



Lantmännen

Green Bond Second Opinion

13 April 2021

Lantmännen is a Swedish agricultural cooperative in agriculture, machinery, bioenergy and food products, based on farmland and operations throughout the grain value chain. Owned by 19,000 Swedish farmers, they have 10,000 employees, operations in over 20 countries with a focus on Northern Europe and an annual turnover of approximately SEK 45 billion.

The Green Bond framework allows for financing or refinancing of eligible projects in six categories, of which the two most significant for the inaugural bond are Renewable Energy, and Manufacturing of Eco-Efficient and Circular Economy Adapted Products, Production Technologies and Processes. The other categories are Sustainable Land Use and Environmental Management; Pollution Prevention and Control, and; Green and Energy Efficient Buildings. Both CAPEX and OPEX are eligible.

Initially some 25% of proceeds will be allocated to Renewable Energy, a category which includes production of bioethanol. Lantmännen produces ethanol from grains at a refinery in Sweden, and although crop-based biofuel will not be a scalable long-term solution to sustainable energy needs globally, it currently plays a positive and pragmatic role in the Nordic context. The ethanol is used as fuel for cars and buses and has been considered an important element of Sweden's strategy to decarbonise the transport sector. International opinion on the sustainability of biofuels is constantly evolving, and although Lantmännen's bioethanol is currently certified as providing a 90% reduction in GHG emissions compared to the fossil fuel comparator, investors should be aware that this assessment may change over time and that the EU Taxonomy currently excludes foodbased biocrops from its list of eligible technologies.

The issuer has put in place a robust selection procedure. This will mitigate the risks of selecting projects in the Manufacturing of Eco-Efficient and Circular Economy Products category which may fail to meet the environmental ambitions of the framework. This category contain eligibility criteria which are somewhat vague and wide-ranging and with climate impacts which may not be quantifiable at present.

Lantmännen has excellent climate targets, and was an early-mover on mainstreaming sustainability into operations, but still has substantial exposure to fossil fuel use in the form of natural gas in its European operations.

Based on the overall assessment of the projects that will be financed under this framework, and governance and transparency considerations, Lantmännen's green bond framework receives a **CICERO Medium Green** shading and a governance score of **Excellent**. To improve the framework further, Lantmännen could consider more precisely defining some of the project categories and the impact reporting.

SHADES OF GREEN

Based on our review, we rate the Lantmännen's green bond framework **CICERO Medium Green**.

Included in the overall shading is an assessment of the governance structure of the green bond framework. CICERO Shades of Green finds the governance procedures in Lantmännen's framework to be **Excellent**.



GREEN BOND PRINCIPLES

Based on this review, this Framework is found in alignment with the principles.





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1 Terms and methodology

This note provides CICERO Shades of Green's (CICERO Green) second opinion of the client's framework dated April 2021. This second opinion remains relevant to all green bonds and/or loans issued under this framework for the duration of three years from publication of this second opinion, as long as the framework remains unchanged. Any amendments or updates to the framework require a revised second opinion. CICERO Green encourages the client to make this second opinion publicly available. If any part of the second opinion is quoted, the full report must be made available.

The second opinion is based on a review of the framework and documentation of the client's policies and processes, as well as information gathered during meetings, teleconferences and email correspondence.

Expressing concerns with 'Shades of Green'

CICERO Green second opinions are graded dark green, medium green or light green, reflecting a broad, qualitative review of the climate and environmental risks and ambitions. The shading methodology aims to provide transparency to investors that seek to understand and act upon potential exposure to climate risks and impacts. Investments in all shades of green projects are necessary in order to successfully implement the ambition of the Paris agreement. The shades are intended to communicate the following:

CICERO Shades of Green	Examples
 <p>Dark green is allocated to projects and solutions that correspond to the long-term vision of a low carbon and climate resilient future. Fossil-fueled technologies that lock in long-term emissions do not qualify for financing. Ideally, exposure to transitional and physical climate risk is considered or mitigated.</p>	 <p>Wind energy projects with a strong governance structure that integrates environmental concerns</p>
 <p>Medium green is allocated to projects and solutions that represent steps towards the long-term vision, but are not quite there yet. Fossil-fueled technologies that lock in long-term emissions do not qualify for financing. Physical and transition climate risks might be considered.</p>	 <p>Bridging technologies such as plug-in hybrid buses</p>
 <p>Light green is allocated to projects and solutions that are climate friendly but do not represent or contribute to the long-term vision. These represent necessary and potentially significant short-term GHG emission reductions, but need to be managed to avoid extension of equipment lifetime that can lock-in fossil fuel elements. Projects may be exposed to the physical and transitional climate risk without appropriate strategies in place to protect them.</p>	 <p>Efficiency investments for fossil fuel technologies where clean alternatives are not available</p>

Sound governance and transparency processes facilitate delivery of the client's climate and environmental ambitions laid out in the framework. Hence, key governance aspects that can influence the implementation of the green bond are carefully considered and reflected in the overall shading. CICERO Green considers four factors in its review of the client's governance processes: 1) the policies and goals of relevance to the green bond framework; 2) the selection process used to identify and approve eligible projects under the framework, 3) the management of proceeds and 4) the reporting on the projects to investors. Based on these factors, we assign an overall governance grade: Fair, Good or Excellent. Please note this is not a substitute for a full evaluation of the governance of the issuing institution, and does not cover, e.g., corruption.



2 Brief description of Lantmännen's green bond framework and related policies

Lantmännen is a Swedish agricultural cooperative in agriculture, machinery, bioenergy and food products, based on farmland and operations throughout the grain value chain. Owned by 19,000 Swedish farmers, they have 10,000 employees, operations in over 20 countries with a focus on Northern Europe and an annual turnover of approximately SEK 45 billion. Lantmännen is also the largest producer of grain-based ethanol in the Nordics. The ethanol is produced at a plant in Norrköping, Sweden, and can be used in all engines capable of using ethanol.

Lantmännen is organised into three segments: agriculture, energy, and food, in addition to two businesses: Swecon – a partner of Volvo construction equipment - and Lantmännen Real Estate – one of Sweden's major property companies with 150 investment properties in 80 locations. In addition, Lantmännen has interest holdings in a number of international companies. These companies' operations are primarily located in the Nordic region, Germany, Poland and the Baltic countries.

The agriculture segment constitutes Lantmännen's core business and offers products and services to 'promote strong, competitive farming'. The energy segment is Sweden's largest producer of bioenergy products and grain-based ethanol. Companies in the energy segment manufacture and market ethanol, protein feed, starch products, alkylate petrol, potable spirits and gluten. The food segment of Lantmännen develops, processes and markets products including flour, breakfast foods, pasta, frozen and fresh bread, crispbread and ready-to-eat meals. The segment has its base in the Nordic countries but is present in about 20 countries.

Finally, Lantmännen invests approximately 250-300 million SEK per year in research and development, the grain value chain being the main focus. In addition, they fund a number of research projects through the Lantmännen Research Foundation and have a worldwide research network with universities and other institutions.

Environmental Strategies and Policies

Lantmännen is committed to the principles of the United Nation's Global Compact and pursue an integrated sustainability strategy aligned with UN's Sustainable Development Goals (SDGs). The sustainability report, included in the Annual report, is developed in accordance with the Global Reporting Initiative Guidelines Standards, at core level, including the industry-specific guidelines for the food sector (GRI Food Processing Sector Supplement). Lantmännen's Annual report with sustainability report fulfil the requirements of UN Global Compact Communication on Progress (COP). Furthermore, Lantmännen's code of conduct is in compliance with the OECD guidelines for multinational companies¹.

In 2020, Lantmännen had a total energy use of 1716 GWh, of which 357 GWh (21%) came from fossil fuels-mainly natural gas. Energy use was reduced by 4% from 2019, while (direct) fossil fuel use was reduced by 7%.

Total greenhouse gas emissions (Scope 1+2+3) were 218.6 ktCO₂e in 2020 with 28% from scope 1, 15% from scope 2 and the rest (57%) from various scope 3 sources related to transport and travel activities. Total emissions were reduced by 17% from 2019 to 2020.

¹ <https://www.oecd.org/corporate/mne/>



The Lantmännen group's goal has been to reduce climate emissions intensity from own operations (scope 1+2) by 40% over the period 2015-2020, calculated in tonnes of CO₂e per MSEK of sales. The outcome in 2020 was 45%, which means that they reached the target. The transition to renewable electricity and heat, energy efficiency improvements and conversions to renewable fuels reduced the climate emissions the most.

Since 2009, Lantmännen has reduced emissions by 71% in relation to turnover and in absolute terms by 62%. By 2030, they aim to reduce emissions in line with the Paris Agreement. The rate required to achieve this is to halve carbon dioxide emissions every decade from 2020, referred to as the Carbon Law curve². Actions to reach the target include fossil fuel-free operations (Scope 1 and 2) in Sweden and Norway by 2025, other Nordic countries by 2030 and other European countries by 2040. A target is set for purchased transports, to reduce emissions in relation to sales with 70% in the period 2009-2030. The outcome in 2020 was a decrease of 17% from 2009 and a positive development from previous years. The decrease is mainly a result of covid-19, which has led to reduced sales and reduced transport. In the Nordic region, emissions have decreased mainly through an increased share of biofuels.

Climate risks are recognised by Lantmännen and assigned a risk level of medium probability but with extreme impacts. Climate change with more extreme weather conditions such as drought, heavy rainfall and increased pressure from pests, affects cultivation conditions and the profitability of the grain value chain. Weather can affect individual seasons and create an imbalance in supply and demand. Lantmännen will meet these risks by developing alternative cultivation techniques, variety breeding and adaptation to climate change through trade preparedness measures.

Use of proceeds

An amount equal to the net proceeds of the green bonds will finance or refinance, in whole or in part, investments undertaken by Lantmännen or its subsidiaries that promote the transition towards a low-carbon, climate resilient and environmentally sustainable society ("Green Projects"), in each case as determined by Lantmännen in accordance with the Green Project categories defined in table 1. Green Projects will form a portfolio of assets eligible for financing and refinancing by green bonds. Green project categories included in the framework are renewable energy, manufacturing of eco-efficient and circular economy adapted products, production technologies and processes, sustainable land use and environmental management, pollution prevention and control, and green and energy efficient buildings.

Green bond net proceeds can finance both existing and new Green Projects. New financing is defined as Green Projects financed after the green bond has been issued, and refinancing is defined as Green Projects financed before the green bond issuance. The distribution between new financing and refinancing will be reported on in Lantmännen's annual Green Bond Report. Both operating and capital expenditures can be financed by green bonds. Operating expenditures qualify for refinancing with a maximum three-year look-back period, while capital expenditures may have a look-back period of more than three years.

Green bond net proceeds will not be allocated to projects for which the purpose is fossil energy production, nuclear energy generation, weapons and defence, potentially environmentally harmful resource extraction (such as rare-earth elements or fossil fuels), gambling or tobacco. Machinery operating on fossil fuels are also excluded.

² Researchers' name of the rate required to reduce the climate impact according to the Paris Agreement's objective of limiting the global temperature rise to well below 2 degrees with a view to a maximum of 1.5 degrees. The rate of reduction according to Carbon Law is a halving of carbon dioxide emissions every ten years from 2020.



Selection

The selection process is a key governance factor to consider in CICERO Green's assessment. CICERO Green typically looks at how climate and environmental considerations are considered when evaluating whether projects can qualify for green finance funding. The broader the project categories, the more importance CICERO Green places on the governance process.

The annual Enterprise Risk Management process of Lantmännen covers a broad scope of sustainability and responsibility risks. The process for evaluation and selection of Green Projects will follow the same standard decision-making process.

Selection and allocation of green bond proceeds to eligible green projects is carried out through the following steps:

- i. Sustainability experts and representatives within Lantmännen evaluate potential green projects, their compliance with the green project categories, and their environmental benefits.
- ii. A list of the potential green projects is presented to Lantmännen's Green Bond Committee (GBC) integrated in Lantmännen's Investment Committee. The GBC is solely responsible for the decision to acknowledge the project as green, in line with the green project criteria. Green projects will be marked as green in a dedicated "Green Register". A decision to allocate net proceeds will require a consensus decision by the GBC. The decisions made by the GBC is documented and filed.

The Lantmännen Investment Committee constitutes of seven members including the Director Sustainable Development, i.e., all competences needed to assess Green Projects as well as any project undertaken by Lantmännen.

The Lantmännen Investment Committee convenes every 6 months or when otherwise considered necessary. The GBC holds the right to exclude any green project already funded by green bond net proceeds. If a green project is sold, or for other reasons loses its eligibility, funds will then follow the procedure under Management of Proceeds until reallocated to other eligible green projects.

Management of proceeds

CICERO Green finds the management of proceeds of Lantmännen to be in accordance with the Green Bond Principles.

Lantmännen will use a Green Register to track that an amount equal to the green debt net proceeds is allocated to green projects. The purpose of the Green Register is to ensure that green bond net proceeds only support the financing of green projects or to repay green debt. The management of proceeds will be reviewed by an independent verifier appointed by Lantmännen.

Unallocated green bond net proceeds may temporarily be placed in the liquidity reserve and managed accordingly by Lantmännen (invested in cash or other short term instruments). Temporary holdings will not be placed in entities with a business plan focused on fossil energy generation, nuclear energy generation, research and/or development within weapons and defence, environmentally negative resource extraction, gambling or tobacco.

Reporting

Transparency, reporting, and verification of impacts are key to enable investors to follow the implementation of green finance programs. Procedures for reporting and disclosure of green finance investments are also vital to



build confidence that green finance is contributing towards a sustainable and climate-friendly future, both among investors and in society.

To enable the monitoring of performance and provide insight into prioritized areas, Lantmännen will annually and until maturity of the green bonds issued, provide investors with a report (“Green Bond Report”) that describes the allocation of net proceeds and the environmental impact of the green projects.

Allocation and impact reporting will be on a portfolio basis. Allocation reporting will include a summary of green bond developments, the outstanding amount of green bonds issued, the balance of the green projects in the Green Register (including any temporary investments and green bond repayments) and the available headroom in the value of the green projects (if any), the total proportion of green bond net proceeds used to finance new green projects (defined as green projects financed after the bond issuance) and the proportion of green bond net proceeds used to refinance green projects (defined as green projects financed before the bond issuance), and the total aggregated proportion of green bond net proceeds used per green project category.

In the event of green bonds in the form of commercial papers are outstanding, Lantmännen will report every four-month period, the value of green projects together with the total amount of outstanding green bonds on the website: www.lantmannen.com.

The impact reporting will be on a best effort basis and aims to disclose the environmental impact of the green projects financed under the framework, based on Lantmännen’s financing share of each project. Where the production site is under construction but not yet operational and/or if a product with enhanced sustainability performance is under development but not yet offered to the market, Lantmännen will provide best estimates of future performance levels. As Lantmännen can finance a large number of smaller green projects in the same project category, impact reporting will, to some extent, be aggregated. The methodology for calculating CO₂ emission savings will be published and based on either a national average grid factor or as per NPSI (Nordic Public Sector Issuer) recommendations.

The impact reporting will, if applicable, be based on the following Key Performance Indicators (KPIs):

Renewable energy:

- Annual renewable energy generation (kWh and m³)
- Annual greenhouse gas (GHG) emissions reduced (tonnes of CO₂e emissions)
- Annual GHG emissions avoided (tonnes of CO₂e emissions)

Manufacturing of eco-efficient & circular economy adapted products, production technologies & processes:

- Type of certification
- Number or other quantitative measure of products produced
- Any deliverables possible to quantify, as applicable

Sustainable land use & environmental management:

- As applicable, number or other quantitative measures

Pollution prevention and control:

- Type of waste that is collected, prevented, or recycled before and after the project
- Any improvements possible to quantify, of avoided emissions and discharges of pollutants into water, land and air
- Soil remediation, area of remediated land



Green & energy efficient buildings

New and existing buildings:

- Building certification and/or energy performance class of the energy performance certificate (EPC)
- Annual GHG emissions reduced (tonnes of CO₂e emissions) from energy savings

Major renovations:

- Annual energy reduced compared to the pre-investment situation (MWh)
- Annual GHG emissions reduced (tonnes of CO₂e emissions)

Individual energy efficiency measures:

- Annual energy reduced (MWh)
- Annual GHG emissions reduced (tonnes of CO₂e emissions)

Both the framework, the Green Bond Report and this second opinion will be publicly available at Lantmännen's website <https://www.lantmannen.com>. An independent verifier appointed by Lantmännen will provide, on an annual basis, a statement that an amount equal to the green bond net proceeds has been allocated to green projects.



3 Assessment of Lantmännen's green bond framework and policies

The framework and procedures for Lantmännen's green bond investments are assessed and their strengths and weaknesses are discussed in this section. The strengths of an investment framework with respect to environmental impact are areas where it clearly supports low-carbon projects; weaknesses are typically areas that are unclear or too general. Pitfalls are also raised in this section to note areas where Lantmännen should be aware of potential macro-level impacts of investment projects.



Overall shading

Based on the project category shadings detailed below, and consideration of environmental ambitions and governance structure reflected in Lantmännen's green bond framework, we rate the framework **CICERO Medium Green**.

Eligible projects under the Lantmännen's green bond framework

At the basic level, the selection of eligible project categories is the primary mechanism to ensure that projects deliver environmental benefits. Through selection of project categories with clear environmental benefits, green bonds aim to provide investors with certainty that their investments deliver environmental returns as well as financial returns. The Green Bonds Principles (GBP) state that the "overall environmental profile" of a project should be assessed and that the selection process should be "well defined".

Proceeds from the inaugural bond are likely to go towards refinancing, whereas financing of new initiatives are likely to play a large role in future issuances. Both CAPEX and OPEX are included. Indicative shares of net proceeds from the first bond are as follows: Renewable Energy: 25%, Manufacturing of Eco-Efficient & Circular Economy Adapted Products, Production Technologies & Processes: 40%, Sustainable Land Use and Environmental Management: 25%, Pollution Prevention and Control: 5%, Green & Energy Efficient Buildings: 5%.

Category	Eligible project types	Green Shading and some concerns
Renewable energy  	<p>The financing or refinancing of the construction, operation, acquisition, expansion or upgrades/modifications of facilities that produce renewable energy, as well as associated infrastructure and related Research and Development programmes:</p> <ul style="list-style-type: none">Bio-refinery in Sweden producing ethanol out of arable crops and food waste with a GHG emission reduction of more than 90% in relation to the relative fossil fuel comparator set out in RED II Directive (EU) 2018/2001	<p>Medium-Dark Green</p> <p>✓ Decarbonising the transport sector is crucial, and we welcome innovation from companies to supply more sustainable fuel. However, the substrate for the fuel is crucial to its sustainability profile: fuel based on waste products would be considered green whereas the sustainability of crop-based fuels varies significantly and is generally discouraged.</p>



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| <p>on the promotion of the use of energy from renewable sources.</p> <ul style="list-style-type: none">• District heating production and related infrastructure in Sweden.• Solar energy technologies, such as photovoltaic systems (PV) and concentrated solar power (CSP).• Onshore and offshore wind energy generation facilities and other emerging technologies, such as wind tunnels and cubes.• Facilities that store electricity, (non-fossil) thermal energy or hydrogen. | <ul style="list-style-type: none">✓ The EU Taxonomy defines the production of biofuels for transport as a ‘transitional activity’. The latest delegated acts (for consultation at the moment) states as a threshold criterion that ‘Food- and feed crops are not used in the activity for the manufacture of biofuels for use in transport’.✓ About 10% of the Swedish grain production is used in Lantmännen’s bio-refinery. The bio-refinery makes use of wheat and other grains where the quality does not meet food production standards or where there is surplus in local supply. To an increasing extent, residuals from bakeries and other starch-rich food waste is utilised. The company’s production of bio-ethanol does not currently lead to land-use changes, as Sweden has a grain and export surplus.✓ Food crops will not play a role as a sustainable scalable long term fuel solution on a global basis , but can contribute to current decarbonisation efforts – as long as land-use and other sustainability aspects are safely catered to. This appears to currently be the case in the issuer’s context (Sweden)✓ Investors should be aware that Lantmännen's district heating facilities, although in their majority fuelled by forest and agriculture residues, can be co-fuelled (‘topped up’) with fossil fuels (oil) |
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Manufacturing of eco-efficient and circular economy adapted products, production technologies and processes The financing or refinancing of the establishment, acquisition, expansion, upgrades/modifications of facilities, the production technologies and the processes, including the cost of sourcing sustainable raw materials and the costs related to the manufacturing of eco-efficient and circular economy adapted products, as well as related Research and Development projects:

- Organic products certified in compliance with the EU and national regulation, such as KRAV labelled products;

Light-Medium Green

- ✓ The issuer has informed us that the products in this category consist of grain based food and animal feed products.
- ✓ A substantial share of the proceeds will go towards investments in the extraction of protein from the bio-refinery in Sweden. This protein is to be used both as food ingredient and as domestic animal feed, substituting imported protein and increasing circularity of the biorefinery process..



- Grain based food and feed products with at least a 30% lower CO₂ impact than equivalent products, e.g., low-carbon grain;
- Processing renewable materials and/or sustainably sourced materials, by-products and/or residuals to produce products, material and packaging with enhanced value for sustainability, such as lower life cycle emissions, compostable and/or nutrition to depleted soils.
- ✓ Organic products usually have positive environmental impacts but may or may not have material climate benefits.
- ✓ Lantmännen's selection criteria of 30% lower CO₂ emissions is based on an LCA tool developed as part of its Climate&Nature farming programme
- ✓ Soy and palm oil products are used by the issuer in cereal products and animal feed. These are raw materials associated with sustainability risks, including land degradation, biodiversity and deforestation. Lantmännen's target is to source 100% of its soy through the Swedish Soy Dialogue³ and to source 100% of palm oil from RSPO (segregated and where that is not available; book and claim)
- ✓ Through pyrolysis, Lantmännen's district heating plants produce biochar out of Swedish wood chips. Biochar improves soil quality and is also a way to sequester carbon.
- ✓ The project category includes wide-ranging and at times vague selection criteria. Criteria which are aspirational but do not have numerical targets or thresholds are difficult to assess from a sustainability perspective and receive a light green shading.

Sustainable land use and environmental management



The financing or refinancing of activities, research and innovation, the establishment, acquisition, expansion, upgrades/modifications of facilities, technologies and production to protect, restore and enhance crop yields, agronomic- and/or health promoting properties, ecosystems and biodiversity (aquatic as well as on land), including adaptation measures for climate change.

Dark Green

- ✓ Activities in this category include plant breeding (e.g. to produce higher-protein grains), digitalization and precision farming, and test farms, and are partly directed toward 'future-proofing' farming (developing pest resistance, adapting to a changed climate) .
- ✓ Proceeds will be used almost exclusively for research&development, with some going to direct investments and will be linked to the company's sustainable farming vision.
- ✓ Lantmännen today produces biological plant protection and non-chemically

³ Soy cCertification is according to RTRS, ProTerra, and organic soy according to IFOAM approved certification, Donau Soya/Europe Soya or verification through special methodology.



treated seed for organic and conventional cultivation in plants.

Pollution prevention and control



The financing or refinancing of management or establishment, expansion or upgrades/modifications of facilities, solutions and technologies, contributing to the reduction and reuse of waste, pollution prevention and the removal of harmful substances:

- Facilities, systems and technologies contributing to a resource efficient management of waste, including collection, treatment and processing of all types of waste, for the purpose to bring back valuable raw material or refined products to the market.
- Projects, process and techniques supporting pollution prevention, such as discharges of pollutants into water, land and emissions to air.
- Soil remediation.

Dark Green

- ✓ Soil remediation activities target the treatment of contaminated land previously used for industry, to be developed for other use such as housing, office buildings or industry.
- ✓ The transportation of waste can be fossil-fuel intensive but Lantmännen has targets in place for reducing emissions from transport (including shipping and road transport) and report on these annually.

Green and energy efficient buildings



The financing or refinancing of the construction, acquisition, expansion, upgrade/modification and climate adaptation of buildings that meet the criteria defined below:

- The construction of new buildings designed to achieve a net primary energy demand that is at least 20% lower than the level required by the relevant building regulation or 20% lower than the level required to meet NZEB, once NZEB requirements have been established. New buildings might carry environmental certifications such as Miljöbyggnad “Silver” or Green Buildings.
- Existing buildings meeting one of the following criteria:
 - An active Energy Performance Certificate (EPC) with energy class A or B,
 - Miljöbyggnad Silver or better,
 - the Finnish RTS environmental classification, 2 stars or better, or
 - Green Buildings certification

Medium Green

- ✓ The highest shading level, Dark Green, is reserved for the highest building standards such as Zero-Energy buildings and passive houses.
- ✓ Lantmännen informs us that the main focus is Lantmännen Real Estate with buildings only in Sweden - however other countries are not excluded.
- ✓ In addition to climate issues, Miljöbyggnad, and similar certification schemes cover a broader set of issues, which is important to overall sustainable development. These certification levels alone do not ensure improved energy efficiency, passive or plus housing.
- ✓ EPC B buildings in Sweden have an energy efficiency at least 25% better than regulation.
- ✓ Green Buildings certification is aimed at property owners and managers who want to make energy use more efficient in their premises and homes. The requirement is that the building uses 25% less energy than before or



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| <ul style="list-style-type: none">• An additional criteria for all large non-residential building⁴, is that they must be efficiently operated through energy monitoring and assessment.• All buildings require energy use which is at least 10% lower than required by the relevant national building regulation.• Major renovations: Renovations of existing buildings that lead to a reduction in the life-cycle emissions by at least 30 per cent compared to the pre-investment situation.• Energy efficiency: Direct costs (e.g., material, installation and labour costs) for installing energy efficient technologies or other energy saving measures during the construction, maintenance and service phase of a building. These measures may include energy management systems, AI and data solutions, heat exchangers, heat pumps or costs for enabling renewable energy sources. This, provided that the measure is aimed at significantly improving the energy performance (> 30 percent) or improving the life-cycle emissions of the building, construction site or in the respective area. | <ul style="list-style-type: none">✓ compared to the new construction requirements in BBR.✓ The issuer has clarified that the 10% energy use improvement criteria is relative to regulation in the year in which the building was certified.✓ Refurbishment of existing buildings are often better than new constructions from a climate point of view but should ideally come with greater improvements in energy efficiency. IPCC promotes ‘deep refurbishment’ with more than 50% improvement in energy efficiency.✓ According to the IEA, a 30% reduction would be necessary to be in line with the IEA ‘well below 2 C’ target. One of the criteria for major renovation is aligned with this target.✓ We understand that for new construction, LCA and climate risk effects are considered.✓ The issuer should consider construction phase emissions and emissions related to transportation to and from the properties |
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Table 1. Eligible project categories

Background

The farming sector is important to the Swedish economy as a source of domestically produced food and employment. A long-term food strategy was presented in 2017 by the Swedish government, aiming for increased production with sustainability and higher self-sufficiency as core elements⁵. Over the last 10 years, Sweden’s average grain export was approximately 30% of the production.

In the same way as for food in general, Sweden depends on import of agri-inputs such as fuels, fertilizers and protein for feed. All fossil fuel and some 85 to 90% of biofuels used in Sweden is imported⁶. The development of biomass as a renewable energy source for heat was promoted from the late 1970s to decrease Sweden’s dependence on imported oil, and policies have been implemented (based on CO₂ reduction obligations) to encourage the gradual increase in biofuels added to gasoline and diesel mixes for the transport sector. Bioenergy meets approximately one-third of Sweden’s energy demand today.

Globally, transport is responsible for approx. 15% of the world's GHG emissions and 23% of total energy-related CO₂ emissions. To reduce dependence on petroleum-based fuels, as well as to mitigate climate change, biofuels

⁴ With an effective rated output for heating systems, systems for combined space heating and ventilation, air-conditioning systems or systems for combined air-conditioning and ventilation of over 290 kW.

⁵ <https://www.regeringen.se/regeringens-politik/en-livsmedelsstrategi-for-jobb-och-hallbar-tillvaxt-i-hela-landet/>

⁶ https://www.ieabioenergy.com/wp-content/uploads/2018/10/CountryReport2018_Sweden_final.pdf



are viewed as promising alternative transportation fuels. The transport sector and working machines account for close to 40% of Sweden's greenhouse gas emissions. The Swedish government has launched various incentives to reduce fossil fuel use and to support renewable energy. In the transport sector, the main incentive is based on CO₂ reduction obligations, which require fuel suppliers to reduce greenhouse gas emissions from petrol and diesel by blending with biofuels. Sweden's ambition is a linear path with 2030 indicative levels of a sustainable bio-fuel mix aiming towards 28% CO₂ reduction for petrol and 66% for diesel.⁷ The current biofuel use is around 20% of the total fuel use and the indicative target for 2030 is 50%.

Bioenergy has been labelled as “carbon neutral”, the idea being that the CO₂ emitted at combustion is compensated by the CO₂ absorbed during the growth period of the biomass. However, the carbon accounting principle of bioenergy is highly technical and context specific (temporality, geography, etc.). Bioenergy can be controversial from a land-use perspective (competing uses, e.g. with growing food crops) and because of the potential impacts on biodiversity from dedicated plantations. Due to resource constraints (land, alternative uses), biomass is unlikely to represent a significantly scalable solution from a 2050 decarbonized energy perspective. Today, the sustainability of biofuels depends on the feedstock, geography, transportation routes etc. Life-cycle analyses of GHG emissions suggest, on average, that first-generation biofuels (based on crops) can have lower GHG emissions than fossil fuels, but only if there are no associated land use changes⁸.

Food is responsible for approximately 26% of global GHG emissions⁹. Emissions from agricultural production alone currently account for around 11% of global greenhouse gas emissions and have risen 14% since 2000. To curb climate change and ensure productive farming in the future, the climate impact of cultivation, food processing and transportation must decrease. Lantmännen's calculations show that the climate impact of winter wheat (a model crop) can be reduced by 63% per kilo and the yield increased by 38% by 2030, provided all potential is utilised, and water and efficient, sustainable plant protection are available.

District heating is common in Sweden (approximately half of homes and premises) and the fossil fuel content, although usually quite low, varies from region to region. Lantmännen's district heating facilities are currently 95% renewable (the fuel mix makes use of forest and agriculture residues such as wood chip, energy forest, straw and wood pellets).

EU Taxonomy

The European Union has published a taxonomy to classify sustainable activities. The final taxonomy was published on March 9, 2020 and contains implementation guidance for companies and financial institutions – including technical criteria for a range of sectors¹⁰. The legislation formalising this taxonomy – the Delegated Acts – has not yet been adopted. The Taxonomy includes a number of principles including a “do-no-harm clause” and safety thresholds for various types of activities. Do-No-Significant-Harm criteria include measures such as ensuring resistance and resilience to extreme weather events, preventing excessive water consumption from inefficient water appliances, ensuring recycling and reuse of construction and demolition waste and limiting pollution and chemical contamination of the local environment.

Relevant eligibility criteria and thresholds exist for several of the categories included in Lantmännen's green bond framework, including on renewable energy, biofuel for transport, and sustainable agriculture.

⁷ <https://www.regeringen.se/pressmeddelanden/2020/09/branslebytet-forstarks-med-hogre-inblandning-av-fornybart-i-drivmedel/>

⁸ See e.g. Jeswani et al., Environmental sustainability of biofuels: a review, The Royal Society, 25 November 2020.

⁹ Poore, J., & Nemecek, T. (2018). Reducing food's environmental impacts through producers and consumers. *Science*, 360(6392), 987-992.

¹⁰ Taxonomy: Final report of the Technical Expert Group on Sustainable Finance, March 2020.

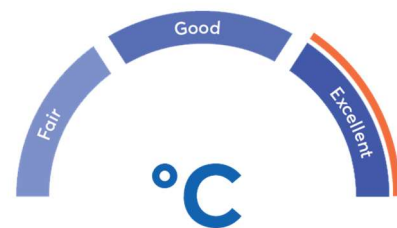
https://ec.europa.eu/knowledge4policy/publication/sustainable-finance-teg-final-report-eu-taxonomy_en



Governance Assessment

Four aspects are studied when assessing the Lantmännen's governance procedures: 1) the policies and goals of relevance to the green bond framework; 2) the selection process used to identify eligible projects under the framework; 3) the management of proceeds; and 4) the reporting on the projects to investors. Based on these aspects, an overall grading is given on governance strength falling into one of three classes: Fair, Good or Excellent. Please note this is not a substitute for a full evaluation of the governance of the issuing institution, and does not cover, e.g., corruption.

Lantmännen's climate and sustainability goals are ambitious and well integrated into the organisation's structures and supply chain. It was an early mover on CO₂ reduction goals, and has achieved a number of goals already. It supports the recommendations of the TCFD but implementation of these and use of climate scenarios analyses have so far been limited. The selection process and management of proceeds are robust and in accordance with the Green Bond Principles. Reporting will mainly be on a portfolio or project category basis and will not be linked to individual bonds. Some vagueness regarding project categories make it hard to be precise on key indicators for the impact reporting – which will be done on a best effort basis. The overall assessment of Lantmännen's governance structure and processes gives it a rating of Excellent.



Strengths

It is a clear strength that the green bond framework is supported by a strong governance structure and clear and ambitious environmental goals. Explicit exclusion of fossil fuel technologies is also a strength. The company is on a path towards fossil fuel free energy use – aiming to achieve this first in the Nordic region –and achieved a company-wide fossil fuel use reduction of respectively 7% (Scope 1) and 13% (Scope 1 and 2) between 2019 and 2020. The company's targets for reducing CO₂ emissions are in line with the Paris Agreement's goals and it was an early mover in adopting targets.

The company's selection procedure is strong: consensus is required in the green bond committee and rebound effects are considered through the use of Scope 1, 2, 3 targets. Another strength is Lantmännen's engagement with its supply chain: it uses life-cycle analysis when developing new products and selecting suppliers, together with a two-stage screening process. It aims to reduce supply chain transport emissions by 70% by 2030.

Sustainability is well integrated into the organisation's overall goals and structures. It invests 250-300 MSEK in research&development annually, with sustainability as a central goal of the research. Its sourcing policies for palm oil and soy are sound and include certification.

Weaknesses

We find no material weaknesses in Lantmännen's green bond framework.

Pitfalls

About 10% of the Swedish grain production is used in Lantmännen's bio-refinery. The bio-refinery makes use of wheat and other grains where quality is not meeting food production standards, however the amount of quality-affected grains varies from year to year depending on weather conditions and standards differ between countries as to what is acceptable for food production. Using surplus grains and waste for energy production is a clear contribution to a circular economy, however we encourage the issuer to remain vigilant about excluding grains of any kind that could alternatively been used for food or feed, including through export.



International opinion on the sustainability of biofuels is constantly evolving, as new evidence emerges and views on 'carbon neutrality' evolve. Lantmännen's bioethanol is currently certified as providing a 90% reduction in GHG emissions compared to the alternative fossil fuel comparator, however investors should be aware that this assessment may change over time and that the EU Taxonomy currently excludes foodbased biocrops from its list of eligible technologies.

Some of the Framework's eligible categories and their criteria are wide-ranging and vague. This creates a problem when it comes to assessing the climate impacts, although that will be possible once concrete projects have been selected. A good climate impact cannot be guaranteed on the basis of the criteria alone, but will need trust in the competences and governance framework of Lantmännen.

Lantmännen has excellent climate targets, but still has substantial fossil fuel use, mainly in the form of natural gas. This is a pitfall as target achievements are not guaranteed and may depend on market situations and national policies in the issuer's countries of operation.

Although drawing the line on the impacts which are relevant for a project is not straightforward, CICERO Shades of Green believes issuers should at least be aware of potential negative macro-impacts and aim to minimize them. Rebound effects represent a category of macro impacts. For example, improved energy efficiency of a dwelling and lower energy costs may induce tenants to increase the indoor temperature, partly offsetting the initial anticipated energy and carbon dioxide savings. While one could argue that these issues are best tackled through policies such as carbon pricing, it is important that issuers are aware of these potential rebound effects and seek to minimize them.



Appendix 1: Referenced Documents List

Document Number	Document Name	Description
1	Cicero version Lantmännen Green Bond Framework April 2021	Lantmännen's Green Bond Framework
2	Års--och-hallbarhetsredovisning-2020	Annual and sustainability report for 2020.
3	NO-Vår adferdskodeks	Lantmännen's code of conduct
4	NO - Lantmännens leverandöradferdskodeks (SCoC)	Supplier code of conduct
5	Directive_Raw materials EN	Directive raw materials
6	Directive Responsibly Produced Food_Eng	Directive on responsibly produced food
7	Lantmännen GB background material	Various background information



Appendix 2: About CICERO Shades of Green

CICERO Green is a subsidiary of the climate research institute CICERO. CICERO is Norway's foremost institute for interdisciplinary climate research. We deliver new insight that helps solve the climate challenge and strengthen international cooperation. CICERO has garnered attention for its work on the effects of manmade emissions on the climate and has played an active role in the UN's IPCC since 1995. CICERO staff provide quality control and methodological development for CICERO Green.

CICERO Green provides second opinions on institutions' frameworks and guidance for assessing and selecting eligible projects for green bond investments. CICERO Green is internationally recognized as a leading provider of independent reviews of green bonds, since the market's inception in 2008. CICERO Green is independent of the entity issuing the bond, its directors, senior management and advisers, and is remunerated in a way that prevents any conflicts of interests arising as a result of the fee structure. CICERO Green operates independently from the financial sector and other stakeholders to preserve the unbiased nature and high quality of second opinions.

We work with both international and domestic issuers, drawing on the global expertise of the Expert Network on Second Opinions (ENSO). Led by CICERO Green, ENSO contributes expertise to the second opinions, and is comprised of a network of trusted, independent research institutions and reputable experts on climate change and other environmental issues, including the Basque Center for Climate Change (BC3), the Stockholm Environment Institute, the Institute of Energy, Environment and Economy at Tsinghua University and the International Institute for Sustainable Development (IISD).

