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Second Party Opinion

Landshypotek Bank's Green Bond Framework

Sept. 9, 2025

Location: Sweden **Sector:** Banks

Alignment Summary

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✗

✓ Green Bond Principles, ICMA, 2025

See Alignment Assessment for more detail.

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Medium green

Activities that represent significant steps towards a low-carbon climate resilient future but will require further improvements to be long-term low-carbon climate resilient solutions.

Our Shades of Green Analytical Approach >

Strengths

Landshypotek Bank's green bond framework covers a range of measures in agriculture and forestry aimed at carbon sequestration, improving biodiversity, and reducing environmental impacts. Eligible projects include nature conservation and restoration, forests that may increase carbon sequestration and provide alternatives to fossil products, waste-based bioenergy, and agricultural climate-adaptation measures. The framework's alignment with the bank's commitment to increase lending to green solutions strengthens its potential.

The bank has estimated the financed greenhouse gas emissions in its portfolio, which enhances transparency. Its efforts to encourage customers to share data could improve the accuracy of its calculations (the standardized data in its current methodologies create some uncertainties).

Weaknesses

Livestock farming, including of ruminants, is eligible under the framework. Emissions risks persist in this area. Eligible organic certifications are likely to contribute to increased biodiversity, in particular insects and native plants, and are supported by Swedish biodiversity restoration policies. Methane emissions from animals' digestive processes remain a climate risk associated with these activities, although the issuer does not expect livestock herd increases.

Areas to watch

Around half the framework's financing will likely go to uncertified forests, where there is less visibility on sustainable management practices compared to certification. This is mitigated by conservation and tree-diversity thresholds in the framework criteria as well as Swedish forestry practices and regulatory contexts.

The bank's physical climate risk assessments are not yet at asset level, and its entity-level biodiversity strategy is nascent. These issues are material for its portfolio, which is focused on agriculture, forestry, and buildings.

Shades of Green Projects Assessment Summary

During the three years post-issuance, Landshypotek Bank expects to allocate at least 67% of proceeds to its Sustainable Forestry category, likely increasing this allocation in the medium term. In this category, most funds will likely go to forest management (criterion b) instead of FSC or PEFC certification (criterion a). Any remainder will likely be allocated to the Sustainable Agriculture sub-categories, particularly precision agriculture measures.

The issuer expects to allocate most proceeds to financing new projects, while a smaller proportion will be directed to refinancing.

Based on the project categories' Shades of Green detailed below, the expected allocation of proceeds, and the environmental ambitions reflected in Landshypotek Bank's Green Bond Framework, we assess the framework as Medium green.

Sustainable Forestry	**Medium green**
Loans to finance forest holdings and management certified under the Forest Stewardship Council (FSC) and/or the Programme for the Endorsement of Forest Certification (PEFC)	
Loans to finance forest holdings (<5,000 ha) that have an up-to-date forest management plan specifying nature conservation action plans for at least 5% of the productive area and with a minimum target of 5% deciduous trees	

Sustainable Agriculture I	**Light green**
Loans to finance crop production units using precision fertilizer application techniques, fossil-free machinery and equipment, or low carbon fertilizers or producing lower carbon proteins	
Loans to finance low carbon livestock systems, reaching an estimated 25% reduction in greenhouse gas emissions, or better than traditional practices	
Loans to finance precision farming technologies and measures such as structural liming and acidification of manure	

Sustainable Agriculture II	**Light green**
Loans to finance biodiversity conservation and restoration measures	
Loans to finance crop production certified under the EU Organic Logo or KRAV	
Loans to finance livestock under EU Organic, KRAV, or other certifications that comprehensively address both biodiversity and climate impacts	

Sustainable Agriculture III	**Dark to Medium green**
Loans to finance reforestation and/or the restoration of peatlands or wetlands	
Loans to finance applying biochar produced with biomass residues sourced from deforestation- and conversion-free (DCF) agricultural land	

Sustainable Agriculture IV	**Dark to Medium green**
Loans to finance solutions that reduce physical climate risks, including ponds and wetlands, drainage systems, ditches and culverts, and surveillance and management systems	
Renewable Energy	**Dark to Medium green**
Loans to finance fossil-free energy and heating including geothermal energy, waste-based biomass boilers, solar panels and heating, biogas and biochar facilities, and wind power	
Clean Transportation	**Medium green**
Loans to finance machinery and vehicles with zero direct tailpipe carbon dioxide emissions or fueled by biofuels	
Loans to finance infrastructure dedicated to the operation of vehicles with zero tailpipe carbon dioxide emissions and biofuels	
Green Buildings	**Light green**
Loans to finance the construction, ownership, and renovation of residential buildings achieving specified energy performance. or improvements	
Energy Efficiency	**Medium green**
Loans to finance energy efficiency measures to improve energy performance or reduce production loss	

See Analysis Of Eligible Projects for more detail.

Issuer Sustainability Context

This section provides an analysis of the issuer's sustainability management and the embeddedness of the financing framework within its overall strategy.

Company Description

Landshypotek Bank AB is a first-lien mortgage loan bank that provides financial services to companies and individuals engaged in farming and forestry in Sweden. Farming and forestry represent around 75% of its lending portfolio, with the remaining quarter being lending to residential mortgages for single family homes. The bank offers savings accounts but does not provide card and transaction services or securities trading products.

Based in Stockholm, Sweden and with 21 branches throughout the country, Landshypotek Bank operates as a wholly owned subsidiary of Landshypotek Ekonomisk Förening, whose around 32,500 members are its farming and forestry borrowers who receive any surplus as an annual dividend. As one of the 10 largest lending banks in Sweden, Landshypotek Bank reported SEK111.1 billion (€10.2 billion) in loans to the public and SEK489 million (€44.8 million) in operating profit in 2024 and had approximately 240 employees.

Material Sustainability Factors

Climate Transition Risk

Banks are highly exposed to climate transition risks through their financing of economic activities that affect the environment, including agriculture, forestry, and buildings. Their direct environmental impact is small compared with their financed emissions and mainly stems from power consumption. Generally, policies and rules to reduce emissions could raise credit, legal, and reputation risks for banks. Positively, financing the climate transition offers a growth avenue for banks through lending and other capital market activities. Sweden’s 2017 Climate Act and Climate Policy Framework sets the country a long-term target of achieving net zero greenhouse gas emissions (including from agriculture, forestry, and buildings) by 2045 and negative emissions after that, supported by increasing forest carbon sinks and bioenergy with carbon capture and storage. At the same time, the Swedish Environmental Protection Agency projects that the more difficult to decarbonize agriculture sector will account for most of the country’s remaining emissions in 2045 if the country reached its targets.

Physical Climate Risk

Banks finance a wide array of business sectors that are exposed to physical climate risk. However, although climate change is a global issue, weather-related events are typically localized, so the magnitude of banks' exposure is linked to the geographic location of the activities and assets they finance. Similarly, banks’ physical footprints (such as branches) may also be exposed to physical risks that might disrupt their ability to provide services to clients in the event of an extreme event. Banks could help mitigate the effects of physical climate risks by financing adaptation projects and climate-resilient infrastructure, as well as by investing in solutions that support business continuity in exposed geographies. In Sweden, the exposure to these risks is generally lower than in some other EU countries, but include increasing temperatures, changing weather patterns, increasingly frequent extreme events such as flooding, droughts, and wildfires that can have impacts on the agriculture, forestry, and real estate sectors.

Biodiversity and Resource Use

Banks contribute to significant resource use and biodiversity impacts through the activities they finance. For example, agricultural and forestry activities without sustainability considerations can have material environmental impacts, including local pollution and ecosystem degradation. Sweden’s Forestry Act and Environmental Code set requirements such as forest conservation set-asides and minimum ages for felling as well as restrictions on agricultural inputs to protect water quality. Sweden adheres to EU policies that limit the risk of deforestation and illegal land use conversion. The real estate sector is also a

large consumer of raw materials, such as steel and cement, and new construction can lead to greenfield conversion. Swedish regulations on siting to avoid ecosystem impacts are relatively robust, but stringency of enforcement can vary by municipality.

Access and Affordability

Banks' large impact on society stems from their role in enabling access to financial services to individuals and businesses. Ensuring affordable access to financial services, especially to the most vulnerable members of the population, remains a challenge for the banking industry. However, banks have significant opportunities to support economic development through financial inclusion, including by using new technologies.

Issuer And Context Analysis

Landshypotek Bank's framework aims to address climate transition risk, physical climate risk, and biodiversity and resource use, which we view as key sustainability factors for the entity. Its sustainable forestry management and agricultural categories have the potential to reduce greenhouse gas emissions and local pollution from these activities as well as enhance carbon sequestration and biodiversity through conservation and restoration activities. Physical climate risks are addressed through eligible adaptation and resilience measures in agriculture. Complementary renewable energy, clean transportation, green building, and energy efficiency categories may contribute to decarbonizing activities across forestry and agricultural value chains. Financing under Landshypotek Bank's framework also has the potential to support Swedish rural communities' access to financing. At the same time, eligible projects may introduce climate transition risks, such as those associated with livestock or crop production, as well as biodiversity and resource use, including forestry projects.

Landshypotek Bank's environmental and social screening process is focused on links to credit risk. Because the bank limits its lending to Swedish agriculture, forestry, and single-family mortgages, it does not have exposure to activities such as fossil-fuel production or heavy industry. It undertakes sustainability screening for potential lending through its credit approval process, which is based on its internal policies. It requires the identification of environmental and climate factors that may affect the future market value of properties, with additional climate and biodiversity screenings for entities and farmers or foresters above a SEK9 million (€820,000) turnover threshold. Landshypotek Bank does not currently exclude customers with higher climate or environmental risks within its sectors of focus unless these aspects impact creditworthiness, preferring an engagement to a screening approach.

Landshypotek Bank has set a net zero emissions target for its portfolio and has estimated its financed greenhouse gas emissions. Its goal of net zero emissions by 2045 focuses on its lending portfolio emissions and will consider removals and substitution effects as data quality improves. The bank has assessed the climate footprint of its credit portfolio, finding a net positive impact of 725,000 tonnes of carbon-dioxide-equivalent (CO2e) removals in terms of loan-to-value in 2024. But these financed emissions calculations are based on assumptions, with standardized data as proxies rather than real data from clients, creating some uncertainty as to their accuracy. To address this, the bank is encouraging its largest customers to share their climate data. It reported 120.3 tonnes CO2e greenhouse gas emissions from its own energy use and business travel in 2024 and has set targets to reduce its road transportation emissions by 37% and halve its air travel by 2030 compared to a 2023 baseline.

Landshypotek Bank has focused primarily on climate mitigation incentives and customer engagement rather than screening out financing for more greenhouse gas emissions-intensive activities. To date, its actions to reduce financed emissions include increasing its climate mitigation lending, aiming to increase its green bond funding by 30% by 2030, and engaging customers on sustainable practices, such as phasing out fossil fuels. The bank has undertaken a stock analysis of its mortgage portfolio's energy performance to further understand efficiency opportunities. At the same time, the bank is not currently avoiding financing activities with higher climate risks within its sectors of focus, absent any associated credit risks.

Landshypotek Bank has assessed physical climate risks in Swedish forestry and farming at the portfolio level but has not yet done scenario analysis at the asset level or implemented follow-up measures. Working with the Swedish Meteorological and Hydrological Institute, the bank has analysed primary physical climate risks for Swedish farming and forestry, finding varying degrees of risk and potential adaptation measures. The bank regularly updates this analysis. It is planning a similar review of its residential mortgage portfolio and is seeking to increase its climate adaptation financing for customers.

Landshypotek Bank manages biodiversity risks through legal compliance and its credit screening process but does not yet have additional targets or strategies related to this topic. Beyond due diligence on credit-related risks and compliance with relatively robust Swedish regulations, it has not yet set voluntary goals or taken further action at the entity level, in part due to data limitations. It is currently developing a position paper on this topic.

Alignment Assessment

This section provides an analysis of the framework's alignment to the Green Bond principles.

Alignment Summary

Aligned = ✓ Conceptually aligned = o Not aligned = ×

✓ Green Bond Principles, ICMA, 2025

✓ Use of proceeds

We assess all Landshypotek Bank's Green Bond Framework's green project categories as having a green shade and note that the issuer commits to allocating an amount equal to the net proceeds issued under the framework exclusively to eligible green projects. Please refer to the Analysis Of Eligible Projects section for more on our analysis of the environmental benefits of the expected use of proceeds. Landshypotek will issue covered bonds, unsubordinated notes, and subordinated notes under the framework. Any covered bonds will be issued in the Secured Green Standard Bond format as per Appendix I of the ICMA Green Bond Principles. These proceeds in turn will be used to finance or refinance, in whole or in part, loans by the bank to eligible projects and assets in Sweden. There is no specified lookback period for refinancing.

✓ Process for project evaluation and selection

The framework outlines the process to select and approve eligible projects and assets. Initial screening is undertaken by Landshypotek Bank's account managers. These proposals are then reviewed by the Green Bond Committee, which includes sustainability and finance representatives, among others, and will meet at least every six months (or when otherwise considered necessary) until full allocation to determine the proposed projects' alignment with the framework criteria. Committee decisions are made by consensus and are documented. The bank identifies and manages environmental and social risks through risk assessment and sustainability analysis during its credit approval process. Landshypotek Bank excludes financing to fossil fuels, weapons, pornography, gambling, tobacco, or companies that systematically violate international conventions and human rights.

✓ Management of proceeds

Landshypotek Bank will use a dedicated green register to monitor the allocation of net green bond proceeds issued under the framework to approved green loans. It targets full allocation of an amount equal to the proceeds within 24 months following issuance, if not sooner. At least annually, Landshypotek Bank's Green Bond Committee will remove green loans that are redeemed early or otherwise no longer meet the framework criteria from the register and reallocate the proceeds to eligible projects. Unallocated proceeds will be held in the bank's liquidity reserve and managed in accordance with its liquidity portfolio policy, where framework exclusions also apply.

✓ Reporting

Landshypotek Bank commits to disclose the allocation and impact of proceeds annually in its Green Bond Report, with an option to report separately in the case of thematic issuance (for example, separate agriculture themed bonds). Allocation reporting will include information on green bond developments, allocation by category, the share of new financing versus refinancing, the balance of any unallocated proceeds, and EU Taxonomy reporting, if relevant. Landshypotek Bank will report on metrics showing the environmental impacts of financed assets, as well as calculation methodologies, baselines, and assumptions. This may be reported on a pro-rated and best-effort basis and could be in aggregation or estimated using proxies. The bank will include impact metrics such as greenhouse gas emissions sequestered, avoided, or reduced; energy avoided or reduced; renewable energy generation; biodiversity enhancement areas; or outcomes such as numbers of species represented or the sizes of land areas where adaptation measure are being applied. The issuer commits to undertaking an independent and internal risk management review of green loan alignment with the framework criteria as part of its reporting process.

Analysis Of Eligible Projects

This section provides details of our analysis of eligible projects, based on their environmental benefits and risks, using the "Analytical Approach: Shades Of Green Assessments".

Overall Shades of Green assessment

Based on the project category shades of green detailed below, the expected allocation of proceeds, and the environmental ambitions reflected in Landshypotek Bank's Green Bond Framework, we assess the framework as Medium green.

Medium green

Activities that represent significant steps towards a low-carbon climate resilient future but will require further improvements to be long-term low-carbon climate resilient solutions.

Our Shades of Green Analytical Approach >

Green project categories

Sustainable Forestry

Assessment	Description
Medium green	Loans financing or refinancing forest holdings (acquisition of forest land and the refinancing of forest land holdings) or forest management (investments in sustainable forest management to maintain a good rate of return, while maintaining important natural values) where the forest land meets one of the following criteria: a) Forest land certified under the Forest Stewardship Council (FSC) and/or the Programme for the Endorsement of Forest Certification (PEFC), or b) Forest land (<5,000 ha) that complies with the Swedish Forestry Act and has, at the time of transferring the loan to the Green Register, an up-to-date forest management plan specifying nature conservation action plans for at least 5% of the productive area (section nature protection [NO] and habitat management [NS]) and has a minimum target of 5% deciduous trees specified.

Analytical considerations

- Forests can contribute to carbon sequestration and support biodiversity while producing materials that can replace fossil-fuel-intensive products. They can also provide ecosystem services, such as water regulation and soil stabilization, which improve climate resilience. Implementing sustainable forestry management practices, avoiding harmful land-use changes, and managing physical climate risks, including wildfires and pests, are key to achieving these benefits.
- We assess the project category as Medium green. For criterion (a), this reflects the benefits of improved forestry practices under FSC and PEFC but there are no additional carbon-sink or biodiversity enhancements beyond certification requirements. Our assessment of criterion (b) factors in the Swedish forestry regulatory context, the benefits of engaging smaller forest owners for whom certification may not be feasible, and the criterion's biodiversity safeguards. Those contribute to mitigating, in our view, potential risks linked to less specific requirements for sustainable management practices for forests under criterion (b) than for forest certified under FSC and PEFC. The Medium green shade on both

criteria also reflects that eligible forests are likely to generate climate benefits as part of the bioproduct supply chain in Sweden.

- Landshypotek Bank informs us that the majority of the proceeds under this category will likely be directed toward uncertified forests eligible under criterion (b). This applies to holdings of less than 5,000 ha and requires a comprehensive forest management plan and at least 5% of the forest area to be designated for nature conservation, alongside a minimum 5% deciduous tree cover prior to green financing.
- We view positively the bank's efforts to engage smaller forest owners on improved management planning and topics related to nature conservation areas and tree species diversity. Landshypotek Bank's selected thresholds mirror similar requirements of the broader PEFC certification standard and, according to the bank, less than one-in-three forest owners in its broader loan portfolio would currently meet criterion b). Furthermore, we view as positive that the bank confirmed that less than 5% of green financing under this category is expected to be allocated in the southern region of Sweden, where the deciduous tree threshold would be less meaningful given the greater prevalence of broadleaf trees.
- That said, for eligible uncertified forestry, we have less visibility on other aspects of sustainable forest management compared to PEFC and FSC certifications, which have more explicit environmental requirements for aspects such as deadwood and valuable tree retention; conservation measures for species, habitat, and landscapes; or harvests and regeneration. We consider this challenge somewhat mitigated by the Swedish regulatory context, which provides a good baseline of requirements and suggested best practices on these topics. Additionally, according to Landshypotek Bank, many contractors in Sweden apply certification requirements even on uncertified properties when they are hired by individual landholders for felling and other forestry management.
- We view positively the FSC and PEFC certifications selected. FSC certification is generally seen as a robust global standard for forest management, and the PEFC complements this through greater supply-chain scrutiny. The requirements in these certifications provide important safeguards against harmful practices and promote more sustainable management practices beyond regulatory requirements. Nevertheless, uncertainties remain around the stringency and real benefits of forest certifications, both in relation to the requirements and their application.
- Eligible forests under either criterion are likely to generate climate benefits as part of the bioproduct supply chain in Sweden. Forest products downstream from financed land holdings provide important reduced greenhouse gas emissions alternatives to fossil-fuel-intensive products such as building materials.
- While carbon stock maintenance is likely in the Swedish regulatory context and assessed in Landshypotek Bank's credit risk assessment, we have limited visibility on long-term trends for eligible forest holdings due to a lack of specific framework criteria. Sweden's Forestry Act promotes regeneration and minimizes land-use-change risks, reflected in national tree volume increases. However, the Swedish Climate Policy Council has reported a significant decline in net greenhouse gas uptake in forests and soils since the early 2010s. Landshypotek confirms it will cease relationships with customers failing to meet legal regeneration requirements and plans to discuss carbon sequestration data with forestry clients, which is a positive step.
- Landshypotek Bank says that its green financing will not directly fund fossil-fuel-powered machinery or forest road construction but could indirectly support landowners developing forest roads with required approvals from the Swedish Forest Agency or managing forest holdings using fossil-fuel equipment. Roads could be associated with ecosystem disruptions if not carefully planned and sited.
- Physical climate risks are managed through Landshypotek Bank's entity-level risk screening process described in the ISC above, including a physical climate risk assessment of its agriculture and forestry loan portfolio and ongoing monitoring of related risk indicators that influence its lending decisions.

Sustainable Agriculture I

Assessment	Description
Light green	Loans financing or refinancing (land and/or facility): • Crop production units that apply precision farming practices to optimize fertilizer use according to crop needs. Activity should be consistent with the applicable version of

the EU's support for precision farming, administered by the Swedish Board of Agriculture (*Jordbruksverket*).

- Crop production units that predominantly use fossil-free machinery and equipment.
- Crop production units that apply low carbon fertilizers.
- Crop production units and production units needed to produce alternative proteins with a low greenhouse gas footprint, such as beans and peas, for example intended to replace other protein sources in animal feed or for human consumption.
- Low carbon livestock systems using, for example, alternative feed systems, and/or by other means lowering greenhouse gas emissions by an estimated 25%, or more than traditional practices.

Loans financing or refinancing investments in land, air, and water management from a climate perspective, such as:

- Nitrogen sensors
- Investments in precision farming technology, including soil mapping
- Structural liming
- Transition from broadcast spreading to hose spreading of manure or equipment for acidification of manure

Analytical considerations

- Agricultural practices that enhance soil health, water quality, and ecosystem integrity are crucial for a low-carbon, climate-resilient future. Sustainable inputs and precision farming practices, as well as a shift to more plant-based and lower-emission protein sources, contribute to a green transition for this sector. Risks include greenhouse gas emissions, particularly from animal digestion and manure, land use changes, fertilizer and pesticide overuse, water pollution, soil degradation, and use of fossil-fuel-powered equipment. In Sweden, livestock generated slightly less than 60% of greenhouse gas emissions from the agricultural sector as of 2023 according to the Swedish Climate Policy Council.
- Criteria within this category encompasses a wide range of initiatives aimed at enhancing on-farm environmental performance. We assess this category as Light green due to the benefits of reducing agriculture's impacts while noting they are not comprehensive long-term, low-carbon solutions. The inclusion of livestock, which is emissions-intensive even with some mitigation, also constrains the shade.
- We view precision techniques, nitrogen sensors, mapping, and hose spreading manure positively given their potential to improve agricultural input efficiency, thereby reducing associated greenhouse gas emissions and local pollution, such as eutrophication of nearby waterbodies. Structural liming can support soil health and reduce local pollution from runoff. Fossil-free equipment, low carbon fertilizers, and the acidification of manure can also reduce greenhouse gas emissions. Landshypotek Bank says it expects at least the heavy machinery used in fields and the equipment for drying grain to be fossil-free for financed crop production units to be eligible, while low-carbon fertilizers will represent at least a 50%-60% emissions improvement compared to conventional alternatives. Other sustainability aspects of financed crop production units are not guaranteed beyond regulatory compliance, creating uncertainties about the full environmental impacts of these projects.
- In the Swedish context, using lower-carbon, plant-based proteins such as beans and peas instead of higher emitting protein sources for human consumption and feed can help reduce greenhouse gas emissions. Locally produced beans and peas have some of the lowest emissions per kilogram of any protein source and researchers have observed climate improvements associated with both human and animal consumption in Sweden. That said, careful project selection is required to achieve true substitution effects, which can be difficult to measure and monitor. Landshypotek Bank has committed to developing a follow up process involving close engagement with customers to ensure additional climate benefits are achieved. We note that further sustainability measures are not necessarily applied in eligible bean and pea production, creating upstream links to climate and environmental risks from crop production. This is somewhat mitigated by very low land-use change risks and relatively robust environmental regulations in the Swedish context. Downstream links to greenhouse gas emissions-intensive livestock production from feed inputs create additional climate risks and constrain the shade.

- Reducing greenhouse gas emissions from livestock, such as through improved feeds that reduce methane production in animal digestion, is an important contribution to reduce climate impacts from the agricultural sector. It is positive that Landshypotek Bank intends to finance measures to reduce ruminant and non-ruminant emissions by at least 25% compared to conventional practices. At the same time, even with mitigation, livestock production remains an emissions-intensive activity and meat consumption must be reduced in most scenarios to achieve the Paris Agreement goals.
- Landshypotek Bank informs us green financing will not be used to directly finance livestock or increase livestock herd sizes. While livestock increases associated with financed activities are not explicitly excluded under the framework, the issuer confirms this is not the bank's expectation. This is important to avoid climate risks from significant herd increases that could outweigh other environmental benefits from these projects.
- Land-use-change risks from agricultural expansion that could lead to ecosystem conversion and biodiversity and carbon sink loss are low in the Swedish regulatory context.
- Physical climate risks are managed through Landshypotek Bank's entity-level risk screening process described in the ISC above, including a physical climate risk assessment of its agriculture and forestry loan portfolio and ongoing monitoring of related risk indicators that influence its lending decisions.

Sustainable Agriculture II

Assessment	Description
Light green	Loans financing or refinancing (land and/or facility): • Maintenance and protection to preserve biodiversity, terrestrial (including wetlands) or marine natural habitats. For example, pastures have a high concentration of species, therefore ruminants are key to preventing pastures from becoming overgrown and reducing their valuable biodiversity. • Landscape conservation and restoration supporting ecosystem resilience and biodiversity. • Crop production certified under the EU Organic Logo or KRAV and ruminants under KRAV, or those with a conversion plan to achieve certification. Other ruminant-related certifications can be considered if they firmly address both biodiversity and climate impacts; examples of such certifications could be IP Sigill with the added options "Tillval Klimatcertifiering" (Climate certification) and "Tillval Naturbeteskött" (Natural pasture-raised cattle).

Analytical considerations

- Supporting biodiversity in agricultural landscapes contributes to a low-carbon, climate-resilient future by improving outcomes for species and the broader ecosystem, while sustainable agricultural practices can support soil health, water quality, and ecosystem integrity. Climate-impact risks from associated agriculture remain, especially from livestock, as do other environmental degradation risks such as water overuse, soil loss, and local pollution.
- We assess the project category as Light green to reflect the biodiversity benefits of habitat restoration in agricultural areas. While livestock will not be directly financed under the framework, we note that livestock pastures and farming activities will be eligible as grassland conservation measures, limiting our shade given the significant greenhouse gas emissions from related animal digestion and manure.
- We view as very positive the eligible biodiversity enhancement and landscape restoration measures that can help restore the environmental quality of agricultural areas. Landshypotek Bank says that examples may include planting wildflowers for pollinators, stone piles that provide habitats for insects and native plants, and planting trees that support wildlife. These aspects have low risks and high potential biodiversity and in some cases carbon sequestration and resilience benefits.
- Long-term managed grasslands are an important contributor to biodiversity in Sweden, supporting a range of plants and animals. Restoration often involves incorporating grazing animals, which researchers have found encourage competition among species and therefore enhance biodiversity in the managed ecosystem. These areas are not irrigated, cultivated, or

fertilized beyond manure from grazing animals, and their expansion is supported by Swedish biodiversity restoration policies. At the same time, livestock-related activities, particularly those linked to ruminants that are included under these categories, are associated with significant climate risks due to methane emissions from animals' digestive processes. While these grasslands have clear biodiversity benefits, the shade is constrained by the associated greenhouse gas emissions.

- Eligible voluntary sustainable crop and livestock certifications, including EU Organic, KRAV, and IP Sigill with climate and pasture add-ons options, cover important environmental topics and can verify improved on-farm practices. Organic farming has broad environmental benefits such as improved soil health and reduced local pollution but overall impacts on greenhouse gas emissions remain uncertain. KRAV is a Swedish certification based on EU legislation on organic products and raw materials but has extra requirements, including a strong focus on energy use and fossil fuel phase-out. While IP Sigill certification on its own is focused on food safety and handling, with the selected add-ons, it also includes positive thresholds for climate emissions improvements and grassland management for biodiversity. These certification systems therefore have a range of benefits but vary in stringency across environmental issues, can contain loopholes and, in many cases, cannot adequately address larger systemic challenges. The inclusion of livestock farming activities, which is greenhouse gas emissions-intensive, also constrains the shade.
- For both grassland restoration and certified livestock, Landshypotek Bank says green financing will not be used to directly increase livestock herd sizes. While livestock increases associated with financed activities are not explicitly excluded under the framework, the bank does not anticipate such increases. This is important to avoid climate risks from significant herd increases that could outweigh the environmental benefits of these projects.
- Land-use-change risks from agricultural expansion that could lead to ecosystem conversion and biodiversity and carbon sink loss are low in the Swedish regulatory context.
- Physical climate risks are managed through Landshypotek Bank's entity-level risk screening process described in the ISC above, including a physical climate risk assessment of its agriculture and forestry loan portfolio and ongoing monitoring of related risk indicators that influence its lending decisions.

Sustainable Agriculture III

Assessment	Description
Dark to Medium green	Loans financing or refinancing production units (land) that aims to implement one of the following measures: • Reforestation and/or restoration of peatlands or wetlands, with depleted soil organic carbon • Apply biochar produced with biomass residues sourced from deforestation- and conversion-free (DCF) agricultural land

Analytical considerations

- Healthy ecosystems and biodiversity are an important part of a low-carbon, climate-resilient future, providing natural resources, water and soil management, and other services. Restoring biodiversity also often creates climate co-benefits, such as carbon sequestration or adaptation solutions, though areas need to be managed sustainably to achieve full benefits. Biochar can support carbon sequestration, soil health, and resilience but must be sustainably sourced and processed.
- We assign a Dark to Medium green shade to this category to reflect the biodiversity and climate benefits of the reforestation and restoration of peatlands and wetlands, as well as the soil health, carbon sequestration, and resilience contributions from waste-based biochar applications. We note that forests will be actively managed, rather than conserved, and we have limited visibility on the other sustainability aspects of agriculture using biochar, which constrains our assessment.
- Reforestation and the restoration of peatlands and wetlands support healthy ecosystems and biodiversity as well as carbon sequestration and physical climate risk resilience through improved water regulation. Landshypotek Bank says that while wetlands and peatlands will be maintained, reforested areas may be actively harvested under forest management plans rather than conserved.

- Biochar application can support carbon sequestration and improve water and nutrient retention in soils, enhancing resilience. Landshypotek specifies that all feedstock for biochar production comes from agricultural wastes sourced from farms near the biochar production sites, reducing land use change risks from feedstocks and minimizing transport emissions. We assess biochar projects as Dark green due to these benefits but note limited visibility on the sustainability of agricultural practices where biochar is applied beyond regulatory compliance.
- Physical climate risks are managed through Landshypotek Bank's entity-level risk screening process described in the ISC above, including a physical climate risk assessment of its agriculture and forestry loan portfolio and ongoing monitoring of related risk indicators that influence its lending decisions.

Sustainable Agriculture IV

Assessment	Description
Dark to Medium green	Loans financing or refinancing the implementation of physical and non-physical solutions that substantially reduce the most important physical climate risks material to an activity, such as: • Construction of ponds and wetlands • Investments in drainage systems and subsoil drainage • Investments in open ditches and culverts • Surveillance and management systems

Analytical considerations

- Climate scientists have been clear that some climate change will take place, even in the most-optimistic scenarios. This makes it crucial to plan for and mitigate potential risks to reduce the financial and environmental effects. Implementing adaptation solutions can also reduce resources and emissions linked to rebuilding damaged assets. Sweden, where the issuer's portfolio is located, is increasingly exposed to heatwaves, heavy precipitation, and storms.
- We assign the category a Dark to Medium green shade due to the importance of adaptation measures in a low-carbon, climate-resilient future, particularly in highly exposed sectors such as forestry and agriculture. We recognize the range of risks and benefits among these criteria and assign them an interval of green shades. Nature-based solutions (NBSs) such as wetlands with significant biodiversity co-benefits and surveillance systems that help identify and limit damage caused by climate hazards are particularly positive, so we assign a Dark green shade, while agricultural water management activities are Medium green given their fewer biodiversity co-benefits and some links to environmental risks in crop production.
- Ponds and wetlands have the potential to support biodiversity and act as natural buffers against extreme weather events, aiding ecosystem adaptation. These NBSs are particularly positive due to low associated greenhouse gas emissions compared to grey infrastructure and biodiversity co-benefits, leading us to assess them as Dark green.
- Investments in drainage systems and open ditches help to prevent flooding and maintain soil health, enhancing climate resilience.
- Landshypotek Bank confirms that eligible measures will not be linked to ongoing fossil fuel use, which is positive from a greenhouse gas emissions perspective.

Renewable Energy

Assessment	Description
Dark to Medium green	Loans financing or refinancing investments in fossil-free energy and heating: • Geothermal (with life cycle greenhouse gas emissions lower than 100gCO2e/kWh), ground, or water heating

- Installation of pellets, straw, wood chip, or wood-fired boilers
- Installation of solar panels/solar heating
- Installation of biogas facilities, technology, and machinery needed to produce bioenergy from biological waste materials
- Installation of biochar production facilities
- Installation of wind power

Analytical considerations

- Low carbon energy sources such as solar, wind, and geothermal power are key to limiting global warming to well below 2°C, while bioenergy derived from sustainably produced feedstocks can also provide a lower emissions alternative to fossil fuels. At the same time, risks related to land-use change, local air pollution, and biodiversity, as well as physical risk, can undermine these benefits if not sufficiently managed. Biochar can support carbon sequestration, soil health, and resilience but must be sustainably sourced and processed.
- Landshypotek Bank expects bioenergy and solar projects to be a focus of financing in this category. We assign a Dark to Medium green shade given the lifecycle emissions improvements of these renewable energy projects and biochar climate and environmental benefits. Some risks related to bioenergy and biogas feedstock production contribute to the shading interval.
- For bioenergy projects, the issuer aims to finance both biomass and biogas projects using agricultural and forestry waste feedstocks. For biogas production, Landshypotek Bank confirmed projects will primarily focus on the anaerobic bio-digestion of manure, while for biomass production the reliance on whole logs is excluded. We view waste-based bioenergy positively given the lower climate and nature risks as these residues do not compete with other land uses. That said, the sustainable management of the farms and forests where wastes are sourced is not guaranteed beyond legal compliance and manure is linked to emissions-intensive livestock production. Therefore, we assess these projects as Medium green.
- Biochar can support soil health, carbon sequestration, and physical climate risk resilience in agricultural production. We view as positive that the issuer confirms feedstocks will only include agricultural and forestry wastes, reducing climate and nature risks, and that producers will rely on feedstock sourced from farms near the biochar production sites, minimizing transport emissions. But there is less visibility on the sustainability of initial agriculture and forestry practices generating the wastes beyond regulatory compliance. Landshypotek Bank informs us that biochar produced will likely be used in an agricultural context, but it has not placed any restrictions on end uses.
- While we assess solar, wind, and geothermal projects meeting the 100gCO2/kWh threshold as Dark green solutions, they introduce biodiversity risks. Landshypotek addresses siting and land use concerns through the Swedish regulatory framework, which requires environmental impact assessments (EIAs) to identify and reduce biodiversity risks.
- Physical climate risks are managed through Landshypotek Bank's entity-level risk screening process described in the ISC above; there are no specific considerations for renewable energy lending.

Clean Transportation

Assessment	Description
Medium green	Loans financing or refinancing: • Machinery and vehicles with zero direct tailpipe carbon dioxide emissions or fueled by biofuels, or a mix of the two. • Infrastructure dedicated to the operation of vehicles with zero tailpipe carbon dioxide emissions and biofuels. For example, machinery and vehicle maintenance facilities, electric charging points as well as biofuel and green hydrogen fueling stations, including related infrastructure.

Analytical considerations

- Mitigating greenhouse gas emissions from transportation and agriculture and forestry machinery is necessary to meet global decarbonization goals. Fossil-fuel-powered vehicles and equipment also create air pollution, such as nitrogen oxides and sulphur oxides. Electrification is a key decarbonization lever where possible, while the use of biofuels and green hydrogen may also contribute to lower emissions, as long as climate and environmental risks such as feedstock sourcing and energy intensity of production are effectively mitigated.
- We assess the project category as Medium green, reflecting the decarbonization benefits of lower emissions vehicles and machinery as well as the sustainability risks from biofuels meeting minimum legal standards. We view positively that the issuer's focus is on financing tractors, harvesters, and other machinery used in forestry agricultural production processes, which are less commonly seen in the market and important for emissions reductions in these sectors.
- We assign a Dark green shade to the financing of zero tailpipe transportation and machinery and associated infrastructure such as electric charging points and green hydrogen fueling stations. For electric vehicles and equipment, this also takes into consideration that the grid in Sweden is relatively clean, with a grid emissions intensity in 2024 of around 20 gCO2e/kWh.
- The issuer requires that biofuels comply with relevant EU and Swedish regulation, including the Renewable Energy Directive (RED), and says most will be HVO100 (hydrotreated vegetable oil in a 100% blend substituting for fossil diesel). We view positively RED requirements such as lifecycle emissions improvement thresholds and land use change safeguards. At the same time, RED allows for some higher climate- and nature-risk food and feed crops to be used as biofuel feedstocks (12% of HVO inputs as of 2022 according to the Swedish Energy Agency), as well as some higher-risk waste-based feedstocks, such as meat trimmings linked to livestock emissions (76% in 2022). Therefore, this mix of feedstocks and varying associated climate and environmental risks in Swedish HVO100 fuels limits the overall project category to Medium green.
- Landshypotek Bank will exclude financing vehicles or equipment that rely on a combination of both biofuels and fossil fuels, if they are not exclusively using biofuels. Similarly, Landshypotek Bank confirms that eligible vehicle maintenance facilities must only service electric or biofuel-powered vehicles and machinery. Excluding financing for or maintenance of fossil fuel-powered vehicles and equipment is important to ensure climate benefits. Landshypotek Bank will follow up on these aspects through ongoing customer dialogue.
- Beyond legal requirements, the issuer does not expect to select vehicles or machinery for financing based on lifecycle or upstream value chain considerations such as sustainable battery sourcing, which we view as better practice. We note that the sustainability of the agriculture and forestry for which financed vehicles and machinery will be used is not guaranteed beyond Swedish regulatory compliance, introducing downstream value chain risks.
- Physical climate risks are managed through Landshypotek Bank's entity-level risk screening process described in the ISC above; there are no specific considerations for clean transportation lending.

Green Buildings

Assessment

Light green

Description

Loans financing or refinancing:

- New buildings (constructed after Dec. 31, 2020) designed to achieve a net Primary Energy Demand (PED) that is at least 10% lower than the level required by the Swedish building regulation (BBR).
- Existing buildings (constructed before Dec. 31, 2020) that either (i) have an Energy Performance Certificate of class A, or (ii) qualify within the top 15% of the national or regional building stock, expressed as PED and demonstrated by adequate evidence, such as a specialist study or relevant statistics.
- Major renovations that either (i) lead to a reduction in energy use of at least 30% compared to the pre-investment situation, or (ii) comply with the minimum energy performance requirements of the national building regulation for major renovations.

Analytical considerations

- The International Energy Agency (IEA) emphasizes that reaching net-zero emissions in buildings demands major strides in energy efficiency and fossil fuel phase-out. All properties must achieve high energy performance. New properties should reduce emissions from building materials and construction. Addressing physical climate risks is crucial for strengthening climate resilience across all buildings.
- We assign a Light green shade to reflect the expected energy performance of financed buildings, but the bank's limited consideration of physical climate risk mitigation and embodied emissions in construction or renovation materials constrain our assessment. The criteria for new buildings ensure their energy performance exceeds current regulatory requirements, while existing buildings will be among the most energy efficient in the national building stock, supported by robust evidence.
- Landshypotek Bank says that only residential buildings will be financed under this category and buildings with fossil-fuel heating will not meet the EU Taxonomy-derived criteria in the Swedish context. The bank primarily takes over existing loans to residential properties and does not finance new construction itself, though some buildings may be built after 2021 and therefore be considered a new building by referenced EU Taxonomy standards.
- For existing buildings, the ambitiousness of the top 15% criterion will depend on the type of building and their energy source. The weighting of energy source in the PED calculation favors district heating over electricity, meaning that it will be easier for a building connected to district heating to meet the top 15% threshold than a building with electric heating, all else being equal.
- Given the significant climate impacts associated with new construction projects, particularly in terms of embodied emissions, it is important that newer buildings are constructed with the aim of minimizing emissions from the materials. Landshypotek Bank does not consider embodied emissions from materials used in financed new construction or renovation projects, which can offset climate emissions gains from improved energy performance if not sourced sustainably, constraining the shade.
- Renovating and improving existing properties is key to a low-carbon future. Therefore, we view the framework's inclusion of criteria for renovations, including the 30% reduction in energy consumption, as a strength.
- While Landshypotek Bank’s emphasis is on existing buildings, any new construction would be undertaken in accordance with Swedish regulation, requiring an environmental impact assessment to reduce the biodiversity and ecosystem impacts of siting.
- As buildings are relatively long-lived, fixed assets, physical climate risks are an important consideration in the sector and should be assessed at asset level as best practice. Physical climate risks are managed through Landshypotek Bank’s standard risk screening process. To date, the bank has only reviewed agriculture and forestry physical climate risks at portfolio level but plans to undertake a similar assessment for its residential mortgages at portfolio level as a next step.

Energy Efficiency

Assessment	Description
Medium green	Loans financing or refinancing investments in energy efficiency improvements: • Replacement of windows (with a better insulation) • Insulation of roofs • Additional insulation of facades or attics • Replacement of lighting in production facilities (LED lighting, for example) • Installation of more energy efficient systems for heating and ventilation • Investments to reduce production loss by optimizing harvest, post-harvest and/or storage facilities

Analytical considerations

- According to the IEA net zero pathway, energy efficiency and electrification are the main decarbonization levers for the building sector. Reductions in food loss can have substantial benefits by avoiding additional greenhouse gas emissions, local pollution, or biodiversity impacts from further food production, though energy use by storage facilities must be managed.
- We assess the project category as Medium green, reflecting both the role played by the projects in transitioning toward a low carbon future and the breadth of the category and links to forestry and agriculture with unknown sustainability features.
- Landshypotek Bank says measures in this category could be applied to residential buildings as well as to forestry and agricultural production and storage facilities, including buildings used for drying and storage of grain.
- The issuer excludes financing energy efficiency improvements to fossil fuel-based systems, which we view positively. Landshypotek will assess expected energy savings when selecting energy efficiency projects but has not set a quantitative threshold for improvement, limiting visibility on final performance.
- Optimizing harvest, post-harvest, and/or storage facilities could involve investments in special harvest equipment and cooling storage to minimize food loss during and post-harvest. We view reducing food loss and waste in the agricultural value chain positively as this avoids additional land use for food production and other impacts from further agriculture such as greenhouse gas emissions, local pollution, water use, or biodiversity risks. It is a strength that eligible facilities and equipment will either use renewable energy such as biofuels or be electrified, drawing on the low emissions Swedish grid, and fossil fuel-powered projects are excluded. At the same time, there is limited visibility on the sustainability of agricultural activities, upstream from which these energy efficiency and food loss reduction measures will be applied.
- Physical climate risks are managed through Landshypotek Bank’s standard risk screening process. To date, the bank has only reviewed agriculture and forestry physical climate risks at the portfolio level but plans to undertake a similar assessment for its residential mortgage portfolio as a next step.

S&P Global Ratings' Shades of Green

Assessments	Dark green	Medium green	Light green	Yellow	Orange	Red
Description	Activities that correspond to the long-term vision of an LCCR future.	Activities that represent significant steps toward an LCCR future but will require further improvements to be long-term LCCR solutions.	Activities representing transition steps in the near-term that avoid emissions lock-in but do not represent long-term LCCR solutions.	Activities that do not have a material impact on the transition to an LCCR future, or, Activities that have some potential inconsistency with the transition to an LCCR future, albeit tempered by existing transition measures.	Activities that are not currently consistent with the transition to an LCCR future. These include activities with moderate potential for emissions lock-in and risk of stranded assets.	Activities that are inconsistent with, and likely to impede, the transition required to achieve the long-term LCCR future. These activities have the highest emissions intensity, with the most potential for emissions lock-in and risk of stranded assets.
Example projects	Solar power plants	Energy efficient buildings	Hybrid road vehicles	Health care services	Conventional steel production	New oil exploration

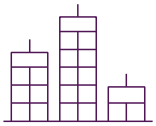
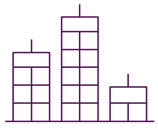
Note: For us to consider use of proceeds aligned with ICMA Principles for a green project, we require project categories directly funded by the financing to be assigned one of the three green Shades.

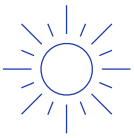
LCCR--Low-carbon climate resilient. An LCCR future is a future aligned with the Paris Agreement; where the global average temperature increase is held below 2 degrees Celsius (2 C), with efforts to limit it to 1.5 C, above pre-industrial levels, while building resilience to the adverse impact of climate change and achieving sustainable outcomes across both climate and non-climate environmental objectives. Long term and near term--For the purpose of this analysis, we consider the long term to be beyond the middle of the 21st century and the near term to be within the next decade. Emissions lock-in--Where an activity delays or prevents the transition to low-carbon alternatives by perpetuating assets or processes (often fossil fuel use and its corresponding greenhouse gas emissions) that are not aligned with, or cannot adapt to, an LCCR future. Stranded assets--Assets that have suffered from unanticipated or premature write-downs, devaluations, or conversion to liabilities (as defined by the University of Oxford).

Mapping To The U.N.'s Sustainable Development Goals

Where the financing documentation references the Sustainable Development Goals (SDGs), we consider which SDGs it contributes to. We compare the activities funded by the financing to the International Capital Markets Association (ICMA) SDG mapping and outline the intended linkages within our SPO analysis. Our assessment of SDG mapping does not affect our alignment opinion.

This framework intends to contribute to the following SDGs:

Use of proceeds	SDGs
Sustainable Forestry	 **13. Climate action**  **15. Life on land***
Sustainable Agriculture	 **12. Responsible consumption and production***  **13. Climate action**  **15. Life on land***  **11. Sustainable cities and communities***
Renewable Energy	 **7. Affordable and clean energy***  **13. Climate action**
Clean Transportation	 **9. Industry, innovation and infrastructure**  **11. Sustainable cities and communities***  **13. Climate action**

Green Buildings	 **7. Affordable and clean energy**	 **11. Sustainable cities and communities***	 **12. Responsible consumption and production**	 **13. Climate action**
Energy Efficiency	 **7. Affordable and clean energy***	 **13. Climate action**		

*The eligible project categories link to these SDGs in the ICMA mapping.

Related Research

- Ripple Effect: How Value Chains Compound Sector Exposures To Physical Climate Risks, Mar. 13, 2025
- Analytical Approach: Second Party Opinions, Mar. 6, 2025
- FAQ: Applying Our Integrated Analytical Approach For Second Party Opinions, Mar. 6, 2025
- Sustainability Insights Research: Biofuel Regulations Stoke Demand, Volatility Hits the Brakes, Jul. 17, 2024
- Analytical Approach: Shades Of Green Assessments, Jul. 27, 2023
- Sustainable Agriculture: Governments Need To Weigh In To Effect Lasting Change, Mar. 3, 2020

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