°CICERO Shades of Green

Jernhusen AB
Green Finance Second Opinion

28 October 2022

Executive Summary

Jernhusen owns, develops, and manages railway stations, station areas, maintenance depots and freight terminals along the Swedish railway network. Within the railway sector, Jernhusen contributes by investing in buildings and supportive infrastructure as a complement to the public investments in railway infrastructure. Jernhusen operates and develops a network of strategically located properties with the aim of encouraging more people to travel, and more cargo to be moved, by train.

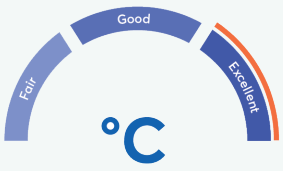
Initially, Jernhusen expects proceeds to refinance railway infrastructure (e.g. train stations and depots). These initial investments will constitute approximately 60% of all investments under the framework. Such projects are also expected to receive the biggest share of subsequent allocations, alongside expected investments in developing commercial buildings including offices with close proximity to the railway.

We rate the framework **CICERO Dark Green** and give it a governance score of **Excellent.** Jernhusen's business strategy is aligned with a low-carbon future, by developing areas close to train stations as well as construction and managing properties supporting railway infrastructure. The Dark Green shading reflects that the majority of planned investments are essential for the development of the Swedish railway, e.g. investments in train stations and depots, and are built and operated following industry best practices. Key considerations regarding energy use, embodied emissions, and physical climate risk are assessed and implemented in construction projects.

SHADES OF GREEN

°CICERO Dark Green

GOVERNANCE ASSESSMENT



GREEN BOND PRINCIPLES

Based on this review, this framework is found to be aligned with the principles.

Strengths

Jernhusen's framework contains ambitious criteria, compounded through the framework's direct support for the Swedish railway. Sweden has a well-developed railway where the vast majority is electrified, and was in 2019 ranked number five in the world for rail usage per capita.[1] Since the pandemic there has been an increasing number of passengers,[2] and Jernhusen works to enable continued growth. Criteria set in Jernhusen's framework show ambition and go beyond the EU Taxonomy, and it is especially ambitious to require the certification level BREEAM Outstanding for new buildings.

Jernhusen's environmental strategy indicates that it is well equipped to make solid environmental considerations when constructing, renovating and managing properties. We are encouraged by its internal projects such as a digitization project where it targets to get a live feed of the energy consumption for all its

[1] Rail transport in Sweden - Wikipedia
[2] Järnvägstransporter 2022 kvartal 2 (trafa.se)

buildings, so that monitoring is facilitated and data can also be used to determine where energy efficiency measures are needed, to achieve its target to halve the energy intensity of its properties by 2030.

We are encouraged by Jernhusen's strategy to reduce embodied emissions. The strategy presents a clear methodology and a defined roadmap on what needs to be done to reduce all emissions associated with a building. We are especially encouraged by the specific targets that deal with embodied emissions and that it has defined target values for different types of buildings. The strategy looks at where Jernhusen can have an impact, which includes themes such as material use, energy, waste, and transport. Jernhusen addresses data collection, how to use Life Cycle Assessments (LCA) and how to strengthen the overall knowledge of its employees. Its strategy is based on LFM30, which is a project in Malmö to build climate-neutral buildings and to have net zero emissions from construction by 2030.

Pitfalls

It is an industry challenge that methodologies and data regarding embodied emission in construction projects still need more knowledge and development. While we view positively Jernhusen's solid ambition to reduce embodied emissions associated with the construction of properties, train stations and depots, new construction may still be associated with high emissions, as knowledge and methodologies tackling this industry challenge are just starting to evolve. Jernhusen is working to strengthen its in-house knowledge and is developing a methodology with quantified targets to reduce embodied emissions.

Some construction projects might be at risk of enabling increased traffic. Investors should be aware that while building in proximity to public transport are a part of the 2050 vision, if commercial buildings such as offices and hotels are built it is associated with increased traffic which could increase the use of fossil fuel vehicles to access these locations.

EU Taxonomy

CICERO Green assess that Jernhusen is likely aligned with relevant EU taxonomy mitigation thresholds as well as the Do No Significant Harm (DNSH) criteria. Jernhusen has informed us that all projects must be Taxonomy-aligned to be eligible. We consider that while Jernhusen likely fulfils the minimum social safeguards of the EU Taxonomy, we would recommend that the company does risk assessments more frequently. We also suggest that the company in the future provides more detailed reporting on risks identified and relevant mitigating measures.

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Shades of Green

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Company description

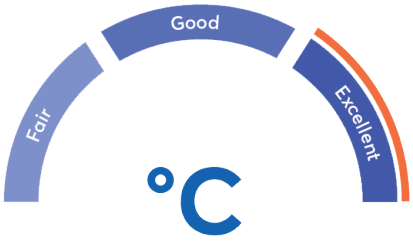
Jernhusen owns, develops, and manages railway stations, station areas, maintenance depots and freight terminals along the Swedish railway network. Within the railway sector, Jernhusen contributes by investing in supportive infrastructure as a complement to the public investments in railway infrastructure.

By the end of 2021, the property portfolio totaled 146 properties spread across Sweden. Jernhusen manages approximately 600 000 square meters of rentable space and more than 500 000 people visit or pass through its properties daily. Development projects in Stockholm and Gothenburg constitutes a major part of future investments.

Governance assessment

Overall, Jernhusen's business strategy is aligned with a low carbon future, by developing areas close to train stations as well as managing properties directly linked to the railway while taking the appropriate environmental considerations. Jernhusen has implemented a roadmap to climate neutrality to support its target to become climate neutral by 2045. It has both done a holistic analysis on its potenital impact in the value chain and have identified where emission reduction measures are needed. We are encouraged on how its roadmap includes detailed explenations on how it will use LCA throughout its development projects, that it will track and continuously try to improve data quality on emission calculations and has set quantified targets linked to emissions from construction projects.

Jernhusen has implemented a climate calculator for all potential investments so that business decisions can be taken with environmental considerations. It is also positive that Jernhusen has considered physical climate risk through an assessment that uses future climate scenarios, and can confirm that it is also looking at evaluating potential risks for its existing assets. Executive management and personnel with environmental competence are involved in the selection process.



Jernhusen's planned reporting includes relevant impact indicators and Jernhusen is transparent about the methodologies and assumptions that are used.

The overall assessment of Jernhusen's governance structure and processes gives it a rating of **Excellent.**

Sector risk exposure

Physical climate risks. For the Nordics, the most severe physical impacts will likely be increased flooding, snow loads, and urban overflow, as well as increased storms and extreme weather. Developing properties with climate resilience in mind is critical, as well as evaluating and mitigating the physical climate risks of its existing properties, considering that climate change poses a direct risk of damage to assets.

Transition risks. The Swedish government expects its state-owned companies to be at the forefront of sustainability and climate issues, consequently, Jernhusen is exposed to stricter policies as Sweden strengthens its national climate and environmental ambitions. Sweden is targeting climate neutrality by 2045 which includes coping with environmental issues such as minimizing the carbon footprint of the real estate sector and the transition towards sustainable transport.

Environmental risks. While railway services have indisputable environmental benefits, the construction of supportive infrastructure may cause air, water, and noise pollution, deforestation, and destruction of wetlands and so on. There is also a risk of underestimating the total carbon footprint of development projects caused by poor data quality for embodied emissions.

Environmental strategies and policies

Jernhusen's business model is to operate and develop a network of strategically located properties that enables an increasing number of people and goods to be transported by train. Jernhusen aims to have a climate neutral value chain by 2045 the latest, which is in line with the national ambition set by the Swedish authorities. To achieve the target Jernhusen aims to halve its carbon dioxide emission intensity by 2030 compared to 2020. It will monitor each project's climate performance thoroughly by measuring the emitted greenhouse gases per built gross area, defined as CO_2e/BTA[3]. As new projects are planned, Jernhusen discloses that the company's total greenhouse emissions will fluctuate, and might some years be higher than previously. However, the climate performance per gross area is targeted to always be improved. The targets include all three scopes, and the issuer has strategically chosen to exclude the purchase of emission rights.

Jernhusen reports according to the GHG protocol standard. In 2021, emissions linked to the procurement of materials for construction accounted for 34% of total emissions. Scope 3 emissions accounted for approximately half of emissions when looking at location-based emissions. The other half of emissions were caused by location-based scope 2 emissions, while scope 1 emissions accounted for less than 1%.

To reach the emission reduction target, one of the issuer's strategies is to focus on materials. The issuer mentions looking at reusable materials and lowering the amount of waste, as well as considering alternative materials to replace emissions intensive construction materials such as steel and concrete. New buildings will be certified with BREEAM-SE, where BREEM Outstanding is the ambition level for office buildings and BREEAM Excellent the minimum for new stations and maintenance depots. Existing buildings will be certified with the BREEAM In-use certification when possible, and its own internal classification scheme based on the Miljøbyggnad certification

[3] BTA is the Swedish abbreviation for the total gross area for a building, and represents the total area for each floor combined.

scheme for buildings that cannot be certified with other certifications, for example, infrastructure that is not considered in either scheme.

The issuer is targeting to half its purchased energy from 2008 to 2030, measured in kWh/m^2. The issuer has a systematic process to increase the energy efficiency of its properties with its starting pointin an extensive energy assessment. The result of this assessment forms the basis for action plans for each property and is a natural part of the issuer's ordinary work in connection with other investments and technical improvements. Jernhusen has for several years had an ongoing assessment in order to plan and execute necessary energy efficiency projects and in 2021, Jernhusen had reduced its energy consumption by 29 % compared to 2008 The issuer purchases guarantee of origin for renewable energy for all electricity to its properties. minimize its climate impact further Jernhusen invests in smart energy solutions and solar energy for suitable properties.

Jernhusen has made an initial assessment to screen for physical climate risk, which showed that a moderate rise in temperature does not pose an imminent threat to Jernhusen's business that is not manageable within daily maintenance of the assets. However, extreme changes in temperature or flooding could lead to a substantial effect on the property portfolio. The issuer is in the process of performingan extensive risk assessment based on climate scenarios, also incorporating the "worst case" scenario. The result of the analysis lead to continuous action plans as a part of Jernhusens daily operations.

Green finance framework

Based on this review, this framework is found to be aligned with the Green Bond Principles and the Green Loan Principles. For details on the issuer's framework, please refer to the green finance framework dated October 2022.

Use of proceeds

For a description of the framework's use of proceeds criteria, and an assessment of the categories' environmental impacts and risks, please refer to section 2.

Selection

A group with representatives from Jernhusen's business units will identify and nominate projects and assets within the eligible categories to a committee which consists of executive management, such as the CEO and the head of sustainability.

Identified projects and assets are evaluated for compliance with the framework criteria. They will also be evaluated for their overall environmental impact and risk, which included life cycle considerations, potential rebound effects, resilience to climate change and alignment with the taxonomy and the European Green Bond Standard (EU GBS). Projects and assets must also be assessed as compliant with applicable laws and regulations, as well as policies and guidelines at Jernhusen.

Projects and assets will be approved by a unanimous decision and decisions will be documented. A list of all assets will be kept by Jernhusen's treasury department. If a project or asset ceases to meet the terms described in the framework, it will be removed from the list.

Management of proceeds

Green bond proceeds are tracked by the issuer. If an eligible asset no longer qualifies or if a project or asset is divested or lost, an amount equal to the funds allocated towards it will be re-credited to the green portfolio. Funds may be reallocated to other green assets during the term of any green financing.

Temporary investments may be invested or utilized in accordance with Jernhusen's sustainability policy and investment criteria. Proceeds nor temporary investments will be allocated or linked to fossil-based energy generation, nuclear energy generation, research and/or development within weapons and defense, potentially environmentally negative resource extraction (such as rare-earth elements or fossil fuels), gambling or tobacco.

Reporting

Jernhusen will report annually, and the report will be published on its website. Reporting will include allocation and impact reporting and include information about assets that have been financed with green financing.

Allocation of proceeds from green financing will be provided at project level, unless confidentiality agreements, competitive considerations, or a large number of underlying qualifying projects limit the amount of detail that can be made available, in which case the information will be provided at an aggregated level, with an explanation of why project-level information is not given.

- The reporting will disclose the countries where bond proceeds have been allocated and information will likely be categorized accordingly:
    - For construction and real estate activities: The allocation and impact report will disclose the sum of allocated proceeds to each project or asset, the aggregate market value (or investment cost, as applicable) and the sum of the external debt financing such project and assets (if applicable).
    - For transport: The allocation and impact report will disclose the allocation of green proceeds to each category
- Information about outstanding green financing and the green account balance (including any short-term investment)
- The amount and percentage of green financing allocated to green assets
- Specified type of sectors of projects, NACE codes (when applicable), to which Environmental Objective(s) the Green Assets have a substantial contribution and an indication of which of the Delegated acts that were used to determine the TSC including their application dates
- Compliance with minimum safeguards
- All data shall be from the last of December in the previous year.

For impact reporting, for financed assets that are not yet operational, Jernhusen will strive to provide estimates of future performance levels. The metrics below are examples of indicators that are likely to be used by Jernhusen in the forthcoming impact report. Jernhusen will specify the methodologies and main assumptions applied in the assessment of the environmental impacts.

Construction and Real Estate Activities

I. Energy performance/use
    a. For all buildings: the annual energy use per square meter Atemp (kWh/sqm/year)
    b. For all new buildings: the reduction in Primary Energy Demand (PED) compared to the requirement in the national implementation of NZEB
    c. For major renovations: the percentage reduction of Primary Energy Demand (PED)
    d. For acquisition and ownership of buildings that qualifies according to an Energy Performance Certificate (EPC): the level of the EPC
    e. For acquisition and ownership of buildings that qualifies according to top 15% PED: confirm that the Energy Performance was within the top 15% of the national or regional building stock at the time of the inclusion of a building in any Green Financing and also disclose the source and value of the top 15% assessment/benchmark per building type.

II. Building certification and performance
    a. Type of certification
    b. Achieved level of certification

c. For new buildings larger than 5000 sqm: Air-tightness and thermal integrity (verify that this has been done and also disclose observed deviations)

III. Carbon emission savings/reductions

a. Carbon intensity from energy: grams per square meter Atemp

b. Carbon savings from energy: annual carbon emission reductions/savings (CO_2e tonnes)

c. For new buildings: LCA climate footprint (GWP)

Transport

Each yearly report will include an example of a Clean Transportation investment that has been financed with green net proceeds (if such a project has been financed). Jernhusen intends, to our capability, use the KPI's listed below as relevant performance metrics.

Transportation Infrastructure, Freight

I. Increased or improved freight terminal capacity, for instance the increased number and/or size/weight of units handled.

II. Efficiency improvements, where applicable less time spent per unit handled or energy savings (aggregated, MWh per year).

III. Carbon savings (aggregated, tonnes per year) due to the installed technology (direct), by transferring freight transport from road to railway (indirect) or both (as applicable).

Transportation Infrastructure, Passenger

I. Increased or improved passenger train depot capacity, for instance the increased size or number of trains handled. ii. Statement of internal environmental certification (if applicable).

Public Transportation Accessibility

I. Number of units installed or new serving possibilities, or area (square meters) of installed capacity.

2 Assessment of Jernhusen's green finance framework

The eligible projects under Jernhusen's green finance framework are shaded based on their environmental impacts and risks, based on the "Shades of Green" methodology.

Shading of eligible projects under Jernhusen's green finance framework

- EU taxonomy criteria, both the substantial contribution to climate change mitigation and also all DNSH are minimum criteria for all project categories. The criteria listed in the table are additional criteria that go beyond the taxonomy.
- Jernhusen expects that there will be and even split between new financing and refinancing, however this will depend on the growth rate of the company and its underlying assets.
- Initially, the majority of net proceeds will be allocated to existing assets which will include buildings and infrastructure for rail transport. Over the three years following issuance, it is expected that this will account for the majority of allocated proceeds.
- Of the amounts of new financing approximately 55% will go to infrastructure, 40% to real estate and 5% to other projects.

Category	Eligible project types		Green Shading and considerations
Construction and real estate activities **Substantial contribution to Environmental Objective: Climate change mitigation**	**Construction of new buildings** • New buildings that have or will receive (i) a design stage certification or (ii) a post-construction certification of at least BREEAM-SE "Outstanding" and an energy use (PED) at least 20% lower than NZEB. For buildings where the design stage commenced prior to 2020-12-31 BREEAM Excellent is required.	✓	**Medium Green** The project category is allocated a Medium Green shading because of solid framework criteria focusing on energy use and green building certifications, whereas other important considerations such as embodied emissions and physical climate risk are handled by Jernhusen's internal policies. In the real estate sector, the methodology for reducing embodied emissions is under development. Therefore new construction cannot yet demonstrate the emission reductions needed in a 2050 perspective, which is needed to allocate a Dark Green shading.
	Renovation of existing buildings • Renovated buildings that have or will receive (i) a design stage certification, (ii) a post construction certification or (iii) an in-use certification of at least, BREEAM-SE "Very good" or BREEAM In-Use "Very Good".		
	Installation, maintenance and repair of energy efficiency equipment • This category will support our continuous energy improvements throughout our building portfolio, which will include all the activities described in the Taxonomy	✓	Jernhusen has implemented a roadmap to climate neutrality to support its target to become climate neutral by 2045. This

- Minimize long term negative climate impact, potential rebound effects and negative climate impact from the technology used.

Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)

- This category will support the installation of charging stations for electric vehicles.

Installation, maintenance and repair of instruments and devices for measuring, regulating and controlling energy performance of buildings

- This category will support building automation and control systems throughout our property portfolio

Installation, maintenance and repair of renewable energy technologies

- This category will mainly support the instalment of solar energy but may also include other Taxonomy-eligible investments such as the instalment of geothermal heating and cooling systems.

- Minimize long-term negative climate impact, potential rebound effects and negative climate impact from the technology used

Acquisition and ownership of buildings

- Acquisition and ownership of buildings that have or will receive (i) a design stage certification, (ii) a post-construction certification or (iii) an in-use certification of at least BREEAM-SE "Very good" or BREEAM In-Use "Very Good" and at least 20% lower energy use than NZEB in accordance with applicable national building code (BBR) at the time of publication of the framework

includes using life cycle analysis tools throughout the projects and specifically working to reduce embodied emissions linked to the materials and construction of assets. The strategy entails using Environmental Production Declarations (EPDs) as well as setting limit values to CO_2e for each built square meter as well as targets for reducing the emission intensity over time.

✓ Embodied carbon will also be calculated and reduced for renovation projects. Initially, template values for typical project activities, such as changing windows, will be used to see that targets are met. In 2023 the methodology will be further developed where full LCA calculations will be performed. Jernhusen aims to do post-renovation calculations based on actual materials and quantities used.

✓ The greatest environmental impact for existing buildings is typically energy consumption. Therefore it is positive that the framework criterion for existing buildings is to be at least 20% lower than NZEB in accordance with the applicable national building code (BBR), which goes beyond the criteria set by the EU taxonomy.

✓ The energy criteria that the PED will be at least 20% lower than NZEB for new construction is a solid ambition, that goes beyond the criteria set by the EU taxonomy. The use of current regulations as a proxy for NZEB is done in the absence of an officially determined NZEB. However, the use of BBR as a proxy for NZEB for the Swedish market should be clarified by the Swedish authorities.

- ✓ Green building certification standards cover a broad set of issues that are important for sustainable development. However, at the time, they differ considerably in their requirements for energy efficiency, embodied emissions of construction materials, related transportation emissions and considerations of resilience. Jernhusen mitigates these risks through its general policies, as well as aiming for the highest level of certification in the BREEAM-SE certification scheme and therefore demonstrate a solid ambition. The issuer also informed us that the updated BREEAM-SE will cover all taxonomy criteria, including the DNSH, where it is using the last updated draft of the manual for guidance until the finished version is published.

- ✓ 80% of the building stock that we will have in 2050 is already built today[4]. Therefore in the transition to a low-carbon society, it is vital to renovate and improve existing properties. With that perspective in mind, refurbishments with a 30% reduction in energy consumption could qualify for a Medium to Dark shade.

- ✓ To avoid rebound effects from energy efficiency projects, Jernhusen uses green lease agreements where both Jernhusen and the tenant commit to perform energy analysis and act on areas of improvement.

- ✓ Buildings directly heated by fossil fuels will not be eligible.

[4] Climate change - UKGBC - UK Green Building Council

		✓ Investors should be aware that while building in proximity to public transport are a part of the 2050 vision, if commercial buildings such as offices and hotels are built it is associated with increased traffic which could increase the use of fossil fuel vehicles to access these locations.
Transport **Substantial contribution to Environmental Objective: Climate change mitigation**	**Infrastructure for personal mobility, cycle logistics** • This category will mainly support facilities for personal mobility such as bicycle garages, but may also include other Taxonomy eligible investments under this category. **Infrastructure for rail transport** **New infrastructure** • **Train stations and depots:** New infrastructure that have or will receive (i) a design stage certification or (ii) a post-construction certification of at least BREEAM-SE "Excellent" and an energy use (PED) at least 20% lower than NZEB. • **Freight terminals:** Electrified cranes and service vehicles for loading/unloading of goods **Renovation of infrastructure** • **Train stations and depots:** Renovated infrastructure that have or will receive (i) a design stage certification, (ii) a post construction certification or (iii) an in-use certification of at least BREEAM-SE "Very good" or BREEAM In-Use "Very Good".	**Dark Green** ✓ Electrified public transport is crucial in a 2050 perspective. Consequently, infrastructure dedicated to support the Swedish railway, with the aim of increasing passenger and cargo traffic, is essential. The majority if the Swedish railway is electrified. Train stations and depots are necessary for the operations of the railway system. Electrification of cranes and service vehicles at freight terminals, as well as their renovation, are important in a 2050 perspective. ✓ For infrastructure for rail transport, the overall governance of Jernhusen together with quantified criteria ensures that climate impact considerations, such as assessing embodied emissions and energy use, will be implemented to the extent that it is feasible in such specialized and technical buildings. Points that were made under construction and real estate activities remain relevant also for this project category. ✓ Although it constitutes a small share of total investments, it is positive that Jernhusen is facilitating the transition to transport more cargo by train instead of road transport.

• **Freight terminals:** Substantial renovation, modernization and/or upgrades, including full electrification of cranes and service vehicles for loading/unloading of goods.	✓ Jernhusen considers the potential negative impact measures can have before making investments in energy efficiency measures. Investing in energy efficiency measures is important to reduce energy consumption where possible.
Modernization and maintenance • Minimize negative climate impact from the technology and the material used	✓ Investments in renewable energy will most likely be smaller projects linked to individual assets. The installation and production of renewable energy are key elements to the transition to a low-carbon energy sector.
Acquisition and ownership of infrastructure • **Train stations and depots:** Acquisition and ownership of infrastructure completed or renovated 2001 or later that have or will receive (i) a design stage certification, (ii) a post construction certification or (iii) an in-use certification of at least BREEAM-SE "Very good" or BREEAM In-Use "Very Good".	
• **Freight terminals:** Terminals with electrified cranes and service vehicles for loading/unloading of goods completed or renovated in 2010 or later.	
Energy efficiency improvements • Minimize long-term negative climate impact, potential rebound effects and negative climate impact from the technology used.	
Renewable energy • This category will mainly support the installment of solar energy but may also include other Taxonomy-eligible investments such as the instalment of geothermal heating and cooling systems.	
• Minimize long-term negative climate impact, potential rebound effects and negative climate impact from the technology used.	

Table 1. Eligible project categories

EU Taxonomy

The EU Taxonomy Regulation[5] is a classification system setting criteria for economic activities to be defined as environmentally sustainable. The regulation defines six environmental objectives. To be considered sustainable, an activity must substantially contribute to at least one of the six environmental objectives[6] without harming the other objectives ("Do No Significant Harm"), while complying with minimum social safeguards[7]. So far, the EU has adopted delegated acts under the regulation that set out the technical screening criteria for the climate mitigation and adaptation objectives, respectively. The DNSH-criteria are developed to make sure that progress against some objectives is not made at the expense of others and recognizes the relationships between different environmental objectives. Relevant EU taxonomy activities for Jernhusen are:

- Construction of new buildings
- Renovation of existing buildings
- Installation, maintenance, and repair of energy efficiency equipment
- Installation, maintenance, and repair if charging stations for electric vehicles (and parking spaces attached to buildings)
- Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings
- Installation, maintenance, and repair of renewable energy technologies
- Acquisition and ownership of buildings
- Infrastructure for personal mobility, cycle logistics
- Infrastructure for rail transport

Detailed comments on alignment as well as thresholds and NACE codes are given in Appendix 2.
CICERO Green has assessed eligible projects for Jernhusen's framework against the mitigation thresholds, the DNSH criteria for relevant activities in the delegated act adopted in June 2021 (Annex 1) and the minimum social safeguards. Jernhusen has set as a minimum for all projects to be Taxonomy aligned, therefore Jernhusen appear to be likely aligned to the mitigation criteria as well as the DNSH-criteria.

Alignment with minimum social safeguards

To qualify as a sustainable activity under the EU regulation certain minimum social safeguards must be complied with. CICERO Green has assessed the company's social safeguards with a focus on human and labor rights. We take the sectoral, regional and judicial context into account and, on the basis of information provided by the company, focus on the risks likely to be the most material social risks. CICERO Green concludes that Jernhusen appears to mainly fulfill the minimum social safeguards. The most relevant risks are according to Jernhusen sourcing of materials as well as health and safety for their own employees as well as for those employed by their subcontractors and by their renting partners.

Social issues appear to be high on the Board's agenda and Jernhusen has put in place a code of conduct about human rights for their own employees as well as for suppliers. To limit social risks, Jernhusen collaborates with entrepreneurs that has social policies and processes in place. This becomes particularly important now when Jernhusen enters into a period of increased construction of new buildings. In contracts with suppliers and

[5] Regulation EU 2020/852 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R0852&from=EN
[6] The six environmental objectives as defined in the proposed Regulation are: (1) climate change mitigation; (2) climate change adaptation; (3) sustainable use and protection of water and marine resources; (4) transition to a circular economy, waste prevention and recycling; (5) pollution prevention and control; (6) protection of healthy ecosystems.
[7] Alignment with the OECD Guidelines for Multinational Enterprises and UN Guiding Principles on Business and Human Rights, including the International Labour Organisation's ('ILO') declaration on Fundamental Rights and Principles at Work, the eight ILO core conventions and the International Bill of Human Rights.

subcontractors, the code of conduct is referred to and expected to be adhered to. The company also do ad-hoc inspections to ensure that policies and processes are followed.

Jernhusen made their most recent risk assessment in 2018 and we would recommend that the company does it more frequently. The company however states that on a high level, the characteristics of their operations have not changed much over recent years. We also suggest that the company in the future provides more detailed reporting on risks identified and relevant mitigating measures.

In public spaces, such as train station buildings, surveillance equipment is often put up for security reasons. The use of such equipment is however strictly regulated by Swedish law.

3 Terms and methodology

This note provides CICERO Shades of Green's (CICERO Green) second opinion of the client's framework dated October 2022. 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.

'Shades of Green' methodology

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:

Shading	Examples
Dark Green is allocated to projects and solutions that correspond to the long-term vision of a low-carbon and climate resilient future.	Solar power plants
Medium Green is allocated to projects and solutions that represent significant steps towards the long-term vision but are not quite there yet.	Energy efficient buildings
Light Green is allocated to transition activities that do not lock in emissions. These projects reduce emissions or have other environmental benefits in the near term rather than representing low carbon and climate resilient long-term solutions.	Hybrid road vehicles

The "Shades of Green" methodology considers the strengths, weaknesses and pitfalls of the project categories and their criteria. 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, including potential macro-level impacts of investment projects.

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 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.

Assessment of alignment with Green Bond and Loan Principles

CICERO Green assesses alignment with the International Capital Markets' Association's (ICMA) Green Bond Principles. We review whether the framework is in line with the four core components of the GBP (use of proceeds, selection, management of proceeds and reporting). We assess whether project categories have clear environmental benefits with defined eligibility criteria. The Green Bonds Principles (GBP) state that the "overall environmental profile" of a project should be assessed. 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 selection process. CICERO Green assesses whether net proceeds or an equivalent amount are tracked by the issuer in an appropriate manner and provides transparency on the intended types of temporary placement for unallocated proceeds. Transparency, reporting, and verification of impacts are key to enable investors to follow the implementation of green finance programs.

EU taxonomy assessment

CICERO Green has assessed the activities against the EU Taxonomy's technical screening criteria, including the do-no-significant-harm (DNSH) criteria. In addition, we have assessed alignment with the minimum social safeguards, as described in article 18 of the EU taxonomy. To assess activities' taxonomy alignment, CICERO Green has reviewed the issuer's green finance framework, other supporting documents provided by the issuer, and written responses to questions on each asset's taxonomy alignment.

Appendix 1:
Referenced Documents List

Document Number	Document Name	Description
1	Jernhusen EU Green Financing Framework October 2022	
2	Färdplan klimatneutralitet Jernhusen 2022	Strategy to become net-zero
3	Jernhusen arsredovisning 2021	Annual report 2021
4	Jernhusens Uppforandekod for Leverantorer	Code of conduct for suppliers

Appendix 2: EU Taxonomy criteria and alignment

Complete details of the EU taxonomy criteria are given in taxonomy-regulation-delegated-act-2021-2800-annex-1_en.pdf (europa.eu)

Construction of new buildings (7.1)

Taxonomy activity	Construction of new buildings (NACE Code F41.1, F41.2)		
	EU Technical mitigation criteria	**Comments on alignment**	**Alignment**

	EU Taxonomy DNSH-criteria	Comments on alignment	Alignment
Climate change adaptation	The physical climate risks that are material to the activity have been identified (chronic and acute, related to temperature, wind, water, and soil) by performing a robust climate risk and vulnerability assessment with the following steps[8]: **(a)** screening of the activity to identify which physical climate risks from the list in Section II of this Appendix may affect the performance of the economic activity during its expected lifetime; **(b)** where the activity is assessed to be exposed to physical climate risks, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity; **(c)** an assessment of adaptation solutions that can reduce the identified physical climate risk. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports, scientific peer-reviewed publications, and open source or paying models. For existing activities and new activities using existing physical assets, the economic operator implements physical and non-physical solutions	**Information provided by the issuer** • Physical climate risk assessments are performed for all taxonomy eligible economic activities, i.e. all construction projects. The assessment is done through an analysis using data from different institutes, authorities and municipalities. The level of risk is an qualitative estimation of the probability of it to occur and the expected physical damage. • Risks are screened using the RCP2.6 and RCP8.5 scenarios. Risks are evaluated using the best available data and quantified from 0-5 (no risk to high risk) • Climate change risks is to be considered in the whole design stage, including early pilot studies. It directs choices of construction, materials, and other designs. • All activities, including construction projects, will within the action plan conduct	**Likely aligned.**

[8] The Taxonomy is referring to Appendix A in the Taxonomy Annex 1.

	('adaptation solutions'), over a period of time of up to five years, that reduce the most important identified physical climate risks that are material to that activity. An adaptation plan for the implementation of those solutions is drawn up accordingly. For new activities and existing activities using newly-built physical assets, the economic operator integrates the adaptation solutions that reduce the most important identified physical climate risks that are material to that activity at the time of design and construction and has implemented them before the start of operations. The adaptation solutions implemented do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities; are consistent with local, sectoral, regional or national adaptation strategies and plans; and consider the use of nature-based solutions or rely on blue or green infrastructure to the extent possible.	a workshop focusing on climate risks. For large activities, and activities with a high risk level, an on-site inventory will take place to extend the risk analysis and consider adaptation measures. • Where applicable, maintenance plans and strategies will be implemented to secure the resilience of the specific climate risks. Emergency plans will be developed, and necessary emergency equipment will be in place on site. • As physical climate risks assessments are new to Jernhusen, the process is continuously revised to increase the quality of the analysis	
Sustainable use and protection of water and marine resources	• Where installed, except for installations in residential building units, the specified water use for the following water appliances are attested by product datasheets, a building certification or an existing product label[9] in the Union, in accordance with the technical specifications: (a) wash hand basin taps and kitchen taps have a maximum water flow of 6 litres/min; (b) showers have a maximum water flow of 8 litres/min; (c) WCs, including suites, bowls and flushing cisterns, have a full flush volume of a maximum of 6 litres and a maximum average flush volume of 3,5 litres; (d) urinals use a maximum of 2 litres/bowl/hour. Flushing urinals have a maximum full flush volume of 1 litre. To avoid impact from the construction site, the activity complies with the criteria in the EU Water Framework Directive[10]. Where an Environmental Impact Assessment is carried out in accordance with Directive 2011/92/EU[11] and includes an assessment of the impact on water in accordance with the Water Framework Directive, no additional assessment of impact on water is required, provided the risks identified have been addressed.	**Contextual information** • General planning is the responsibility of the municipality and EIAs will be carried out on municipality level where required by national law. This includes a plan for impacts on water sources and will secure compliance with the EU Water Framework Directive. **Information provided by the issuer** • Alignment with the taxonomy is always a condition in construction projects. • Dimensions of water appliances are monitored and as a part of the BREEAM-SE certification process. • An EIA is performed according to Swedish legislation.	**Likely aligned**

[9] The Taxonomy is referring to Appendix E in the Taxonomy Annex 1.
[10] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy
[11] DIRECTIVE 2011/92/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the assessment of the effects of certain public and private projects on the environment.

Transition to a circular economy (circular economy)	• At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material[12]) generated on the construction site is prepared for re-use, recycling and other material recovery, including backfilling operations using waste to substitute other materials. • Operators limit waste generation in processes related to construction and demolition in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste. • Building designs and construction techniques support circularity and in particular demonstrate how they are designed to be more resource efficient (with reference to ISO 208872[13]), adaptable, flexible and dismantlable to enable reuse and recycling.	**Contextual information** • The EU waste framework directive, which sets the 70% target is implemented in the Swedish Building code and Waste ordinance. Both revised in 2020, when a requirement to sort six important buildings materials was introduced. **Information provided by the issuer** • Alignment with the taxonomy is always a condition in construction projects. • Jernhusen engage in different communities, e.g LFM30, Cirkulart handslag Goteborg and CCbuild, that aims to increase the use of circular material. • Thresholds for reuse, recycling, limitation of waste generation and circularity will be demanded through the BREEAM-SE certification, where there are indicators highlighting this specifically. There might also be project specific targets for % reused/recycled, surplus materials and waste exceeding that. .	**Likely aligned**
Pollution prevention and control	• Building components and materials used in the construction comply with the criteria set out in Appendix C to the Taxonomy Annex 1.	**Information provided by the issuer** • Alignment with the taxonomy is always a condition in construction projects. • All criteria in this category will be covered in the BREEAM-SE certification process. The criteria regarding contaminated sites	**Likely aligned**

[12] Refer to the European List of Waste established by Commission Decision 2000/532/EC

[13] ISO 20887:2020, Sustainability in buildings and civil engineering works - Design for disassembly and adaptability - Principles, requirements and guidance (version of [adoption date]: https://www.iso.org/standard/69370.html).

	• For building components and materials used in the construction that may come into contact with occupiers, formaldehyde emissions are within relevant limits[14]. • Where the new construction is located on a potentially contaminated site (brownfield site), the site has been subject to an investigation for potential contaminants[15]. • Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.	and noise, as well as parts of Appendix C, are also covered by Swedish legislation. • Materials used in Jernhusens projects are to be judged and registered in Byggvarubedomningen to ensure that they are sound to human and environment. •	
Protection and restoration of biodiversity and ecosystems	• An Environmental Impact Assessment (EIA) or screening should be completed in accordance with national provisions[16]. • Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented. • For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented. • The new construction should not be built on one of the following: a) arable land and crop land; b) greenfield land of recognised high biodiversity value and land that serves as habitat of endangered species (flora and fauna) listed on the European Red List or the IUCN Red List. c) land matching the definition of forest as set out in national law used in the national greenhouse gas inventory, or where not available, is in accordance with the FAO definition of forest[17].	**Relevant contextual information** • General planning is the responsibility of the municipality and EIAs will be carried out on municipality level. Land that is covered by area protection according to the Planning and Building Act is Natura 2000, nature reserves and animal and plant protection areas, and construction is not permitted. This is stated in the general and detailed plan for each municipality. **Information provided by the issuer** • Alignment with the taxonomy is always a condition in construction projects. • An EIA is performed according to Swedish legislation. • The BREEAM-SE certification process will cover all topics, where for example an ecology evaluation and report are performed.	**Likely aligned**

[14] Emit less than 0,06 mg of formaldehyde per m³ of material or component and less than 0,001 mg of categories 1A and 1B carcinogenic volatile organic compounds per m³ of material or component, upon testing in accordance with CEN/TS 16516522 and ISO 16000-3 523 or other comparable standardised test conditions and determination method.

[15] Standard ISO 18400 can be used.

[16] The Taxonomy is referring to Appendix D in the Taxonomy Annex 1.

[17] Land spanning more than 0,5 hectares with trees higher than five meters and a canopy cover of more than 10 %, or trees able to reach those thresholds in situ. It does not include land that is predominantly under agricultural or urban land use, FAO Global Resources Assessment 2020. Terms and definitions.(version of [adoption date]: http://www.fao.org/3/I8661EN/i8661en.pdf).

Renovation of existing buildings (7.2)

Taxonomy activity	Renovation of existing buildings (NACE code F41 and F43)		
	EU Technical mitigation criteria	**Comments on alignment**	**Alignment**
Technical screening criteria	• Substantial contribution to climate change mitigation **Renovation of existing buildings, eligible if:** • The reduction of primary energy demand (PED) must be at least 30 %.	**<u>Information provided by the issuer</u>** • Alignment with the taxonomy is always a condition in renovation projects.	**Likely aligned**
	EU Taxonomy DNSH-criteria	**Comments on alignment**	**Alignment**
Climate change adaptation	• Please refer to Construction of buildings.	Please Refer to construction of new buildings	**Likely aligned**
Sustainable use and protection of water and marine resources	• Where installed, except for installations in residential building units, the specified water use for the following water appliances are attested by product datasheets, a building certification or an existing product label[18] in the Union, in accordance with the technical specifications: (a) wash hand basin taps and kitchen taps have a maximum water flow of 6 litres/min; (b) showers have a maximum water flow of 8 litres/min; (c) WCs, including suites, bowls and flushing cisterns, have a full flush volume of a maximum of 6 litres and a maximum average flush volume of 3,5 litres; (d) urinals use a maximum of 2 litres/bowl/hour. Flushing urinals have a maximum full flush volume of 1 litre.	• Jernhusen works proactively to identify soil contamination and the main focus is on properties where there is a risk of leakage to water sources or other sensitive environments. • Water appliances: see Construction of buildings	**Likely aligned**
Transition to a circular economy	Please refer to Construction of buildings.	Please refer to Construction of buildings.	**Likely aligned**
Pollution prevention and control	• Building components and materials used in the construction comply with the criteria set out in Appendix C to the Taxonomy Annex 1. • For building components and materials used in renovation that may come into contact with occupiers, formaldehyde emissions are within relevant limits[19]. • Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.	Please refer to Construction of buildings.	**Likely aligned**

[18] The Taxonomy is referring to Appendix E in the Taxonomy Annex 1.

[19] Emit less than 0,06 mg of formaldehyde per m³ of material or component and less than 0,001 mg of categories 1A and 1B carcinogenic volatile organic compounds per m³ of material or component, upon testing in accordance with CEN/TS 16516522 and ISO 16000-3 523 or other comparable standardised test conditions and determination method.

Installation, maintenance and repair of energy efficiency equipment (7.3)

Taxonomy activity	**Installation, maintenance and repair of energy efficiency equipment (NACE codes F42, F43, M71, C16, C17, C22, C23, C25, C27, C28, S95.21, S95.22, C33.12)**		
	EU Technical mitigation criteria	**Comments on alignment**	**Alignment**
Technical screening criteria	• Substantial contribution to climate change mitigation The activity consists in one of the following individual measures provided that they comply with minimum requirements set for individual components and systems in the applicable national measures implementing Directive 2010/31/EU and, where applicable, are rated in the highest two populated classes of energy efficiency in accordance with Regulation (EU) 2017/1369 and delegated acts adopted under that Regulation: (a) addition of insulation to existing envelope components, such as external walls (including green walls), roofs (including green roofs), lofts, basements and ground floors (including measures to ensure air-tightness, measures to reduce the effects of thermal bridges and scaffolding) and products for the application of the insulation to the building envelope (including mechanical fixings and adhesive); (b) replacement of existing windows with new energy efficient windows; (c) replacement of existing external doors with new energy efficient doors; (d) installation and replacement of energy efficient light sources; (e) installation, replacement, maintenance and repair of heating, ventilation and air-conditioning (HVAC) and water heating systems, including equipment related to district heating services, with highly efficient technologies; (f) installation of low water and energy using kitchen and sanitary water fittings which comply with technical specifications set out in Appendix E to this Annex and, in case of shower solutions, mixer showers, shower outlets and taps, have a max water flow of 6 L/min or less attested by an existing label in the Union market.	**Information provided by the issuer:** This category will mainly support continuous energy improvements throughout Jernhusen's building portfolio, which will include all of the activities included in the Taxonomy. The issuer targets to minimize long term negative climate impact, potential rebound effects and negative climate impact from the technology used.	**Likely aligned**
	EU Taxonomy DNSH-criteria	**Comments on alignment**	**Alignment**
Climate change adaptation	• Please refer to Construction of buildings.	Please refer to the construction of new buildings	**Likely aligned**
Pollution prevention and control	• Building components and materials comply with the criteria set out in Appendix C to this Annex. • In case of addition of thermal insulation to an existing building envelope, a building survey is carried out in accordance with national law by a competent specialist with training in asbestos surveying. Any stripping of lagging that contains or is likely to contain asbestos, breaking or mechanical drilling or screwing or removal of insulation board, tiles and other asbestos containing materials is carried out by appropriately trained	Please refer to the construction of new buildings	**Likely aligned**

	personnel, with health monitoring before, during and after the works, in accordance with national law.		

Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings) (7.4)

Taxonomy activity	Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings) (NACE codes F42, F43, M71, C16, C17, C22, C23, C25, C27 or C28)		
	EU Technical mitigation criteria	**Comments on alignment**	**Alignment**
Technical screening criteria	• Substantial contribution to climate change mitigation Installation, maintenance or repair of charging stations for electric vehicles.	This category will mainly support the installation of charging stations for electric vehicles.	**Likely aligned.**
	EU Taxonomy DNSH-criteria	**Comments on alignment**	**Alignment**
Climate change adaptation	• Please refer to Construction of buildings.	Please refer to the construction of new buildings	**Likely aligned**

Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings (7.5)

Taxonomy activity	Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings) (NACE codes F42, F43, M71, and C16, C17, C22, C23, C25, C27, C28)		
	EU Technical mitigation criteria	**Comments on alignment**	**Alignment**
Technical screening criteria	• Substantial contribution to climate change mitigation The activity consists in one of the following individual measures: (a) installation, maintenance and repair of zoned thermostats, smart thermostat systems and sensing equipment, including. motion and day light control; (b) installation, maintenance and repair of building automation and control systems, building energy management systems (BMS), lighting control systems and energy management systems (EMS); (c) installation, maintenance and repair of smart meters for gas, heat, cool and electricity; (d) installation, maintenance and repair of façade and roofing elements with a solar shading or solar control function, including those that support the growing of vegetation.	**Information provided by the issuer:** This category will mainly support building automation and control systems throughout Jernhusen's property portfolio.	**Likely aligned**
	EU Taxonomy DNSH-criteria	**Comments on alignment**	**Alignment**
Climate change adaptation	• Please refer to the construction of new buildings.	Please refer to the construction of new buildings.	**Likely aligned**

Installation, maintenance and repair of renewable energy technologies (7.6)

Taxonomy activity	Installation, maintenance and repair of renewable energy technologies (NACE codes F42, F43, M71, C16, C17, C22, C23, C25, C27 or C28)		
	EU Technical mitigation criteria	**Comments on alignment**	**Alignment**
Technical screening criteria	• Substantial contribution to climate change mitigation • Installation, maintenance and repair of renewable energy technologies, on-site. The activity consists in one of the following individual measures, if installed on-site as technical building systems: (a) installation, maintenance and repair of solar photovoltaic systems and the ancillary technical equipment; (b) installation, maintenance and repair of solar hot water panels and the ancillary technical equipment; (c) installation, maintenance, repair and upgrade of heat pumps contributing to the targets for renewable energy in heat and cool in accordance with Directive (EU) 2018/2001 and the ancillary technical equipment; (d) installation, maintenance and repair of wind turbines and the ancillary technical equipment; installation, maintenance and repair of solar transpired collectors and the ancillary technical equipment; (f) installation, maintenance and repair of thermal or electric energy storage units and the ancillary technical equipment; (g) installation, maintenance and repair of high efficiency micro CHP (combined heat and power) plant; (h) installation, maintenance and repair of heat exchanger/recovery systems.	**Information provided by the issuer:** This category will mainly support the installment of solar energy, but may also include other Taxonomy eligible investments such as the installment of geothermal heating and cooling systems. The issuer is looking to minimize long term negative climate impact, potential rebound effects and negative climate impact from the technology used.	**Likely aligned.**
	EU Taxonomy DNSH-criteria	**Comments on alignment**	**Alignment**
Climate change adaptation	• Please refer to Construction of buildings.		**Likely aligned**

Acquisition and ownership of buildings (7.7)

Taxonomy activity	Acquisition and ownership of buildings (NACE Code L68)		
	EU Technical mitigation criteria	**Comments on alignment**	**Alignment**
Technical screening criteria	• Substantial contribution to climate change mitigation **Acquisition and ownership of buildings, eligible if:** • For buildings built before 31 December 2020, the building has at least Energy Performance Certificate (EPC) class A. As an alternative, the building is within the top 15% of the national or regional building stock expressed as operational Primary Energy Demand (PED) and demonstrated by adequate evidence, which at least compares the performance of the relevant asset to the performance of the national or regional stock built before 31	**Relevant contextual information** Right now the norm in Sweden is to consider a report from Fastighetsägarna to provide adequate evidence for the energy efficiency of the top 15% of the national building stock. There are some uncertainties to this data as it has not been approved by the Swedish authorities, and therefore the definition for the top 15% might change.	**Likely aligned**

	December 2020 and at least distinguishes between residential and non-residential buildings. • For buildings built after 31 December 2020, the building meets the criteria set out for the activity 'construction of new buildings'. • Where the building is a large non-residential building it is efficiently operated through energy performance monitoring and assessment. For buildings built after 31 December 2020, buildings are eligible if: • The Primary Energy Demand is at least 10 % lower than the threshold set for the nearly zero-energy building (NZEB) requirements in national regulation. The energy performance is certified using an Energy Performance Certificate (EPC).	**Information provided by the issuer** The framework specifies that all buildings that are acquired or owns needs to be at least 20% lower energy use than NZEB in accordance with the applicable national building code at the time of publication of the framework, which is now BBR29. All buildings that have an energy performance 20% lower than BBR29 are most likely in the top 15% of the national buildings stock in Sweden.	
	EU Taxonomy DNSH-criteria	**Comments on alignment**	**Alignment**
Climate change adaptation	Please refer to Construction of buildings.	Please refer to Construction of buildings.	**Likely aligned**

Infrastructure for personal mobility, cycle logistics (6.13)

Taxonomy activity	**Infrastructure for personal mobility**		
	EU Technical mitigation criteria	**Comments on alignment**	**Alignment**
Technical screening criteria	The infrastructure that is constructed and operated is dedicated to personal mobility or cycle logistics: pavements, bike lanes and pedestrian zones, electrical charging and hydrogen refueling installations for personal mobility devices.	This category will mainly support facilities for personal mobility such as bicycle garages but may also include other Taxonomy eligible investments under this category.	**Likely aligned**
	EU Taxonomy DNSH-criteria	**Comments on alignment**	**Alignment**
Climate change adaptation	The physical climate risks that are material to the activity have been identified (chronic and acute, related to temperature, wind, water, and soil) by performing a robust climate risk and vulnerability assessment with the following steps[20]: **(d)** screening of the activity to identify which physical climate risks from the list in Section II of this Appendix may affect the performance of the economic activity during its expected lifetime; **(e)** where the activity is assessed to be exposed to physical climate risks, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;	**Information provided by issuer:** • See Construction of new buildings	**Likely aligned**

[20] The Taxonomy is referring to Appendix A in the Taxonomy Annex 1.

	(f) an assessment of adaptation solutions that can reduce the identified physical climate risk. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports, scientific peer-reviewed publications, and open source or paying models. For existing activities and new activities using existing physical assets, the economic operator implements physical and non-physical solutions ('adaptation solutions'), over a period of time of up to five years, that reduce the most important identified physical climate risks that are material to that activity. An adaptation plan for the implementation of those solutions is drawn up accordingly. For new activities and existing activities using newly-built physical assets, the economic operator integrates the adaptation solutions that reduce the most important identified physical climate risks that are material to that activity at the time of design and construction and has implemented them before the start of operations.		
Sustainable use and protection of water and marine resources	Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed with the aim of achieving good water status and good ecological potential as defined in Article 2, points (22) and (23), of Regulation (EU) 2020/852, in accordance with Directive 2000/60/EC of the European Parliament and of the Council[21] and a water use and protection management plan, developed thereunder for the potentially affected water body or bodies, in consultation with relevant stakeholders. Where an Environmental Impact Assessment is carried out in accordance with Directive 2011/92/EU of the European Parliament and of the Council[22]and includes an assessment of the impact on water in accordance with Directive 2000/60/EC, no additional assessment of impact on water is required, provided the risks identified have been addressed.	• An EIA is performed according to Swedish legislation.	**Likely aligned**

[21] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1). For activities in third countries, in accordance with applicable national law or international standards which pursue equivalent objectives of good water status and good ecological potential, through equivalent procedural and substantive rules, i.e. a water use and protection management plan developed in consultation with relevant stakeholders which ensures that 1) the impact of the activities on the identified status or ecological potential of potentially affected water body or bodies is assessed and 2) deterioration or prevention of good status/ecological potential is avoided or, where this is not possible, 3) justified by the lack of better environmental alternatives which are not disproportionately costly/technically unfeasible, and all practicable steps are taken to mitigate the adverse impact on the status of the body of water.

[22] Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (OJ L 26, 28.1.2012, p. 1)

Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material referred to in EN 157 EN category 17 05 04 in the European List of Waste established by Commission Decision 2000/532/EC271) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol . Operators limit waste generation in processes related to construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol, taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.	Please refer to the construction of new buildings	**Likely aligned**
Pollution prevention and control	Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.	• Swedish legislation covers these criteria.	**Likely aligned**
Protection and restoration of biodiversity and ecosystems	An Environmental Impact Assessment (EIA) or screening[23] has been completed in accordance with Directive 2011/92/EU[24]. Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented. For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment[25], where applicable, has been conducted and based on its conclusions the necessary mitigation measures[26]are implemented	• An EIA is performed according to Swedish legislation. • Jernhusen has properties primarily located in cities, hence not in or near biodiversity-sensitive areas. For new projects a biodiversity analysis screening is part of the BREEAM-SE assessment scheme which is mandatory for all Jernhusen development projects.	**Likely aligned**

Infrastructure for rail transport (6.14)

Taxonomy activity	**Infrastructure for rail transport**		
	EU Technical mitigation criteria	**Comments on alignment**	**Alignment**
Technical screening criteria	The activity complies with one of the following criteria:	• Jernhusen have activities that comply with both a), b) and c). Maintenance depots comply with a) (i), as defined in	**Likely aligned**

[23] The procedure through which the competent authority determines whether projects listed in Annex II to Directive 2011/92/EU is to be made subject to an environmental impact assessment (as referred to in Article 4(2) of that Directive).
[24] For activities in third countries, in accordance with equivalent applicable national law or international standards requiring the completion of an EIA or screening, for example, IFC Performance Standard 1: Assessment and Management of Environmental and Social Risks.
[25] In accordance with Directives 2009/147/EC and 92/43/EEC. For activities located in third countries, in accordance with equivalent applicable national law or international standards, that aim at the conservation of natural habitats, wild fauna and wild flora, and that require to carry out (1) a screening procedure to determine whether, for a given activity, an appropriate assessment of the possible impacts on protected habitats and species is needed; (2) such an appropriate assessment where the screening determines that it is needed, for example IFC Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources.
[26] Those measures have been identified to ensure that the project, plan or activity will not have any significant effects on the conservation objectives of the protected area.

	(a) the infrastructure (as defined in Annex II.2 to Directive (EU) 2016/797 of the European Parliament and of the Council274) is either: (i) electrified trackside infrastructure and associated subsystems: infrastructure, energy, on-board control-command and signalling, and trackside control command and signalling subsystems as defined in Annex II.2 to Directive (EU)2016/797; (ii) (ii) new and existing trackside infrastructure and associated subsystems where there is a plan for electrification as regards line tracks, and, to the extent necessary for electric train operations, as regards sidings, or where the infrastructure will be fit for use by zero tailpipe CO2 emission trains within 10 years from the beginning of the activity: infrastructure, energy, on-board control-command and signalling, and trackside control-command and signalling subsystems as defined in Annex II.2 to Directive (EU)2016/797; (iii) (iii) until 2030, existing trackside infrastructure and associated subsystems that are not part of the TEN-T network275 and its indicative extensions to third countries, nor any nationally, supranationally or internationally defined network of major rail lines: infrastructure, energy, on-board control-command and signalling, and trackside control-command and signalling subsystems as defined in Annex II.2 to Directive (EU) 2016/797; (b) the infrastructure and installations are dedicated to transhipping freight between the modes: terminal infrastructure and superstructures for loading, unloading and transhipment of goods; (c) infrastructure and installations are dedicated to the transfer of passengers from rail to rail or from other modes to rail. 2. The infrastructure is not dedicated to the transport or storage of fossil fuels.	Annex II.2 to Directive (EU) 2016/797 (2.8 Maintenance). Intermodal freight terminals comply with (b). Stations comply with (c).	
	EU Taxonomy DNSH-criteria	**Comments on alignment**	**Alignment**
Climate change adaptation	The physical climate risks that are material to the activity have been identified (chronic and acute, related to temperature, wind, water, and soil) by performing a robust climate risk and vulnerability assessment with the following steps[27]: **(g)** screening of the activity to identify which physical climate risks from the list in Section II of this Appendix may affect the performance of the economic activity during its expected lifetime; **(h)** where the activity is assessed to be exposed to physical climate risks, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;	• See Construction of new buildings	**Likely aligned**

[27] The Taxonomy is referring to Appendix A in the Taxonomy Annex 1.

	(i) an assessment of adaptation solutions that can reduce the identified physical climate risk. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports, scientific peer-reviewed publications, and open source or paying models. For existing activities and new activities using existing physical assets, the economic operator implements physical and non-physical solutions ('adaptation solutions'), over a period of time of up to five years, that reduce the most important identified physical climate risks that are material to that activity. An adaptation plan for the implementation of those solutions is drawn up accordingly. For new activities and existing activities using newly-built physical assets, the economic operator integrates the adaptation solutions that reduce the most important identified physical climate risks that are material to that activity at the time of design and construction and has implemented them before the start of operations.		
Sustainable use and protection of water and marine resources	Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed with the aim of achieving good water status and good ecological potential as defined in Article 2, points (22) and (23), of Regulation (EU) 2020/852, in accordance with Directive 2000/60/EC of the European Parliament and of the Council and a water use and protection management plan, developed thereunder for the potentially affected water body or bodies, in consultation with relevant stakeholders. Where an Environmental Impact Assessment is carried out in accordance with Directive 2011/92/EU of the European Parliament and of the Council and includes an assessment of the impact on water in accordance with Directive 2000/60/EC, no additional assessment of impact on water is required, provided the risks identified have been addressed.	• See Construction of new buildings	**Likely aligned**
Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material referred to in EN 157 EN category 17 05 04 in the European List of Waste established by Commission Decision 2000/532/EC271) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol272 .	• See Construction of new buildings	**Likely aligned**

	Operators limit waste generation in processes related to construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol, taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and highquality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.		
Pollution prevention and control	Where appropriate, given the sensitivity of the area affected, in particular in terms of the size of population affected, noise and vibrations from use of infrastructure are mitigated by introducing open trenches, wall barriers, or other measures and comply with Directive 2002/49/EC of the European Parliament and of the Council. Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.	• Jernhusen live up to Swedish legislation and Naturvårdsverkets directives.	**Likely aligned**
Protection and restoration of biodiversity and ecosystems	An Environmental Impact Assessment (EIA) or screening has been completed in accordance with Directive 2011/92/EU334. Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented. For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented	• See Construction of new buildings	**Likely aligned**

Appendix 4:
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, the International Institute for Sustainable Development (IISD) and the School for Environment and Sustainability (SEAS) at the University of Michigan.

- **2021 Largest External Reviewer,** Climate Bonds Initiative Awards
- **2020 External Assessment Provider Of The Year,** Environmental Finance Green Bond Awards
- **2020 Largest External Review Provider In Number Of Deals,** Climate Bonds Initiative Awards
- **2019 External Assessment Provider Of The Year,** Environmental Finance Green Bond Awards
- **2019 Largest Green Bond SPO Provider,** Climate Bonds Initiative Awards
- **2018 External Assessment Provider Of The Year,** Environmental Finance Green Bond Awards
- **2018 Largest External Reviewer,** Climate Bonds Initiative Awards
- **2017 Best External Assessment Provider,** Environmental Finance Green Bond Awards
- **2016 Most Second Opinions,** Climate Bonds Initiative Awards