

An architectural rendering of a modern, multi-story building with a light green, grid-like facade. The building features large windows and small awnings over the entrances. In the foreground, a woman with short blonde hair, wearing a floral dress, stands next to a bicycle with a basket full of green vegetables. She is holding a camera and appears to be taking a photo. The building is surrounded by lush greenery, including trees and yellow-flowered bushes. A paved walkway leads from the foreground towards the building. In the background, other people can be seen walking on the path. The overall scene is bright and sunny, suggesting a pleasant day.

SIBS AB

Green Bond Framework

₹ SIBS

An introduction to SIBS

SIBS AB, henceforth SIBS, was founded with the goal of revolutionizing the construction industry by making it more industrialized and efficient in nature. The company was founded 2016 in Sweden and today consist of a group of five operational companies with more than 450 employees.

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

SIBS has developed its own proprietary building system called parametric modularization, which allows it to automatize virtually all the design work while also allowing for a product that can be tailored to fit almost any type of zoning restriction. By controlling the entire value-chain from design to management of the finalized residential apartment buildings, SIBS is able to streamline the project lead time and reduce the overall project cost. Moreover, its control of the entire value chain allows SIBS to consistently focus on environmental sustainability across every aspect of the business.

SIBS will have almost 600 apartments under management by year-end 2020 and currently has the production capability to finalize close to 1,000 apartments annually.



Sustainability the SIBS way

As an expanding real estate group driven exclusively by in-house production of new residential buildings, SIBS activities will help shape the cities of tomorrow. SIBS thus find it imperative to have sustainability at the core of its operation and to let environmental and social sustainability permeate all parts of its operations, in order to help build a better future for all.

PROPRIETARY BUILDING SYSTEM WITH INCORPORATED ENVIRONMENTAL ASPECTS

SIBS' proprietary building system ensures that key environmental aspects are always incorporated in every building that it produces.

- **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.
- **GEOTHERMAL HEATING AND SOLAR ENERGY** - The energy system in all these houses have been optimized to be as renewable as possible. In fact, all of SIBS houses to date 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 even able to be net producers of energy during the summer months.

This aspect of SIBS environmental work has been at the core of its building system development because the house will hopefully stand there for hundreds of years and thus its ongoing energy consumption is very important for the environment today and in the future. 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.



REDUCED WASTE AND EMISSIONS THANKS TO EFFICIENT INDUSTRIALISED PRODUCTION AND TRANSPORTATION

SIBS industrialized approach of producing its modules, both reduce the amount of waste, and can also better handle and recycle waste as compared to conventional construction. By controlling all purchasing for our factory, SIBS safeguards that no environmentally hazardous materials are used and controls that the use of chemicals is minimized as much as possible.

Looking at transportation, SIBS also reduces emissions by having all material sent to the factory in fully packed containers and trucks, while at a conventional construction sites many trucks delivers things half-full or just pallet by pallet, thus SIBS can reduce the number of truck deliveries of material by as much as 90%. SIBS logistics company Frontlog also continuously works to minimize emissions within sea freight transportation by choosing modern ships with lower emissions and by always chartering boats that will be completely full of our modules.

SOCIAL SUSTAINABILITY

SIBS is also actively working to create houses that helps improving social sustainability in the areas where they are built. SIBS work closely with municipalities to create e.g. common areas that can be used as function rooms for homework tutors, book-clubs, bridge playing seniors or even for smaller social gatherings. The outside areas of each project are also designed to make people interact with each other and SIBS always strive to create safe, esthetically beautiful, and active places for its tenants. A large focus is also put on bicycle parking spaces and bicycle repair areas. Car sharing services are standard in all SIBS projects. SIBS has also gone through great lengths to offer its tenants fast car charging capabilities in all its parking lots and garages.

SIBS also go to great lengths to make sure that all SIBS employees are treated fairly no matter the race, religion, or sexual orientation. SIBS focus a lot on work safety and sees to it that working and living conditions of its workforce in Malaysia are following ILO (The UN International Labor Organization) rules and guidelines. Malaysia has been a member of the ILO since 1957 and has ratified 18 ILO Conventions.

SIBS subsidiary Sveaviken Bostad AB is ISO 9001 and ISO 14001 certified, which means that it has controlled processes for its work with quality and environmental issues.

SIBS adheres to the following UN sustainable development goals



SUSTAINABLE INDUSTRIALIZED CONSTRUCTION PROCESS (UN Sustainable Development Goals #3, 8, 9, 12, 13, 17)

- UN Sustainable Development Goal #3
Usage of a limited range of components create process control and enables co-operation with suppliers to optimise material flow and transportation. It will also ensure that all material installed have been thoroughly considered to ensure safety in use for the tenants of the building.
- UN Sustainable Development Goal #8
The production site will constantly be developed to improve work health and safety.
- UN Sustainable Development Goal #9
With production of housing ongoing simultaneous on the construction site (foundation) and in the factory (house modules), enables shorter lead times in comparison to traditional construction methods.
- UN Sustainable Development Goal #12
Considering the manufacturing phase as continuous ongoing production process of variants of houses creates the opportunity to work with incessant improvements, quality control as well as minimising the waste of material.
- UN Sustainable Development Goal #12
Development and improvement of standardized solutions and components prevent rework which saves unnecessary use of resources.
- UN Sustainable Development Goals #12, #13 & #17
Sweden have been identified as a precursor in industrialised construction and establishing a production facility in Malaysia, will enable transfer of knowledge and possible contribute to help the local construction industry to shift to a more resource-focused setting. The predefined and flexible building system enables factory production without sacrificing adaptability to prevailing conditions on site. Hence, in each project the buildings are optimized for the unique setting of conditions. This flexibility and configurability contribute to increased social aspects when developing the sustainable city by de-



veloping a mixed urban environment. Factory production of the building system enables efficient processes and that affordable housing can be achieved, still with high quality architecture. In the standardized but flexible building system the amount of materials is statically optimized. For example, is the base plate structurally developed to minimize concrete utilization while maintaining the performance. In the future, if necessary, the modular building system also allow de-assembly, recycle and remanufacturing of the houses.

GREEN LOGISTIC SOLUTION

(UN Sustainable Development Goals # 12, 13, and 17)

The factory's location enables establishment of supplier partnerships in the immediate region entails classic logistics optimization (Slack et al, 2004). The suppliers' deliveries to the factory are coordinated and optimized to reduce the number of transports and emissions. The factory act as a logistic center; input of materials and components from the suppliers and assembled to the construction volumes with the exact right amount. The volumes are transported by cargo ships to the port closest possible to the construction site. Shipping is good from a greenhouse gas emission perspective in comparison with trains and truck transportation (Lee et al, 2019; Cullinane, 2014). From the port the volumes are transported to the construction site, usually by truck, just-in-time. This leads to less disruptions on site, reduced waste, minimized transports and less emissions.

In conventional on-site construction, more than half of the emissions comes from imports of goods and services (Elmsäter-Svärd et al., 2018). Building materials and products (mainly steel, cement, and stone) often come from countries as Europe, China, and the USA (Saxton, 2016; Larsson et al, 2016). The transports are not optimized or coordinated to a particularly large extent to the respective construction site, which increases waste and emissions more than necessary (Swedish Energy Agency, 2016, Elmsäter-Svärd et al., 2018).

With our building with optimized goods transport and few craftsmen on the construction sites, we significantly reduce transport, scrapping, rework, and emissions.

SUSTAINABLE AND ENERGY EFFICIENT BUILDINGS

(UN Sustainable Development Goals # 7, 11, 12, 13)

Individual monitoring of energy and water consumption (connected to UN Sustainable Development Goals 7, 11, and 12) Each apartment is equipped with measuring devices for individual monitoring of room temperature, energy (both heating and electricity), and water consumption. This means that each tenant gets a clear overview of their use of resources and hence can influence not only their monthly costs but also reduce their environmental footprint by reducing their electricity and water usage.

ENERGY EFFICIENT BUILDING ENVELOP

(connected to UN Sustainable Development Goals 7, 11, 12, and 13)

To minimize the use of resources in the operational phase the buildings are designed for a low energy need through a well-insulated building envelop and heat recovery from exhaust air. The exterior walls, roofs, and windows are all well-insulated and hence have a low U-value, as example the exterior walls are insulated with 335 mm mineral wool and roofs are insulated with 600 mm mineral wool. Furthermore, a well-insulated building envelope is a prerequisite to reduce the vulnerability in the event of power shortage. Building envelop air tightness is quality checked in a controlled environment in the factory and at site to minimize energy use.

ENERGY SYSTEM, UNDERFLOOR HEATING, HEAT PUMP, SOLAR CELLS ETC.

(connected to UN Sustainable Development Goals 7, 12, and 13)

All buildings are mainly designed with a low temperature underfloor heating system enabling the possibility to optimize the use of renewable energy sources such as a geothermal heat pump combined with solar panels. The design of the electrical system, with its individual monitoring, maximize the utilization of energy from solar panels. But despite this, buildings become net producers of electricity during summertime.

ACOUSTIC PERFORMANCE AND INDOOR ENVIRONMENT

(connected to UN Sustainable Development Goals 11)

To create adequate, accessible, and safe housing with good indoor environment but still affordable is an important goal for SIBS. All apartments have high standard for kitchen, bathroom etc. Design solutions within the building system also enables high acoustic standard, even highest there is in Swedish Building Codes.

AVOIDING HAZARDOUS MATERIALS ETC.

(connected to UN Sustainable Development Goals 6 and 11)

Lead free water taps designed with energy saving system providing water with high quality together with energy-efficiency and nickel-free door handles are two other examples of product chosen from an indoor environmental perspective. By providing affordable but still high-quality housing ensures tenant satisfaction and thereby retain the value of the properties.

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Use of proceeds

All proceeds from Greens Bonds issued under this framework will be fully invested in the following 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 assets and projects as well as in increased production capacity of Green Buildings.

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.

Eligible Assets and Projects

GREEN AND ENERGY EFFICIENT BUILDINGS

The Eligible Asset and Projects needs to fulfil one of the below criteria.

The acquisition of land and construction of new Green Buildings with the following certificates:

- Miljöbyggnad "Silver" certification (or better)
- LEED "Gold" certification (or better)
- BREEAM "Very Good" certification (or better)
- Nordic Swan Ecolabel
- Nearly zero-energy buildings¹

In addition to the certificates as outlined above, all green and energy efficient buildings eligible have additional requirements on energy efficiency. Eligible new buildings will have at least 25% better energy efficiency compared to National Building Regulation valid at the time of approval by the Green Bond Committee. The Green Bond Committee will also safeguard that the land acquisitions and buildings to be built will be able to be certified by one of the above-mentioned certifications before any acquisition is made or before any construction starts.

GREEN PRODUCTION FACILITY

The Eligible Asset and Projects needs to fulfil one of the below criteria. The acquisition of land and construction of a new Green Production Facility with the following certificates:

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

In addition to the certificates as outlined above, a Green Production Facility will need to source at least 50% of its electricity from renewable sources. The new production facility will also be built with 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.

¹) Nearly zero-energy buildings are defined in line with EC Article 2(2) of the EPBD. Nordic, zone 5: i) offices 55-70 kWh/(m².y) of net primary energy with typically, 85-100 kWh/(m².y) of primary energy use covered by 30 kWh/(m².y) of on-site renewable sources and ii) new single family houses 40-65 kWh/(m².y) of net primary energy with, typically, 65-90 kWh/(m².y) of primary energy use covered by 25 kWh/(m².y) of on-site renewable sources.



Process for project evaluation and selection

SIBS' Green Bond Committee will meet quarterly to evaluate and select projects that will fall under SIBS Green Bond Framework. The Green Bond Committee will comprise of the respective CEOs of SIBS AB, MOKO AB and Sveaviken Bostad AB.

Before a project is evaluated at a committee meeting, its compliance with the Green Bond Framework will need to be confirmed by internal or external required expertise, such as, e.g. energy experts, environmental experts and sustainability experts. Each committee meeting will include a thorough review of each project to make sure it is an eligible asset under the SIBS Green Bond Framework and that it also adheres to SIBS sustainability guidelines. All members of the committee need to be present to form a quorum and a decision needs to be unanimous for it to be valid.

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 and impact

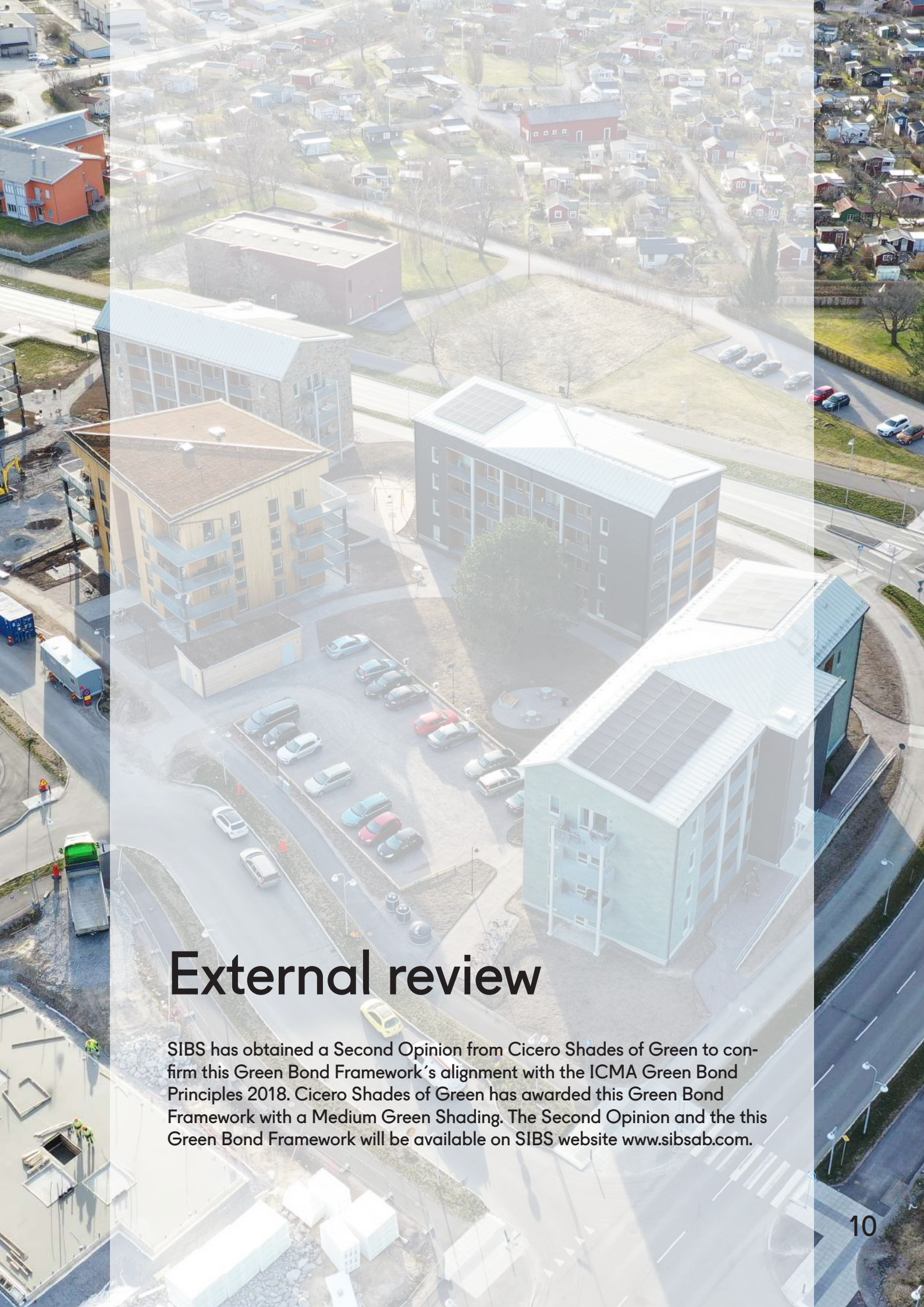
In order to be transparent of the impact the SIBS Green Bond has created, SIBS will annually write an Allocation Impact Report. The Allocation Impact report will show the allocation of proceeds from the SIBS Green Bond during the period and will include the impact the proceeds has created.

The Allocation Impact 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.

Quatitative measures may include:

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



External review

SIBS has obtained a Second Opinion from Cicero Shades of Green to confirm this Green Bond Framework's alignment with the ICMA Green Bond Principles 2018. Cicero Shades of Green has awarded this Green Bond Framework with a Medium Green Shading. The Second Opinion and the this Green Bond Framework will be available on SIBS website www.sibsab.com.



 SIBS