



Assessment of the Sustainability Quality of the Ecological ESG Pfandbrief by Münchener Hypothekenbank

17 October 18

Aim and Scope of this Second Party Opinion

Münchener Hypothekenbank (MünchenerHyp) commissioned ISS-oekom to assist with the verification of its Ecological ESG Pfandbrief by assessing the sustainable added value of its assets. The assessment of the assets was conducted using the criteria and indicators of the Green Bond KPIs developed by ISS-oekom. The aim of the Green Bond is to (re-) finance projects under two categories: private mortgages and green buildings (commercial property).

ISS-oekom's mandate included the following services:

- Definition of Green Bond KPIs ("ISS-oekom Green Bond KPIs") containing a clear description of
 eligible asset categories and the social and environmental criteria assigned to each category for
 evaluating the sustainability-related performance of the assets (re-) financed through the proceeds
 of the bond.
- Analysis of the alignment of the Ecological ESG Pfandbrief to be issued against ICMA's Green Bond Principles.
- Evaluation of compliance of the Ecological ESG Pfandbrief with the ISS-oekom Green Bond KPIs.
- Review and classification of MünchenerHyp's sustainability performance on the basis of the ISSoekom Corporate Rating



Overall Evaluation of the Ecological ESG Pfandbrief

ISS-oekom's overall evaluation of the Ecological ESG Pfandbrief of MünchenerHyp is positive:

- MünchenerHyp has defined a formal concept for its Ecological ESG Pfandbrief regarding use of proceeds, processes for project evaluation and selection, management of proceeds and reporting. This concept is in line with the Green Bond Principles (Part I of this Second Party Opinion).
- The overall sustainability quality in terms of sustainability benefits and risk avoidance and minimisation is good. (Part II of this Second Party Opinion).
- The issuer itself shows a good sustainability performance (Part III of this Second Party Opinion).

Certain minor aspects could still add to the overall quality of the asset pool: more specific selection or performance criteria would be recommended for the sustainable procurement of building materials in Green commercial buildings.



Part I – Green Bond Principles

1) Use of Proceeds

The proceeds of the Ecological ESG Pfandbrief to be issued by MünchenerHyp will be exclusively used to (re-)finance projects under two categories: private mortgages and green buildings (commercial property).

The Use of Proceeds contribute to the environmental objective of climate change mitigation and to the UN Sustainable Development Goals 7: Affordable and Clean Energy, and 13: Climate Action.

All the buildings are located in Germany, United Kingdom, Austria or the Netherlands.

Eligibility criteria:

For buildings to qualify as Green Buildings – as defined by MünchenerHyp – they have to meet the following requirements:

For private mortgage loans

Residential buildings with a maximum annual energy performance of 70kWh/m2

Residential buildings that obtained an energy performance certificate of "B" or higher (on a scale of H to A+)

For commercial buildings

DGNB (min. Gold or Platinum)
BREEAM (min. Very Good or Platinum)
LEED (min. Gold or Platinum)
HQE (min. Excellent or Exceptional)
or
top 15% of national building stock by energy performance

2) Process for Project Evaluation and Selection

The internal Project Evaluation and Selection Process will be led by the Green Bond Working Group (GBWG), a subgroup of the MünchenerHyp's sustainability committee. The GBWG will verify the eligibility and data quality of existing loans in regard to potential issuance of a green benchmark. The GBWG consists of members from the following MünchenerHyp departments:

- Treasury
- Sustainability
- Controlling / Risk Management

The GBWG will be chaired by MünchenerHyp's Head of Treasury or a treasury colleague.

On a quarterly basis, the data quality of sustainable **retail and commercial loans** will be checked by the loan department to verify the clearly defined product category and the aforementioned sustainability performance criteria. Data will be verified using:



- Information from a building's energy certificate (Energieausweis) with a maximum primary energy consumption of 70kWh/m² per year; or
- Confirmation that the building meets the conditions from the respectively applicable KfW programme;
- The year of construction for new buildings (according to national regulation (German EnEV), minimum energy performance criteria have to be met for new buildings)

Commercial loans will only qualify as certified environmental loans if there is applicable evidence in form of an energy efficiency certificate or documentation of Green Building certification which meets the minimum requirements stated above.

By the end of every quarter the process will show the balance between eligible loans for the Ecological ESG Pfandbrief and MünchenerHyp's green lending book. The sustainability manager will receive the data from the loan department and will inform the sustainability committee accordingly.

Additionally, the controlling department will conduct a quality check of the loan data on an annual basis in order to verify that the green loans (retail and commercial) are compliant with the MünchenerHyp Green Bond Framework. Based on the above evaluation the GBWG will review on at least an annual basis the allocation of the proceeds to the Eligible Use of Proceeds and approve these loans as Eligible Loans. The GBWG is also responsible for future changes to the framework or criteria. These will only be applicable for future issuance and the new version will be published via the issuer's website.

3) Management of Proceeds

The Green Loans and Certified Environmental Commercial Loans to which the proceeds of any MünchenerHyp Ecological ESG Pfandbrief will be allocated will fall into a cover pool of MünchenerHyp's loans for residential and commercial real estate. The Pfandbrief Act does not permit a separation of green loans outside the legal cover pool.

The GBWG will decide on the allocation of eligible assets to the proceeds of the bond.

As described in the introduction, the MünchenerHyp business model supports a permanent cycle of green loan granting and the issuance of Ecological ESG Pfandbrief. In the event of prepayment of loans and amortisation, sold or becoming ineligible, MünchenerHyp commits to replace these assets with other eligible loans. In the unlikely event of a shortfall in the green loan cover pool section, appropriate investments of the unallocated proceeds in sustainable assets will be made until the volume of green loans will be sufficient again.

The Management of Proceeds is governed by the Treasury department as part of the daily steering of liquidity ratios and the management of all relevant regulations. Pending allocation, the proceeds of each MünchenerHyp Ecological ESG Pfandbrief will be subject to MünchenerHyp 's normal liquidity policy ("Treasury Handbuch").

4) Reporting

In its annual sustainability report, MünchenerHyp will inform in detail about the company's corporate responsibility strategy and present how sustainability aspects are anchored in the bank's core business of financing private and commercial property. This issuer is committed to a high degree of transparency.

With the publication of the sustainability report including the GRI disclosures, MünchenerHyp will inform in detail about activities and results in four corporate responsibility areas (responsibility towards employees, responsibility for society, responsibility for the environment and responsibility in business activities). Key performance indicators make non-financial performance transparent. The requirements



of the Global Reporting Initiative (GRI) were taken into account when selecting the focus areas and key figures.

In the future the reports will provide further information with regards to Ecological ESG Pfandbriefe:

Allocation Reporting

On an annual basis, MünchenerHyp will provide information on the allocation of the net proceeds of its Ecological ESG Pfandbrief(e) on its website. Such information will be provided until all the net proceeds have been allocated. The information will contain at least the following details:

- I. Details (e.g number and volume) of green loans financed through MünchenerHyp's Ecological ESG Pfandbrief(e) separated into retail and commercial lending in the cover pool; and
- II. The remaining balance of unallocated proceeds.

Impact Reporting

MünchenerHyp will provide impact reporting on a portfolio basis using the metrics recommended under the Harmonized Framework for Impact Reporting¹, namely:

Certified Green Buildings

- CO₂ emissions avoided

- Average energy consumption (where available)

¹ https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/20151202-0530-FINALRevised-Proposal2.pdf



Part II – Sustainability Quality of the Green Bond Asset Pool

1) ISS-oekom Green Bond KPIs

The ISS-oekom Green Bond KPIs serve as a structure for evaluating the sustainability quality – i.e. the social and environmental added value – of MünchenerHyp's Ecological ESG Pfandbrief. It comprises firstly the definition of the use of proceeds category offering added social and/or environmental value and secondly the specific sustainability criteria by means of which this added value and therefore the sustainability performance of the Green Bond asset pool can be clearly identified and described.

The sustainability criteria are complemented by specific indicators, which enable quantitative measurement of the sustainability performance of the Green Bonds and which can also be used for reporting. Details on the individual criteria and indicators for the categories can be found in Annex 1 "ISS-oekom Green Bond KPIs".

2) Evaluation of the Assets within the Green Bond Asset Pool

Method

ISS-oekom has evaluated whether the assets included in the Green Bond asset pool match the eligible project category and criteria listed in the Green Bond KPIs. The evaluation was carried out using information and documents provided to ISS-oekom on a confidential basis by MünchenerHyp (e.g. internal guidelines). Further, national legislation and standards, depending on the asset location, were drawn on to complement the information provided by MünchenerHyp.



Findings

A. Private Mortgages (Green Buildings)

Sustainability Benefits and Risks of the Asset Category

Residential mortgages for energy efficient buildings are beneficial from an environmental point of view as they contribute to climate protection through optimised energy use. Due to the small scale of work and resources involved in building residential housing as well as due to the fact that the buildings are in Germany, environmental and social impacts from the construction of residential housing are comparably low.

However, fair banking practices need to be in place in the retail client business in order to mitigate potential social risks, e.g. over-indebtedness or foreclosure.

All projects selected for the Ecological ESG Pfandbrief are located in highly regulated countries.

Energy Efficiency prerequisites

✓ All the projects underwent an appropriate and detailed selection process that ensures good standards regarding energy efficiency (as highlighted in part 1 of the Second Party Opinion)

• 1. Construction standards

- √ 100% of the projects are located in countries where high labour and health and safety standards are in place for construction and maintenance work conducted by own employees and contractors (e.g. ILO core conventions).
- 2. Responsible treatment of customers with debt repayment problems
 - ✓ For 100% of projects, pre-emptive actions to prevent client debt repayment problems are in place (e.g. covenants limiting indebtedness, conservative loan-to-value ratios, long-term fixed interest rates).
 - ✓ For 100% of projects, sustainable solutions for customers with debt repayment problems are in place (e.g. debt counselling, foreclosure as a last resort).
 - ✓ For 100% of projects, the creditor excludes the selling of contractually serviced loans (e.g. required customer consent in case of sale).

Controversy assessment

Due to a low controversy risk, ISS-oekom does not carry out a controversy assessment for private mortgage loans



B. Green Buildings (Commercial Property) ²

Sustainability Benefits and Risks of the Asset Category

Green buildings are beneficial from an environmental point of view as they contribute to climate protection through optimised energy efficiency and air quality. Green buildings help to conserve natural resources and reduce environmental impact through reduction of wastewater and waste. From a social point of view, green buildings can improve occupant health and comfort.

At the same time, there are possible sustainability risks that need to be taken into account. Possible social risks stem from working conditions at construction sites, the integration of new buildings into the social context and the safety of building users. Environmental risks stem from impacts on biodiversity at the planning stage, as well as from poor resource efficiency during construction phase and at the use stage.

The projects selected for the Ecological ESG Pfandbrief are located in highly-regulated and developed countries.

Energy Efficiency prerequisites

- ✓ All the projects underwent an appropriate and detailed selection process that ensures good standards regarding energy efficiency (as highlighted in part 1 of the Second Party Opinion)
- A1. Environmental standards for site selection
 - ✓ All the projects are located in brownfield areas.
 - √ 100% of the asset are located within a maximum of 1 km from one or more modalities of public transport.
- A2. Construction standards
 - ✓ All the projects are located in countries where high labour and health and safety standards are in place for construction and maintenance work (e.g. ILO core conventions).
 - No information is available on the sustainable procurement regarding building materials (e.g. recycled materials, third-party certification of wood-based materials).
- A3. Water use minimisation in buildings
 - ✓ 9 buildings out of 14, accounting for 68% of the asset pool, provide for measures to reduce water consumption (e.g. high-efficiency fixtures and fittings, rainwater harvesting). For the remaining 5 buildings, accounting for 32% of the asset pool, insufficient measures are available.
- A4. Safety of building users

² The main portfolio consists of 14 assets meeting the eligibility criteria, described in Part 1 of this Second Party Opinion. Should any of the assets drop out from the initial financing, a collateral pool of 7 assets would be used for replacement. From these 7 buildings, 3 meet the eligibility criteria, while 4 fall just short with labels of DNGB "Silver", LEED "Silver", and BREEAM "Good".



- ✓ All the projects provide for adequate measures to ensure operational safety (e.g. requirements for fire protection) based on national legislation.
- A5. Sustainability labels / certificates
 - √ 12 buildings out of 14, accounting for 93% of the asset pool, obtained a (or an equivalent of) BREEAM "Very Good", DGNB "Gold", LEED "Gold", HQE "excellent" certificate or better certification.

Controversies

A controversy assessment on the underlying projects did not reveal any controversial activities or practices that could be attributed to Münchener Hyp.



Part III - Assessment of MünchenerHyp's Sustainability Performance

In the ISS-oekom Corporate Rating with a rating scale from A+ (excellent) to D- (poor), MünchenerHyp was awarded a score of B- and rated "Prime", meaning that it fulfils ISS-oekom's demanding requirements regarding sustainability performance in its sector.



As at 17 October 2018, this rating puts MünchenerHyp in place 3 out of 50 companies rated by ISS-oekom in the Financials/Mortgage & Public Sector Finance sector.

In this sector, ISS-oekom has identified the following issues as the key challenges facing companies in terms of sustainability management:

- Sustainability impacts of lending and other financial services/products
- Statutory ESG-standards linked to the geographical allocation of the lending portfolio
- Consumer and product responsibility
- Employee relations and work environment

In all four key issues, MünchenerHyp achieved a rating that was above the average for the sector. A significant outperformance was achieved in "Sustainability impacts of lending and other financial services/products".

In recent years, the company was not involved in any controversies in the areas of controversial business practices or controversial areas of business, and thus does not breach any of the exclusion criteria, which are frequently applied by investors. Overall, the company has a "minor" controversy level with a controversy score of 0. The industry's average is also "minor".

Details on the rating of the issuer can be found in Annex 2 "ISS-oekom Corporate Rating of MünchenerHyp".

Robert Haßler,

ISS-oekom

Munich, 17 October 2018



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- 1. ISS-oekom AG uses a scientifically based rating concept to analyse and evaluate the environmental and social performance of companies and countries. In doing so, we adhere to the highest quality standards which are customary in responsibility research worldwide. In addition we create a Second Party Opinion (SPO) on bonds based on data from the issuer
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About ISS-oekom

ISS-oekom is one of the world's leading rating agencies in the field of sustainable investment. The agency analyses companies and countries with regard to their environmental and social performance. ISS-oekom has extensive experience as a partner to institutional investors and financial service providers, identifying issuers of securities and bonds which are distinguished by their responsible management of social and environmental issues. More than 100 asset managers and asset owners routinely draw on the rating agency's research in their investment decision making. ISS-oekom's analyses therefore currently influence the management of assets valued at over 600 billion euros.

As part of our Green Bond Services, we provide support for companies and institutions issuing sustainable bonds, advise them on the selection of categories of projects to be financed and help them to define ambitious criteria. We verify the compliance with the criteria in the selection of projects and draw up an independent second party opinion so that investors are as well informed as possible about the quality of the loan from a sustainability point of view.

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Annex

- Annex 1: ISS-oekom Green Bond KPIs
- Annex 2: ISS-oekom Corporate Rating of MünchenerHyp

Annex 1: ISS-oekom Green Bond KPIs

ISS-oekom Green Bond KPIs

The ISS-oekom Green Bond KPIs serve as a structure for evaluating the sustainability quality – i.e. the social and environmental added value – of MünchenerHyp's Ecological ESG Pfandbrief. It comprises firstly the definition of the use of proceeds category offering added social and/or environmental value and secondly the specific sustainability criteria by means of which this added value and therefore the sustainability performance of the Green Bond asset pool can be clearly identified and described.

The sustainability criteria are complemented by specific indicators, which enable quantitative measurement of the sustainability performance of the Green Bonds and which can also be used for reporting.

Sustainability Criteria and Quantitative Indicators for Use of Proceeds

In order to ensure that the environmental and social risks linked to the underlying assets are prevented and the opportunities clearly fostered, a set of sustainability criteria has been established for the project categories.

A. Private Mortgages (Green Buildings)

Prerequisite for Green Buildings: All projects underwent an appropriate and detailed selection process that ensures good standards regarding energy efficiency.

1. Construction standards

 Percentage of assets that provide for high labour and health and safety standards (e.g. ILO core conventions).

2. Responsible treatment of customers with debt repayment problems

- Percentage of assets that provide for pre-emptive actions to prevent client debt repayment problems (e.g. covenants limiting indebtedness, conservative loan-to-value ratios, long-term fixed interest rates).
- Percentage of assets that provide for sustainable solutions for customers with debt repayment problems (e.g. debt counselling, foreclosure as a last resort).
- Percentage of assets for which the creditor excludes the selling of contractually serviced loans or has implemented measures to ensure clients do not face unfavourable conditions as a result of the

sale (e.g. required customer consent in case of sale, written confirmation of non- detrimental conditions).

Controversy Assessment

 Due to a low controversy risk, ISS-oekom does not carry out a controversy assessment for private mortgage loans.

B. Green Buildings

Prerequisite for Green Buildings: All projects underwent an appropriate and detailed selection process that ensures good standards regarding energy efficiency.

1. Site selection

- Percentage of assets for which a policy on responsible site selection is in place (e.g. brownfield development, exclusion of protected areas and sites of high environmental value).
- Percentage of assets located within a maximum of 1 km from one or more modalities of public transport.

2. Construction standards

- Percentage of assets that provide for high labour and health and safety standards (e.g. ILO core conventions).
- Percentage of assets that provide for sustainable procurement regarding building materials (e.g. recycled materials, third-party certification of wood based materials).

3. Water use minimisation in buildings

• Percentage of assets that provide for measures to reduce water consumption (e.g. water metering, high-efficiency fixtures and fittings, rainwater harvesting).

4. Safety of building users

• Percentage of assets that provide for measures to ensure operational safety (e.g. emergency exits, fire sprinklers, fire alarm systems).

5. Sustainability labels / Certificates

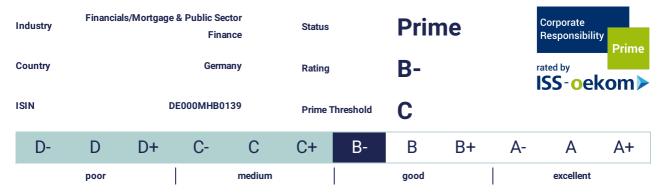
 Percentage of assets that obtained a (or an equivalent of a) BREEAM "Very Good", DGNB "Silver / Gold"1, LEED "Gold", HQE "excellent" certificate or better certification.

Controversy Assessment

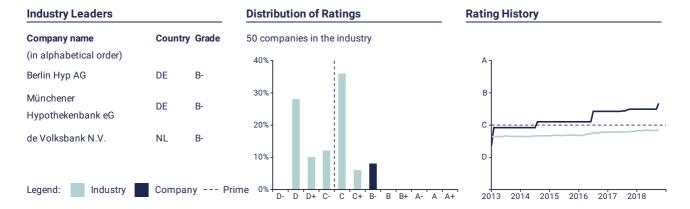


ISS-oekom Corporate Rating

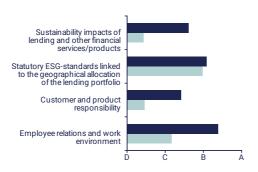
Münchener Hypothekenbank eG



The assessment of a company's sustainability performance is based on approximately 100 criteria, selected specifically for each industry. A company's failure to disclose, or lack of transparency, regarding these matters will impact a company's rating negatively.



Key Issue Performance



Strengths and Weaknesses

- + green loans for private customers
- + reasonable measures regarding responsible treatment of customers with debt repayment problems
- reasonable programmes regarding financial services to projects with high social benefit
- + reasonable measures taken to guarantee responsible sales practices
- + almost entire loan portfolio in countries with fairly good environmental and social minimum standards
- executive board compensation not adequately disclosed

Controversy Monitor

Company					Industry			
Controversy Score			0	Maximum Controversy Score			-2	
Controversy Level			Minor Controversy Risk			Minor		
Minor	Moderate	Significant	Severe		Minor	Moderate	Significant	Severe
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Please note that all data in this report relates to the point in time at which the report was generated.

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Münchener Hypothekenbank eG

Methodology - Overview

ISS-oekom Corporate Rating - The ISS-oekom Universe comprises more than 3,900 companies (mostly companies in important national and international indices, but also small and mid caps drawn from sectors with direct links to sustainability as well as significant non-listed bond issuers).

The assessment of a company's social & governance and environmental performance is based on approximately 100 environmental, social and governance criteria, selected specifically for each industry. All criteria are individually weighted and evaluated and the results are aggregated to yield an overall score (rating), in which the key issues account for at least 50 per cent of the total weight. In case there is no relevant or up-to-date company information available on a certain criterion and no assumptions can be made based on predefined standards and expertise, e.g. known and already classified country standards, the criterion is graded with a D-.

In order to obtain a comprehensive and balanced picture of each company, our analysts assess relevant information reported or directly provided by the company itself as well as information from independent sources. In addition, our analysts actively seek a dialogue with the assessed companies during the rating process and companies are regularly given the opportunity to comment on the results and provide additional information.

An external rating committee assists the analysts at ISS-oekom with the content-related design of industry-specific criteria and carries out a final plausibility check of the rating results at the end of the rating process.

Controversy Monitor - The Controversy Monitor is a tool for assessing and managing reputational and financial risks associated with companies' negative environmental and social impacts.

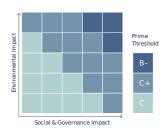
The controversy score is a unit of measurement for the number and severity of a company's current controversies. All controversial business areas and business practices receive a negative score, which can vary depending on the significance, number and severity of the controversies. Both the company's score and the maximum score obtained in the industry are displayed.

For better classification, the scores are assigned different levels: minor, moderate, significant and severe. The industry level relates to the average controversy score.

Only controversies for which reliable information from trustworthy sources is available are recorded. In addition to proven misconduct and activities of companies, alleged misconduct and activities are also assessed when the facts and circumstantial evidence provided by those sources, taking into account the experience of specialised analysts for each topic, is estimated to be sufficiently reliable. It should be noted that large international companies are more often the focus of public and media attention. Thus, the information available on those companies is often more comprehensive than for less prominent companies.

Distribution of Ratings - Overview of the distribution of the ratings of all companies from the respective industry that are included in the ISS-oekom Universe (company portrayed in this report: dark blue).

Industry Classification - The social and environmental impacts of industries differ. Therefore, based on its relevance, each industry analysed is classified in a Sustainability Matrix. Depending on this classification, the dimensions of the ISS-oekom Corporate Rating, the Social & Governance Rating and the Environmental Rating, are weighted and the sector-specific minimum requirements for the ISS-oekom Prime Status (Prime threshold) are defined (absolute best-in-class approach).



Industry Leaders - List (in alphabetical order) of the top three companies in an industry from the ISS-oekom Universe at the time of generation of this report.

Key Issue Performance - Overview of the company's performance with regard to the key social and environmental issues in the industry, compared to the industry average.

Rating History - Development of the company's rating over time and comparison to the average rating in the industry.

Rating Scale - Companies are rated on a twelve-point scale from A+ to D-:

A+: the company shows excellent performance.

D: the company shows poor performance (or fails to demonstrate any commitment to appropriately address the topic).

Overview of the range of scores achieved in the industry (light blue) and indication of the grade of the company evaluated in this report (dark blue).

Status & Prime Threshold - Companies are categorised as Prime if they achieve/exceed the minimum sustainability performance requirements (Prime threshold) defined by ISS-oekom for a specific industry (absolute best-in-class approach) in the ISS-oekom Corporate Rating. Prime companies rank among the sustainability leaders in that industry.

Strengths & Weaknesses - Overview of selected strengths and weaknesses of a company with regard to the key issues of the industry from a sustainability point of view.