



SIBS AB

Green Bond Second Opinion

September 8, 2020

SIBS AB is a Swedish property developer of residential buildings based on parametric modular design principles. It consists of five companies which cover the entire value chain from design to procurement, production, transport, and installation. SIBS builds according to parametric modularization, whereby most of the design work is automated. 90% of the building is completed off-site, in its factory in Malaysia.

SIBS has a holistic approach to sustainability, whereby efficiencies are considered in each part of the value chain, from the design and material choices of building components to the options it offers its tenants for monitoring water and energy use. Production and transportation processes are designed to minimise waste. Its properties offer solar energy and heating from geothermal sources.

The company has put in place a robust procedure for issuing green bonds, although some pitfalls remain. SIBS' framework includes clear use of proceeds criteria and meaningful reporting metrics. Buildings must meet specific international or national certification standards as well as an energy efficiency criteria (25% improvement over national building regulations). The latter criteria is more ambitious than the threshold of the EU Taxonomy. Proceeds will primarily be for the financing of new sustainable buildings - however investors should be aware that proceeds will be allocated to the purchasing of land and building processes before sustainability certifications have been secured. It is also worth noting that proceeds may be allocated towards a new production facility in Malaysia. Despite the sustainability intentions of the company, any new production facility in Asia carries the risk of lock-in effects.

SIBS is a relatively new company and does not have the same level of sustainability practices as some of its peers. It does not yet publish corporate targets or monitor overall GHG emissions. However, we understand that the company is becoming more ambitious in this area and has recently commissioned a full life-cycle analysis (LCA) of its production line. We encourage the company to consider externally verifying its green bond impact report to (partly) compensate for its current lack of corporate level sustainability reporting.

Based on the overall assessment of eligible assets and governance considerations, SIBS AB's green bond framework receives a **CICERO Medium Green** shading and a governance score of **Good**. To increase their governance score, the company should incorporate corporate targets and measurements in their sustainability work.

SHADES OF GREEN

Based on our review, we rate the SIBS AB'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 SIBS AB's framework to be **Good**.



GREEN BOND PRINCIPLES

Based on this review, this Framework is found in alignment with the Green Bond 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 August 21, 2020. 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



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.



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.



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.



Brown is allocated to projects and solutions that are in opposition to the long-term vision of a low carbon and climate resilient future.

Examples



Wind energy projects with a strong governance structure that integrates environmental concerns



Bridging technologies such as plug-in hybrid buses



Efficiency investments for fossil fuel technologies where clean alternatives are not available



New infrastructure for coal

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 finance 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 finance 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 SIBS AB's green bond framework and related policies

SIBS AB is a Swedish property developer of residential buildings founded in 2016. According to its latest Annual Report its goal is to produce 1,200 apartments for rent on an annual basis. It consists of five companies and more than 450 employees:

- Moko (design)
- SIBS Malaysia (production)
- Frontlog (logistics)
- Moby (construction)
- Sveaviken Bostad (real estate)

SIBS' has developed a proprietary building system called parametric modularization, whereby most of the design work is automatized and produces buildings tailored to fit almost any type of zoning restriction. 90% of the building is completed off-site.

SIBS' operations span across the entire real-estate development value chain, from procuring the land, designing the building, producing the modules at its factory, transportation to site, on-site assembly and long-term ownership of the completed properties.

The company is headquartered in Stockholm. A production facility in Malaysia (Penang) undertakes most of the building of the housing modules.

Environmental Strategies and Policies

By controlling the entire value chain of its property development – from product design to production and installation - SIBS is able to integrate environmental sustainability across every aspect of the business.

Some of the environmental features of SIBS' buildings are:

- Exterior and windows: The outer walls and windows have been designed to reduce the u-value i.e. energy losses, which is imperative to keep energy consumption low in its houses. The first five buildings built by SIBS, including three under construction at the date of this framework, have all achieved or are set to achieve annual energy consumptions levels below 30.8 kWh/sqm (almost 50% lower than Swedish regulatory requirements (BBR))
- Geothermal heating and solar energy: The energy system in all of SIBS' buildings have been optimized to be as renewable as possible. To date, its buildings all have a heating system that is run by geothermal energy and solar panels. This, in combination with underfloor heating, has created energy efficient houses that are able to be net producers of energy during the summer months.
- Individualized control: Each apartment is equipped with measuring devices for individual monitoring of room temperature, energy (both heating and electricity) and water consumption.

Industrialised approaches to producing housing modules both reduce the amount of waste and can also better handle and recycle waste as compared to conventional construction. By controlling all purchasing, SIBS seeks to



safeguard that no environmentally hazardous materials are used and controls that the use of chemicals is minimized as much as possible. The company seeks to minimize transport-related emissions by requiring deliveries and dispatches to take place in fully utilized containers, trucks and ships. Once the modules have been produced at the manufacturing plant in Malaysia, they are transported by modern low-emission (IMO-compliant) and fully utilized ships to Europe.

The company has identified six of the Sustainable Development Goals as particularly relevant:

- 3-Good Health and Wellbeing
- 8-Decent Work and Economic Growth
- 9-Industry, Innovation and Infrastructure
- 12-Responsible Consumption and Production
- 13-Climate Action
- 17-Partnership for the Goals

The materials used in SIBS' buildings include concrete, steel and plywood. The plywood is FSC certified and the company uses less concrete and steel (which both have a high level of embedded carbon) than alternative construction systems. Underfloor water heating is cast into the structure to increase the energy efficiency of the building.

Use of proceeds

All proceeds from Greens Bonds issued under this framework will be fully invested in Eligible Assets and Projects. Eligible Assets and Projects will contribute either to the adaptation and/or mitigation to climate change. Proceeds may be used for both the funding of new certified residential buildings as well as for increased production capacity (new factory). A fuller description of the eligible assets is provided in Table 1.

Proceeds will primarily be for the financing of new projects but may be put towards the acquisition of part ownership in existing certified buildings as well.

Proceeds from the Green Bonds will not be used in investments linked to fossil energy generation, nuclear energy generation, the weapons and defence industries, potentially environmentally negative resource extraction, gambling or tobacco.

Selection

The SIBS Green Bond Committee will be mandated to evaluate and select projects that will fall under SIBS Green Bond Framework. The SIBS Green Bond Committee will meet quarterly and will consist of the CEO of SIBS AB and the CEOs of MOKO AB (company responsible for building development and design) and Sveaviken Bostad AB (company responsible for real estate development and management).

Each committee meeting will include a review of each building project to make sure it is an eligible asset under the SIBS Green Bond Framework and that it adheres to SIBS sustainability policy. Decisions on eligibility will be reached by consensus.



Management of proceeds

The net proceeds of a bond issued under SIBS Green Bond Framework will be monitored and audited by the SIBS group CFO and records will be kept showing which projects have been financed with proceeds from the Green Bond. SIBS CEO and SIBS CFO will meet quarterly before the SIBS Green Bond Committee meeting to make sure proceeds have been used appropriately. Proceeds yet to be allocated will be placed in a cash account.

Reporting

SIBS will annually publish an Allocation Impact Report on its website. The Allocation Impact report will show the allocation of proceeds from the SIBS Green Bond during the period and will include the impact the proceeds has created.

The report will include:

- A list of all projects and eligible assets financed
- Detailed descriptions of all projects financed by the SIBS Green Bond.
- Energy consumption by absolute consumption (kWh) and intensity (kWh/sqm) per year
- Amounts invested in each investment category as defined in the Use of Proceeds section of this Green Bond Framework.

SIBS will quantitatively show the impact each eligible asset/project has had. Quantitative measures may include:

- Environmental certification
- Carbon dioxide emissions avoided
- Amount of renewable energy produced
- Energy declaration of new buildings



3 Assessment of SIBS AB's green bond framework and policies

The framework and procedures for SIBS'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 SIBS 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 SIBS's green bond framework, we rate the framework **CICERO Medium Green**.

Eligible projects under the SIBS' 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 finances 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".

Category	Eligible project types	Green Shading and some concerns
Green Buildings	<p>Acquisition of land and construction of new Green Buildings with one of the following certificates:</p> <ul style="list-style-type: none">• Miljöbyggnad "Silver" certification (or better)• LEED "Gold" certification (or better)• BREEAM "Very Good" certification (or better)• Nordic Swan Ecolabel• Nearly zero-energy buildings <p>In addition, all buildings will have to have at least 25% better energy efficiency - compared to the National Building Regulation valid at the time of approval by the Green Bond Committee.</p>	<p>CICERO Medium Green</p> <ul style="list-style-type: none">✓ BREEAM, Miljöbyggnad, and similar certification schemes cover a broad set of sustainability issues. However, these certification levels alone do not ensure energy efficient outcomes. The framework's additional requirement on energy efficiency mitigates this concern and in fact exceeds the requirement of the EU taxonomy✓ Note that the highest shading level, dark green, is reserved for the highest building standards such as Zero-Energy buildings and passive houses.



- ✓ SIBS' buildings are largely heated by ground source heat pumps, but in some cases district heating may be used. The energy mix of district heating varies from region to region in Sweden: it is largely 'green' but may have a component of incineration and plastic waste. We encourage SIBS to continue their dialogue with their energy providers to ensure the heating source is as free from fossil elements as possible
- ✓ SIBS considers different mobility solutions for its properties. It provides the possibility for charging electric vehicles and ensures there is sufficient capacity on the network. It provides the infrastructure for bicycle use and encourages the use of public over private transport.
- ✓ Investors should be aware that proceeds may be used for the acquisition of land on which the certified properties are built. If for some reason the building does not end up achieving the required certification standard, SIBS should put in place a process for re-allocating the proceeds.

Green Building
Production Capacity

A new production facility will have to have one of the following certificates:



- LEED "Gold" certification (or better)
- BREEAM "Very Good" certification (or better)

In addition, the facility will source at least 50% of its electricity from renewable sources and will be built using materials that are sourced with a focus on reducing overall carbon footprints, while still adhering to prevailing building codes. All ingoing materials will be cross-checked via SimaPro to reduce carbon footprints.

CICERO Light Green

- ✓ Despite the sustainability intentions of the company, any new production facility in Malaysia (or similar location) carries the risk of lock-in of long transportation routes to the Swedish market and to materials sourced in a region based on a fossil fuel intensive energy system.
- ✓ Without additional energy efficiency requirements, this category is 'light green' despite certification and the positive intention of part-sourcing from renewable sources,



Table 1. Eligible project categories

Background

According to the International Energy Agency (IEA), the buildings and buildings construction sectors combined are responsible for 36% of global final energy consumption in 2018 and nearly 40% of total direct and indirect CO₂ emissions. The materials, construction and demolition phase of the building lifecycle constitute additional emissions and are becoming increasingly important as buildings become more energy efficient and the electricity and heat supply becomes ‘greener’. A little over half of all life cycle greenhouse gas emissions in new offices or residential apartment building in the Nordics comes from heat and energy use, while approximately 40% comes from use of materials. Emissions associated with construction and demolition accounts for around 2-5%.

The energy and emissions savings potential of the building sector remain largely untapped because of continued use of less efficient technologies, lack of effective policies and weak investments in sustainable buildings. The IEA’s Sustainable Development Scenario suggests 50% of new constructed building area in 2030 should be near zero emission – in addition to increased renewable heat sources up to 25% in 2030.¹ Energy efficient buildings are crucial important building blocks towards reaching the 2°C goal.

Physical climate change such as extreme events and flooding are affecting all sectors and regions already. Due to historical emissions, we are de facto locked in for approximately 1.5°C global warming.² Given today’s policy ambition, the world is most likely heading toward 3°C warming in 2100 which implies accelerated physical climate impacts, including more extreme storms, accelerated sea level rise, droughts and flooding.³ For near-term physical risk, investors and companies must consider the probabilities of physical events and resiliency measures to plan for and protect against the worst impacts.

Prefabrication/Lean Building Methods⁴

Prefabrication – a generic term which encompasses the production method of SIBS and implies that production takes place in a fixed centralised location inside a factory rather than on individual building sites - represents a significant departure from traditional on-site construction practice. Prefabrication allows for modelling and simulation to optimise design and efficiency aspects of a building and its uses. The advantages associated with prefabrication include weather protection and safer working conditions for the workers and the potential to improve efficiency and environmental footprints. Reduced travel back-and-forth to sites, reduced construction waste, and better insulation and energy efficient properties are some of the environmental benefits of centralized production. In one study⁵, the embodied carbon in the prefabricated method was found to be 34% lower than in a traditional build.

Some relevant EU taxonomy criteria

The proposed EU taxonomy for sustainable finance⁶ 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

¹ <http://www.iea.org/tcep>

² <https://www.cicero.oslo.no/en/posts/news/scientists-demystify-climate-scenarios-for-investors>

³ https://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_FINAL_full_wcover.pdf

⁴ See e.g. Manley and Widen, Prefabricated housing firms in Japan and Sweden: Learning from leading Countries, June 2019, <https://www.researchgate.net/publication/338047020>

⁵ Source: Monahan and Powell, An embodied carbon and energy analysis of modern methods of construction in housing: A case study using a lifecycle assessment framework, Energy and Buildings, Volume 43, Issue 1, 2011

⁶ 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

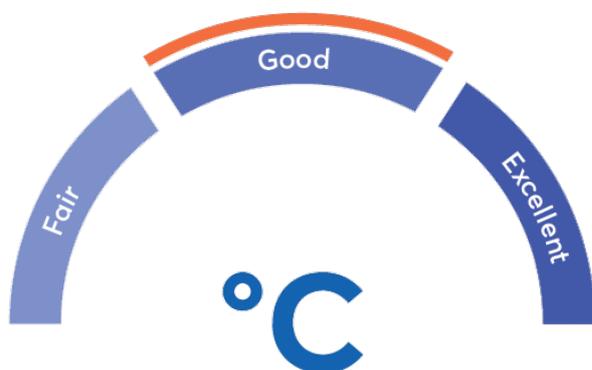


such as ensuring resistance and resilience to extreme weather events, preventing excessive water consumption from inefficient water appliances, ensuring recycling and reuse of construction and demolition waste and limiting pollution and chemical contamination of the local environment. CICERO Green will not here verify SIBS AB's framework against the full EU taxonomy but notes that the taxonomy includes specific thresholds for the real estate sector. The design and construction of new buildings needs to ensure a net primary energy demand that is at least 20% lower than the level mandated by national regulations. Ownership or acquisition of buildings built before 2021 needs to have an energy performance in the top 15% of similar stock. It is unclear how this will be applied in the Swedish context, however based on the above, it seems reasonable to expect that SIBB AB's green bond will be aligned with the EU taxonomy.

Governance Assessment

Four aspects are studied when assessing the SIBS AB's governance procedures: 1) the policies and goals of relevance to the green finance 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.

The overall assessment of SIBS AB's governance structure and processes gives it a rating of **Good**.



The company incorporates environmental and climate considerations into its operations, with a focus on energy use and material choice. Life-cycle considerations are integrated in the company's approach, in its choice of materials etc. Its focus on efficiencies in the production and assembly stages and on minimizing

emissions from transport is positive. The company also encourages energy and water conservation among tenants by providing appropriate monitoring technology.

Yet, there is some room for improvement: SIBS does not currently publish a sustainability report, nor does it have any emission targets or monitor emissions. However, the company is relatively young and some of these shortcomings are in the process of being rectified: for instance, it has retained a consulting company to carry out a life-cycle analysis (LCA) of its production line. We encourage the company to consider externally verifying its green bond impact report to (partly) compensate for the lack of corporate level sustainability reporting.

Strengths

SIBS' focus on process and its control of the entire value chain allows it to minimize waste and environmental footprints. For example, its freight company has procedures in place to fully utilize containers and freight space on trucks and ships. The factory in Malaysia orders quantities of all materials in full trucks or containers to reduce shipping costs and emissions.



The company's requirement that eligible buildings be 25% more energy efficient than Swedish regulations signals strong environmental ambitions and exceeds what many peers are aiming for.

The company's green bond reporting plans are relevant and meaningful. To increase the transparency and accountability of its green bond framework and at the corporate level, we encourage SIBS to publish the methodology used for calculating any CO₂ emission reduction numbers and to consider having the report verified externally.

Weaknesses

We find no obvious weaknesses in this framework.

Pitfalls

All energy efficiency improvements involve the potential for rebound effects, whereby behavioral change offsets some of the energy savings. SIBS' buildings have individual monitors for energy and water consumption, which make tenants more aware of their impacts and go some way towards mitigating this risk.

The issuer is potentially looking to establish a second production facility in Malaysia. While the facility will be planned according to sustainability specifications, there are some aspects of having production in Asia – such as long transportation routes to the final destination (Sweden) and a fossil-fuel heavy local electricity supply – which may add to the company's CO₂ footprint and potentially create a lock-in effect compared to other production locations with lower carbon footprints and higher rates of innovation

Investors should be aware that proceeds will be allocated to the purchasing of land and building processes before sustainability certifications have been secured. This entails a risk to the extent that a building does not achieve the intended certification level, although we understand that the risk is minimized by SIBS planning for certification from the start.



Appendix 1: Referenced Documents List

Document Number	Document Name	Description
1	SIBS AB Green Bond Framework 3. September	
2	SIBS AB ÅR 2019 – Svenska	Annual Report 2019
3	SIBS Policy on Environment and Sustainability (2020-06-30)	
4	Manley and Widen, Prefabricated housing firms in Japan and Sweden: Learning from leading Countries, June 2019, https://www.researchgate.net/publication/338047020	
5	Monahan and Powell, An embodied carbon and energy analysis of modern methods of construction in housing: A case study using a lifecycle assessment framework, Energy and Buildings, Volume 43, Issue 1, 2011	



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).

