach-agreement/>

²³ For example, Sustainalytics assesses that Swedbank has the lowest rating of the three major Swedish banks and S&P Global assesses that SEB has the lowest rating (10 December 2024).

²⁴ For example, Swedbank measures financed emissions for the oil and gas sector with the goal of reducing absolute financed emissions (million tCO₂e) by 50 per cent by 2030; see Swedbank (2024a).

²⁵ See SEB (2024a).

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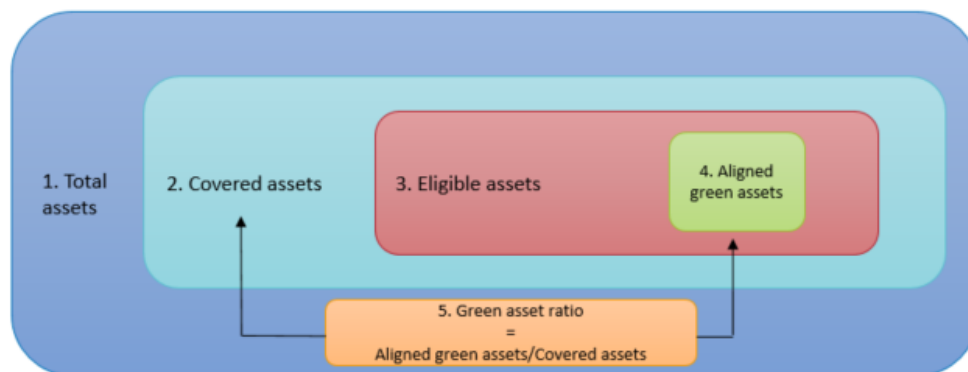
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APPENDIX

Description of the GAR and its components

The GAR measure is driven by the so-called *green assets* that fulfil the EU taxonomy criteria to be considered green. Certain types of assets are completely excluded from the GAR calculation and the assets remaining after the exclusion are called *covered assets*. The total volume of covered assets is therefore always less than the total assets of a bank. Examples of assets excluded from the GAR are central bank exposures and trading books. The GAR is calculated as the ratio of aligned green assets to covered assets; see Figure 6.

Figure 6. Simplified illustration of the share of green assets



Note: 1. Total assets of the bank; 2. Covered assets = total assets minus exposures to government securities and central banks and trading books; 3. Eligible assets = covered assets minus exposures to non-NFRD/CSRD compliant entities, derivatives, goodwill and commodities; 4. Aligned green assets = taxonomy-compatible assets of qualifying assets. 5. Green asset ratio = aligned green assets / covered assets.

If an economic activity is included in the EU taxonomy, it is called eligible, and if the activity fulfils the requirements of the EU taxonomy to be considered green, it is called aligned. Economic activities that are not included in the EU taxonomy are called not eligible.

The volume of aligned green assets is obtained by first excluding the not eligible exposures from the covered assets. The assets that remain are the so-called eligible assets and it is from these that the volume aligned under the taxonomy is calculated. Examples of not eligible exposures are exposures to companies that do not comply with the NFRD/CSRD. They are not excluded from the denominator. As the metric is constructed, this means that a bank that has, for example, a large share of goodwill or a large share of lending to non-financial corporations outside the EU will have a lower

maximum GAR than banks with a lower share of such assets. This is because these assets are included in covered assets but excluded from eligible green assets.²⁶ The banks' business model therefore influences the GAR outcome to some extent.

In Pillar 3, GAR should be presented as stock and flow metrics. The stock shows GAR at the reporting date for the entire balance sheet, while the flow shows the change during the period. By analysing the flow, one can also get an indication of to what extent new exposures are taxonomy-compliant. If the bank is actively working towards a green transition, the flow should be higher than the stock.

The GAR can also be analysed by breaking it down by asset class and environmental objective.²⁷ This makes it possible to study in detail the types of assets and environmental objectives that drive the GAR.

²⁶ For example, if a bank has goodwill of 10, loans to small and medium-sized enterprises (SMEs) of 20 and non-financial corporations outside the EU of 20, and total covered assets of 200, the theoretical maximum GAR is 75 per cent.

²⁷ In the current disclosure of GAR in Pillar 3, the bank is required to disclose how much is mitigation of climate change and how much is adaptation to climate change.



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