

SECOND PARTY OPINION (SPO)

Sustainability Quality of the Issuer and the Green German Federal Securities (Grüne Bundeswertpapiere)

Federal Republic of Germany
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Overall Evaluation of the Green German Federal Security

The Federal Republic of Germany (Germany) commissioned ISS ESG to assist with its “Grüne Bundeswertpapiere” (hereinafter referred to as “Green German Federal Security”) by assessing three core elements to determine the sustainability quality of the Bond:

1. Germany’s Green Bond framework – benchmarked against the International Capital Market Association’s (ICMA) Green Bond Principles (GBPs).
2. The asset pool – whether the expenditures contribute positively to the UN SDGs and perform against ISS ESG’s issue-specific key performance indicators (KPIs) (See Annex 2).
3. Germany’s sustainability performance, according to the ISS ESG Country Rating.

ISS ESG ASSESSMENT SUMMARY

SPO SECTION	SUMMARY	EVALUATION ¹
Part 1: Performance against GBPs	The issuer has defined a formal concept for its Green German Federal Security regarding use of proceeds, processes for project evaluation and selection, management of proceeds and reporting. This concept is in line with the ICMA GBPs.	Positive
Part 2: Sustainability quality of the asset pool	<p>The overall sustainability quality of the asset pool in terms of sustainability benefits, risk avoidance and minimisation is good based upon the ISS ESG assessment. The Green German Federal Security will refinance eligible asset categories that tie to Germany’s climate strategy, i.e. the Climate Protection Act (Bundes-Klimaschutzgesetz²) and the Climate Action Programme 2030³. The budgetary resources to achieve these goals include: Transport; Research, Innovation and Awareness raising; Energy and Industry; Agriculture, Forestry, Natural Landscapes and Biodiversity; and International Cooperation.</p> <p>Those use of proceed categories have a significant positive contribution to the SDGs 7 ‘Affordable and clean energy’, 13 ‘Climate action’, 14 ‘Life below water’ and 15 ‘Life on land’. The environmental and social risks associated with those projects have been well managed.</p>	Positive
Part 3: Issuer sustainability performance	<p>Germany shows a good sustainability performance and has been rated ‘B’, which classifies it as ‘Prime’ by the methodology of the ISS ESG Country Rating.</p> <p>It is rated 12th out of 124 countries in the ISS ESG Country Rating Universe as of 21.08.2020. This equates to a high relative performance, with a Decile Rank⁴ of 1.</p>	<p>Status: Prime</p> <p>Rating: B</p> <p>Decile Rank: 1</p>

¹ The ISS ESG’s present evaluation will remain valid until any modification of the Green Bond Framework or addition of new assets into the asset pool by the issuer and as long as the Country Rating does not change (last modification on the 24.07.2020).

² Climate Protection Law: <https://www.bmu.de/gesetz/bundes-klimaschutzgesetz/>

³ Climate Action Programme 2030: <https://www.bundesregierung.de/breg-en/issues/climate-action/klimaschutzprogramm-2030-1674080>

⁴ Rank relative to peers. 1 indicates a high relative ESG performance, while 10 indicates a low relative ESG performance.

ISS ESG SPO ASSESSMENT

PART I: GREEN BOND PRINCIPLES

1. Use of Proceeds

Germany has committed itself to being almost climate-neutral by 2050. In November 2016, the German Federal Government adopted the Climate Action Plan 2050⁵, making the country one of the first to submit a long-term greenhouse gas emission strategy to the UN, as required under the Paris Agreement. Germany's Climate Action Plan 2050 outlines the basic principles for implementing the country's climate change mitigation strategy to reach an 80 to 95 percent reduction in greenhouse gas emissions by 2050, compared to 1990 levels. Furthermore, it provides guidance to all key sectors and areas of action to achieve these targets, including energy, buildings, transport, industry, and agriculture. Key elements of this climate change mitigation plan include intermediary targets documented in the Climate Protection Act (Bundes-Klimaschutzgesetz⁶) and Climate Action Programme 2030⁷. Against that backdrop, the German Federal Government has decided to issue the first German Sovereign Green Bond in 2020 "Green German Federal Security".

Green Eligible Expenditures are the German Federal expenditures that can qualify as 'green' under this Green Bond Framework (GBF). They can potentially include any type of Federal expenditure, as long as they qualify as green. Green Eligible Expenditures at present include those related to real assets such as infrastructure, buildings, as well as landscapes and forests. They can also be related to intangible assets, such as talent and organizations, research and innovation and scientific knowledge.

The Green Eligible Expenditures will fall within the definition of any one of the Green Sectors below, linking the expenditures to the goals and targets of Germany's Climate Protection Act, the Climate Action Programme 2030 and Germany's general sustainability strategy⁸.

⁵ Climate Action Plan 2050: <https://www.bmu.de/en/topics/climate-energy/climate/national-climate-policy/greenhouse-gas-neutral-germany-2050/>

⁶ Climate Protection Law: <https://www.bmu.de/gesetz/bundes-klimaschutzgesetz/>

⁷ Climate Action Programme 2030: <https://www.bundesregierung.de/breg-en/issues/climate-action/klimaschutzprogramm-2030-1674080>

⁸ Germany's National Sustainable Development Strategy: <https://www.bundesregierung.de/breg-en/issues/sustainability/germany-national-sustainable-development-strategy-354566>

GREEN SECTOR	KEY EXAMPLES	INDICATIVE IMPACT INDICATORS
<p>Transport</p> <p><i>Objective: Improve and promote clean and more environmentally friendly transportation systems.</i></p>	<ul style="list-style-type: none"> ▪ Grants for the maintenance or developments of Federal rail infrastructures for freight and passenger transportation; ▪ Grants favouring the modal shift to climate-friendly modes of transport (e.g., reduction of rail route pricing, support programs for inland waterways); ▪ Support for the development of electric mobility, including the installation of infrastructure for electric vehicle charging and hydrogen refueling; ▪ Investment in bicycle roads/paths/networks and for the promotion of bicycle traffic; ▪ Grants for the financing and purchase of “zero-emissions vehicles”; ▪ Support for recycling of materials esp. batteries. 	<ul style="list-style-type: none"> ▪ Avoided greenhouse gas emissions (when possible); ▪ Length of electrified railroad-km; ▪ Length of newly built railway-km; ▪ Length of newly built bicycle lanes; ▪ Final reports about and descriptions of projects.
<p>International cooperation</p> <p><i>Objective: Assist emerging market and developing countries in their transition towards a more environmentally friendly economy and support international cooperation in that field (i.e., mitigation of and adaptation to climate change, transition towards more renewable energies, protection of habitats and biodiversity, sustainable use of natural resources</i></p>	<ul style="list-style-type: none"> ▪ Expenditure for development projects, especially in the framework of bilateral technical and financial cooperation, when such projects are earmarked for environmentally or climate-related topics; ▪ Expenditure for climate and environmentally-related topics, provided through contributions to international funds, such as the Green Climate Fund, Global Environment Facility, Adaptation Fund, multilateral institutions and international organisations; ▪ Bi- and multilateral partnerships to support the energy transition and enhance renewable energy usage/projects including cross-border co-operation projects with other EU Member States. 	<ul style="list-style-type: none"> ▪ Avoided greenhouse gas emissions (when possible); ▪ Adaptation and capacity building indicators; ▪ Specific reports about the environmental efficiency of the German international cooperation and the mobilization of private capital; ▪ Listing of main initiatives and projects and presentation of key examples, and/ or a description of mandates of financed multilateral institutions as well as international organisations and funds.

<p><i>and energy, including developing renewable energy generation facilities and sustainable agriculture).</i></p>		
<p>Research, innovation and awareness raising</p> <p><i>Objective: Support and facilitate knowledge and innovation about climate and environmental matters.</i></p>	<ul style="list-style-type: none"> ▪ All expenditures enabling research for all renewable energies and energy storage (e.g. “green” hydrogen), energy efficiency, power grid and renewable energy integration, energy transition; ▪ All expenditures enabling research related to climate change, biodiversity, nature protection and the environment; ▪ All expenditures enabling research on coasts, oceans and polar areas; ▪ Grants to local initiative on environmental protection; ▪ Grants assisting the development of protected areas; ▪ Grants to associations active in environmental protection. 	<ul style="list-style-type: none"> ▪ Standard research indicators, such as total funding or number of funded projects; ▪ Number of researchers; ▪ Listing of main initiatives or presentation of key examples.
<p>Energy and industry</p> <p><i>Objective: Accelerating the transition towards an economy that largely runs on renewable energies and towards a more environmentally efficient use of energy and other resources.</i></p>	<ul style="list-style-type: none"> ▪ Applied research and innovation in renewable energies and energy efficiency; ▪ Measures to increase sustainable heating and cooling, heat usage, heat insulation and waste heat usage (industry and private sector); ▪ Measures to enhance the energy transition, e.g., renewable energy generation and integration in power grids, smart grids, citizen dialogue, development of power grids; ▪ Increase energy efficiency in buildings except the expenses associated to KfW Green Bonds; ▪ Expenses to increase the usage of hydrogen in industrial productions incl. sustainable hydrogen production and storage; ▪ Expenses to develop more energy efficient industry processes and production, incl. green IT. 	<ul style="list-style-type: none"> ▪ Avoided greenhouse gas emissions (when possible); ▪ Specific reports about the climate and environmental efficiency of the subsidies.

<p>Agriculture, forestry, natural landscapes and biodiversity</p> <p><i>Objective: Promotion of climate-resilient forests and natural landscapes, and development of organic and environmentally-friendly farming practices.</i></p>	<p>Most of these expenditure items are in the Joint Task for the Improvement of Agricultural Structures and Coastal Protection (Gemeinschaftsaufgabe Agrarstruktur & Küstenschutz⁹, “GAK”) and in biodiversity promotion programs (e.g., Bundesprogramm Biologische Vielfalt or chance.natur¹⁰)</p> <ul style="list-style-type: none"> ▪ Grants to promote low-carbon farming and encourage climate-friendly and organic practices; ▪ Grants to promote farming practices increasing land carbon storage capabilities; ▪ Funds (to both private and public bodies) to adapt forests to the consequences of climate change and to avoid greenhouse gas emissions, as well as to safeguard and increase the carbon storage of forests and wood products; ▪ Grants for the management of extreme weather events and flood in natural landscapes and coastal areas; ▪ Grants for research on climate change adaptation in farming areas and forests; ▪ Funds to promote the implementation of the German National Strategy for Biological Diversity. 	<ul style="list-style-type: none"> ▪ Specific reports about the climate and environmental efficiency of the GAK.
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In principle, Green Eligible Expenditures will, however, exclude any expenditure already known to be used by other public German issuers in their own Green Bonds. This aspect has been discussed with other public German issuers. For instance, the subsidies for energy-efficient buildings, which are currently used in KfW Green Bonds, will not be taken into account.

Furthermore, any expenditure that is mainly related to the following activities or sectors will be excluded from Green Eligible Expenditures under this GBF: armaments, defence, tobacco, alcohol, gambling, and any activity that is (i) principally based on, or related to, fossil fuels (including coal) or nuclear energy (e.g., production, transport, storage and power generation) or (ii) violates the EU Charter of Fundamental Rights¹¹ (e.g., activities that involve children’s labour or modern slavery).

⁹ Gemeinschaftsaufgabe Agrarstruktur & Küstenschutz: <https://www.bmel.de/DE/themen/laendliche-regionen/foerderung-des-laendlichen-raumes/gemeinschaftsaufgabe-agrarstruktur-kuestenschutz/gak.html>

¹⁰ chance.natur – Bundesförderung Naturschutz: <https://www.bmu.de/themen/natur-biologische-vielfalt-arten/naturschutz-biologische-vielfalt/foerderprogramme/chancenatur/>

¹¹ EU Charter of Fundamental Rights: https://ec.europa.eu/info/aid-development-cooperation-fundamental-rights/your-rights-eu/eu-charter-fundamental-rights_en

Opinion: ISS ESG considers the Use of Proceeds description provided by Germany's Green Bond Framework as aligned with the Green Bond Principles. The eligible expenditures are credible and well aligned with the broader transition strategy of Germany and the expected environmental benefits from each Use of Proceeds category are clearly stated. Due to the special financial constitution, a very few indirect allocations of the actual expenditure exist, where details are not immediately available (e.g. the Federal grant may be used by a Bundesland which in turn may grant it to a specific local authority), which is why the exclusion criteria should be understood as an intend that was applied to the best knowledge.

2. Process for Project Evaluation and Selection

An Inter-Ministerial Working Group ("IMWG") has been established to oversee and validate key decisions about the Green German Federal securities¹², including validation of this Green Bond Framework ("GBF"), the selection of Eligible Green Expenditures (as defined below), and consequent allocation and impact reporting established from it.

Under the responsibility of the Federal Ministry of Finance, this IMWG pools all the expertise needed for a thorough and robust selection and evaluation of Eligible Green Expenditures. The IMWG includes:

- the Federal Ministry of the Interior, Building and Community,
- the Federal Ministry for Economic Affairs and Energy,
- the Federal Ministry of Food and Agriculture,
- the Federal Ministry of Transport and Digital Infrastructure,
- the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety,
- the Federal Ministry of Education and Research and
- the Federal Ministry for Economic Cooperation and Development.

A Core Green Bond Team ("CGBT") has also been created to manage all operational tasks related to Green German Federal securities and the elements described in this GBF. Under the responsibility of the Federal Ministry of Finance, this CGBT also includes the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety as well as the Federal Republic of Germany – Finance Agency ("German Finance Agency").

The CGBT works with relevant ministries for the selection of green expenditures under this GBF ("Eligible Green Expenditures") and for preparation of the reporting. The CGBT also may draw on KfW's expertise where relevant.

The selection of Eligible Green Expenditures presented in the GBF has been performed by the CGBT and validated by the IMWG. For each Eligible Green Expenditure, the CGBT has worked with the relevant ministry to assess the eligibility of the selected expenditures in light of the GBF, the existing public taxonomies, and based on existing public documentation on every Federal expenditure. The Eligible Green Expenditures will be reviewed annually by the CGBT, or more often if necessary, for example when the nature of the underlying expenditures has changed significantly.

¹² Refers to Germany's Green Bond Framework and all securities issued based on this framework.

The amount equal to the proceeds from the issuance of Green German Federal securities issued in any given year will be fully allocated to Eligible Green Expenditures from the previous year. The final composition and exact amount for the Eligible Green Expenditures (“Final Eligible Green Expenditures”) will be prepared by the CGBT and validated by the IMWG in the course of the following year, based on actual expenditures (IST-Ausgaben). For any given year, any Green German Federal securities issued (or tapped) in that year will receive a proportional allocation of all the previous year’s Final Eligible Green Expenditures.

In any given year, the German Finance Agency will be able to issue Green German Federal securities, in the name of and for the account of the Federal Republic of Germany, after a sufficient amount of previous year Eligible Green Expenditures is known.

Opinion: *ISS ESG considers the Process for Project Evaluation and Selection description provided by Germany’s Green Bond Framework as aligned with the Green Bond Principles. Moreover, for each Eligible Green Expenditure, several ministries assess the eligibility of selected expenditures in light of relevant guidelines and standards and the responsibilities are clearly defined. A validation through an Inter-Ministerial Working Group ensures the eligibility of the selected expenditures.*

3. Management of Proceeds

The proceeds from the issuance of Green German Federal securities will be part of the overall funding of the Federal Republic of Germany. Consequently, the German Finance Agency will manage proceeds of the issued Green German Federal securities in line with the treasury policy of the German Federal Government. The allocation of an amount equal to the proceeds of the issued Green German Federal securities to Eligible Green Expenditures will thereafter be tracked by the CGBT.

Issues of individual Green German Federal securities can be increased (tapped). The increase of a bond is immediately fungible with the previously outstanding bond. However, in terms of management of proceeds and reporting a tap is treated like a new issuance. As a result, the issuer might report different use of proceeds and impact between the initial offering and the respective increase if the initial offering of Green German Federal securities and any respective increase fall into different calendar years.

Opinion: *ISS ESG finds that the Management of Proceeds proposed by Germany is well aligned with the Green Bond Principles, as it ensures tracking of the proceeds and an allocation of an amount equal to the proceeds to Eligible Green Expenditures.*

4. Reporting

The Federal Republic of Germany commits to providing investors with transparent reporting on the allocation of proceeds to Eligible Green Expenditures, as well as on the environmental impact of those expenditures.

Every calendar year, starting in 2021, an allocation report will be published providing details on the composition and exact amounts of the Final Eligible Green Expenditures for the preceding year, as described in the Figure 1 below.

This full allocation reporting will be performed once, unless there is material change, and will be valid for all Green German Federal securities (including taps) issued in the preceding year.

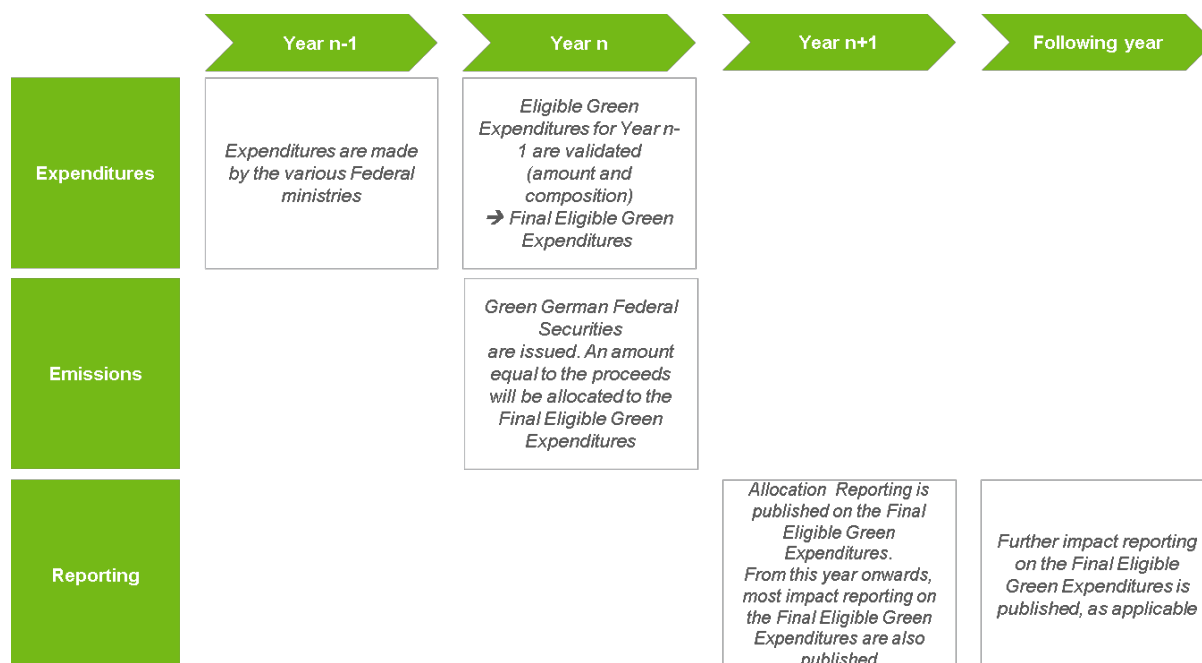


Figure 1: Timeline of for the disbursement, validation, allocation and reporting of Final Eligible Green Expenditures according to the Federal Republic of Germany.

An impact report will be published for each green sector. This impact report will usually be published between one and three years following the respective issuance, and in any case at least once in each bond’s lifetime as recommended in the current draft of the EU Green Bond Standard, and which is more practical for some sovereign related expenditures (e.g., research, international cooperation). For each green sector, one impact report may be valid for several years. In such cases, this will be indicated in the respective report. Any impact report may however be updated over time, when required.

This impact reporting may include, depending on the type of expenditures and on the sector, and as relevant and available:

- quantified metrics of environmental impacts (e.g., greenhouse gas emissions avoided for rail infrastructure; length of newly built noise barriers) or key performance indicators (e.g., new area in sq.km of organic farming supported by government subsidies, or amount of total funding and number of funded projects for research);

- analytical reports about the environmental efficiency and performance of the selected expenditure (e.g., for research and development in renewable energy production, for awareness-raising programs: the actual impact and environmental performance of the federal expenditure will be described and reported in sector-specific reports and analyses rather than with standardised metrics);
- listing of the individual or exemplary projects (e.g., presentations of all supports provided to international initiatives for environmental protection) or;
- a detailed description of representative or exemplary projects or institutional contributions.

The information and data used for the impact reporting will be provided by the relevant ministries. When available, the methodologies used to calculate or evaluate impact indicators will be published alongside the impact data.

The Federal Ministry of Finance will be responsible for the publication of the allocation and impact reporting. The CGBT will be responsible for the coordination of the data collection and the drafting the allocation and impact reports. These reports will be validated by the IMWG.

Allocation and impact reporting will be published and available online at [BMF / Finanzagentur website].

Opinion: *ISS ESG finds that the reporting proposed by Germany is well in line with the Green Bond Principles and industry best practices. The level of expected frequency, scope and duration of allocation reporting is clearly defined, and impact indicators to be included are already stated. According to the best market practices, the allocation and impact reporting will be publicly available.*

External review

As recommended by ICMA's Green Bond Principles, Germany has appointed an external review provider to confirm the alignment of their Green German Federal Security with the Principles.

a. Second Party Opinion on the Green Bond Framework

The Federal Republic of Germany has engaged ISS ESG to provide an independent Second Party Opinion on this GBF prior to the first issuance of a Green German Federal security under the framework. Second Party Opinion documents are available online at [BMF / Finanzagentur website].

b. External verification of allocations

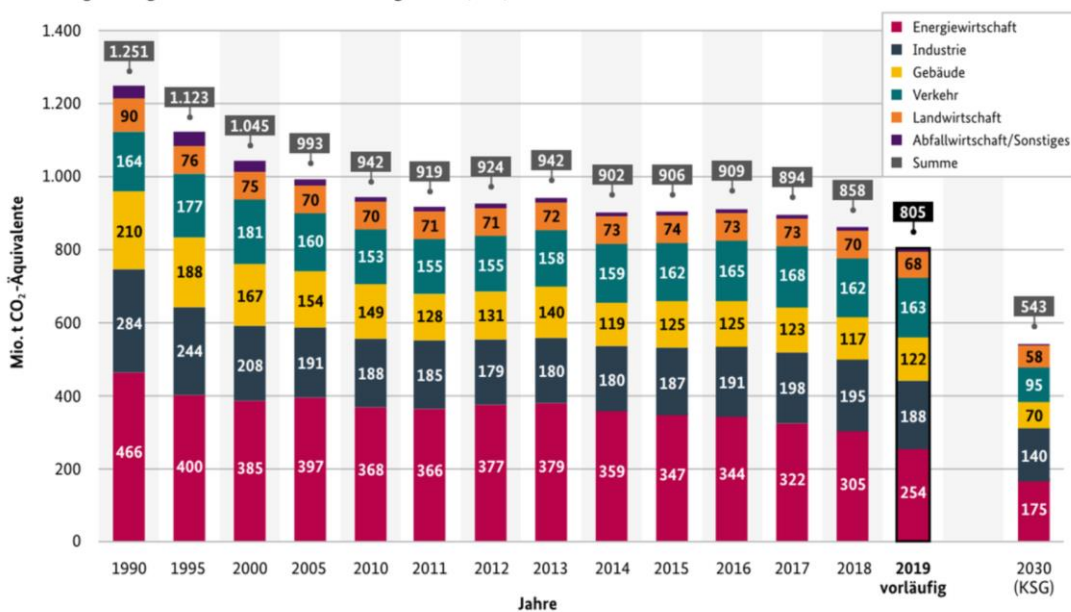
The Federal Republic of Germany will engage an independent external body to provide third-party verification on the allocation reports and their conformity with the Green Bond Framework. This process will be undertaken on an annual basis and the results will be published alongside the respective reporting.

PART II: A. CONTRIBUTION OF THE GREEN GERMAN FEDERAL SECURITY TO THE UN SDGS

All expenditure categories selected by Germany for its Green German Federal Security are highly relevant in terms of contributing to Germany's emission reduction targets, according to the Climate Action Programme 2030¹³ (see Figure 2 below).

Entwicklung der Treibhausgasemissionen in Deutschland

In der Abgrenzung der Sektoren des Klimaschutzgesetzes (KSG)



Die Aufteilung der Emissionen weicht von der UN-Berichterstattung ab, die Gesamtemissionen sind identisch

Quelle: Umweltbundesamt 09.03.2020

Entwicklung der Treibhausgasemissionen in Deutschland

©BMU

Figure 2: Development of greenhouse gas emissions in Germany and an outlook of the climate protection goals 2030 per sector. Source: Federal Minister for the Environment, Nature Conservation, and Nuclear Safety (BMU)¹⁴

¹³ Climate Action Programme 2030: <https://www.bundesregierung.de/breg-en/issues/climate-action/klimaschutzprogramm-2030-1674080>.















¹⁴ <https://www.bmu.de/pressemitteilung/treibhausgasemissionen-gingen-2019-um-63-prozent-zurueck/>

Additionally, based on the assessment of the sustainability quality of the Green German Federal Security asset pool and using a proprietary taking into consideration the issuer’s specific geographical and sectorial context, ISS ESG assessed the contribution of Germany’s Green German Federal Security to the Sustainable Development Goals defined by the United Nations (UN SDGs). This assessment is based on the combination of two fundamental perspectives, namely a Use of Proceeds category’s intended purpose and potential negative side effects that can be attributed with the Use of Proceeds category.

This assessment is displayed on a 5-point scale (see Annex 2 for methodology) and reflects an analysis of the underlying technologies used within each Use of Proceeds category:

Significant Obstruction	Limited Obstruction	No Net Impact	Limited Contribution	Significant Contribution
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The following table includes an assessment of the contribution to, or obstruction of, the SDGs for each of the bond’s Use of Proceeds category according to ISS ESG’s methodology described above. Use of Proceeds contribution level is mapped according to an overall appraisal of each category.

USE OF PROCEEDS	CONTRIBUTION OR OBSTRUCTION	SUSTAINABLE DEVELOPMENT GOALS
Transport¹⁵	Significant Contribution	  
International cooperation	Significant Contribution	  
Research, innovation and awareness raising	Significant Contribution	   
Energy and Industry	Significant Contribution	 
Agriculture, Forestry, Natural Landscapes and Biodiversity	Significant Contribution	 

¹⁵ The significant contribution refers to the overall appraisal of the various elements financed, including infrastructure supporting the provision of public transport across population segments. Parts of the transport Use of Proceeds category is mapped to limited contribution referring to the fact that the transportation sector as a whole continues to partially rely on technologies where negative impacts cannot be excluded. However, this does not allow for conclusions on the importance of the Use of Proceeds category for reaching the greenhouse gas emission reduction targets.

PART II: B. MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS ASSOCIATED WITH THE GREEN GERMAN FEDERAL SECURITY

Transport

The table below presents the findings of an ISS ESG assessment of the expenditures (re-) financed against KPIs¹⁶.

ASSESSMENT AGAINST ISS ESG KPIs

Prerequisite: Compliance with issuer's eligibility criteria

- ✓ All selected expenditures underwent a selection mechanism via the Core Green Bond Team (CGBT) to ensure an environmental benefit on the improvement and promotion of clean transportation systems and the reduction of vehicles carbon intensity / emissions. The selection was then validated via an Inter-Ministerial Working Group ("IMWG").

Environmental aspects

- ✓ For public procurement contracts sustainability criteria such as energy, resource efficiency and comprehensive life-cycle-assessments are taken into consideration according to European and national legislation and standards¹⁷.
- ✓ For any type of expenditure, comprehensive and specific environmental standards (regarding e.g. direct emissions to air, noise mitigation, minimisation of environmental impact during construction work), apply according to European and national legislation and standards, e.g. the "Bundesimmissionsschutzgesetz and the Gesetz über die Umweltverträglichkeitsprüfung (UVPG)". (engl: Federal Immission Control Act and the Act on Environmental Impact Assessment)

Social aspects during operation

- ✓ For any type of expenditure, health and safety for both passengers and operators are ensured according to European and national legislation and standards, e.g. the "Nationale Sicherheitsvorschriften für das Eisenbahnsystem in Deutschland". (engl. National safety rules for the railway system in Germany)

Working conditions during construction

- ✓ For any type of expenditure high labour standards (ILO core conventions) are in place for both own employees and contractors.

¹⁶ Due to the extensive nature of European and national legislations, a selection of documents provided by the issuer were analyzed to assess the fulfillment of the KPIs.

¹⁷ www.Beschaffung-info.de

Controversy assessment

Within the ISS ESG Country Rating, Germany has no indicated structural¹⁸ controversy. Therefore, the risk of a structural controversy within the respective green bond categories is considered low. In the event of a controversy arising, appropriate mitigation processes are in place.

International cooperation

The table below presents the findings of an ISS ESG assessment of the expenditures (re-) financed against KPIs¹⁹.

ASSESSMENT AGAINST ISS ESG KPIs

Prerequisite: Compliance with issuer's eligibility criteria

- ✓ All selected expenditures underwent a selection mechanism via the Core Green Bond Team (CGBT) to ensure an assistance for developing countries in their transition toward a more environmentally friendly economy. The selection was then validated via an Inter-Ministerial Working Group ("IMWG").

Governance safeguards in international cooperation

- ✓ For any type of expenditure, processes to reduce the risk of corruption are in place, according to European and national legislation and standards, e.g. the "Korruptionspräventionsrichtlinie des Bundes" and the binding "Strategiepapier: Antikorruption und Integrität in deutschen Entwicklungszusammenarbeit". (engl: Federal Corruption Prevention Directive and Strategy Paper: Anti-Corruption and Integrity in German Development Cooperation)
- ✓ For any type of expenditure, processes to reduce the risk of money laundering are in place, according to European and national legislation and standards, e.g. the "Korruptionspräventionsrichtlinie des Bundes" and the binding "Strategiepapier: Antikorruption und Integrität in deutschen Entwicklungszusammenarbeit". (engl: Federal Corruption Prevention Directive and Strategy Paper: Anti-Corruption and Integrity in German Development Cooperation)

Social safeguards in international cooperation

- ✓ For any type of expenditure, processes to reduce the risk of compulsory labour and child labour are in place, according to European and national legislation and standards, e.g. „Menschenrechte in der deutschen Entwicklungspolitik“ (2011) and the „Leitfaden zur Berücksichtigung von menschenrechtlichen Standards und Prinzipien, einschl. Gender, bei der Erstellung von Programmorschlägen der deutschen staatlichen Technischen und Finanziellen Zusammenarbeit“. (engl: Human rights in the German development policy and Guidelines for the consideration of human rights standards and principles, including

¹⁸ A structural controversy occurs if an internal ISS ESG threshold is exceeded related to a thematic controversy (e.g. labour right violations), indicating a structural problem. Single cases, unless very severe, do not count as a structural controversy.

¹⁹ Due to the extensive nature of European and national legislations, a selection of documents provided by the issuer were analyzed to assess the fulfillment of the KPIs.

gender, in the preparation of programme proposals for German official Technical and Financial Cooperation.)

For any type of expenditure, processes to promote and strengthen human rights in developing countries are in place, according to European and national legislation and standards, e.g. „Menschenrechte in der deutschen Entwicklungspolitik“ (2011) and the „Leitfaden zur Berücksichtigung von menschenrechtlichen Standards und Prinzipien,

- ✓ einschl. Gender, bei der Erstellung von Programmvorschlügen der deutschen staatlichen Technischen und Finanziellen Zusammenarbeit“. (engl: Human rights in the German development policy and Guidelines for the consideration of human rights standards and principles, including gender, in the preparation of programme proposals for German official Technical and Financial Cooperation.)

Environmental safeguards in international cooperation

For any type of expenditure, processes to monitor that projects have a sound environmental management are in place, as Germany is a signatory of the “Konvention über die biologische Vielfalt (CBD)” and the “Rio-Markern”. Also, Germany follows the guidelines of the OECD-DAC Creditor Reporting System. (engl: Convention on Biological Diversity)

Controversy assessment

Within the ISS ESG Country Rating, Germany has no indicated structural²⁰ controversy. Therefore, the risk of a structural controversy within the respective green bond categories is considered low. In the event of a controversy arising, appropriate mitigation processes are in place.

Research, innovation and awareness raising

The table below presents the findings of an ISS ESG assessment of the expenditures (re-) financed against KPIs²¹.

ASSESSMENT AGAINST ISS ESG KPIs

Academic research, innovation and awareness raising prerequisite

All selected expenditures underwent a selection mechanism via the Core Green Bond Team (CGBT) to ensure the support and the facilitation of knowledge and innovation about climate and environmental matters. Research into controversial technologies, such as crude oil, coal, nuclear power, tobacco and armaments is excluded from funding. The selection was then validated via an Inter-Ministerial Working Group (“IMWG”).

²⁰ A structural controversy occurs if an internal ISS ESG threshold is exceeded related to a thematic controversy (e.g. labour right violations), indicating a structural problem. Single cases, unless very severe, do not count as a structural controversy.

²¹ Due to the extensive nature of European and national legislations, a selection of documents provided by the issuer were analyzed to assess the fulfillment of the KPIs.

Social conditions for research staff

- ✓ For any type of expenditure, high labour, health and safety standards (ILO core conventions) are in place for research staff.
- ✓ For any type of expenditure, high social standards regarding non-discrimination and gender equality are in place, according European and national legislation and standards, e.g. Grundgesetz Art. 3, Allgemeine Gleichbehandlungsgesetz (AGG), the Bundesgleichstellungsgesetz. (engl: Federal Equality Act)
- ✓ For any type of expenditure, the safety of building users is ensured via national legislation and according to the building regulations of the respective federal states.

Controversy assessment

Within the ISS ESG Country Rating, Germany has no indicated structural²² controversy. Therefore, the risk of a structural controversy within the respective green bond categories is considered low. In the event of a controversy arising, appropriate mitigation processes are in place.

Energy and industry

The table below presents the findings of an ISS ESG assessment of the expenditures (re-) financed against KPIs²³.

ASSESSMENT AGAINST ISS ESG KPIs

Prerequisite: Compliance with issuer's eligibility criteria

- ✓ All selected expenditures underwent a selection mechanism via the Core Green Bond Team (CGBT) to ensure the acceleration of the transition towards an economy highly based on renewable energies and with a more efficient usage of energy. Funding of controversial business areas / technologies, such as crude oil, coal, nuclear power, tobacco and armaments is excluded. The selection was then validated via an Inter-Ministerial Working Group ("IMWG").

Environmental aspects

- ✓ For public procurement contracts sustainability criteria such as energy, resource efficiency and comprehensive life-cycle-assessments are taken into consideration, according to European and national legislation and standards, e.g. as described on www.Beschaffung-info.de.

²² A structural controversy occurs if an internal ISS ESG threshold is exceeded related to a thematic controversy (e.g. labour right violations), indicating a structural problem. Single cases, unless very severe, do not count as a structural controversy.

²³ Due to the extensive nature of European and national legislations, a selection of documents provided by the issuer were analyzed to assess the fulfillment of the KPIs.

Working conditions of employees at supported programmes

- ✓ For any type of expenditure high labour, health and safety standards (ILO core conventions) are in place.

Controversy assessment

Within the ISS ESG Country Rating, Germany has no indicated structural²⁴ controversy. Therefore, the risk of a structural controversy within the respective green bond categories is considered low. In the event of a controversy arising, appropriate mitigation processes are in place.

Agriculture, Forestry, Natural Landscapes and Biodiversity

The table below presents the findings of an ISS ESG assessment of the expenditures (re-) financed against KPIs²⁵.

ASSESSMENT AGAINST ISS ESG KPIs

Prerequisite: Compliance with issuer's eligibility criteria

- ✓ All selected expenditures underwent a selection mechanism via the Core Green Bond Team (CGBT) to ensure the promotion of forests and natural areas and the development of organic and environmentally friendly farming practices. The selection was then validated via an Inter-Ministerial Working Group ("IMWG").

Environmental aspects

- ✓ For any type of expenditure, sustainability criteria such as soil and biodiversity management, water conservation in agricultural production and the climate impact of agricultural production are taken into consideration, according to European and national legislation and standards, e.g. as described in several documents regarding "Gemeinschaftsaufgabe: Verbesserung der Agrarstruktur und des Küstenschutzes (GAK)". (engl: Joint task: improvement of agricultural structure and coastal protection)
- ✓ For any type of expenditure, sustainability criteria on sustainable consumption and production, such as animal welfare in livestock farming, are taken into consideration, according to European and national legislation and standards, e.g. as described in several documents regarding the "Gemeinschaftsaufgabe: Verbesserung der Agrarstruktur und des Küstenschutzes (GAK)". (engl: Joint task: improvement of agricultural structure and coastal protection)
- ✓ For any type of expenditure, sustainability criteria such as conservation and biodiversity management, natural habitat and wildlife protection and fire management are taken into consideration, according to European and national legislation and standards, e.g. as described in several documents regarding "Gemeinschaftsaufgabe: Verbesserung der

²⁴ A structural controversy occurs if an internal ISS ESG threshold is exceeded related to a thematic controversy (e.g. labour right violations), indicating a structural problem. Single cases, unless very severe, do not count as a structural controversy.

²⁵ Due to the extensive nature of European and national legislations, a selection of documents provided by the issuer were analyzed to assess the fulfillment of the KPIs.

Agrarstruktur und des Küstenschutzes (GAK)”. (engl: Joint task: improvement of agricultural structure and coastal protection)

Working conditions of employees at supported programmes

- ✓ For any type of expenditure high labour, health and safety standards (ILO core conventions) are in place.

Controversy assessment

Within the ISS ESG Country Rating, Germany has no indicated structural²⁶ controversy. Therefore, the risk of a structural controversy within the respective green bond categories is considered low. In the event of a controversy arising, appropriate mitigation processes are in place.

²⁶ A structural controversy occurs if an internal ISS ESG threshold is exceeded related to a thematic controversy (e.g. labour right violations), indicating a structural problem. Single cases, unless very severe, do not count as a structural controversy.

PART III: ASSESSMENT OF GERMANY'S ESG PERFORMANCE

The ISS ESG Country Rating provides a rating and then designates a country as 'Prime²⁷' or 'Not Prime' based on its performance on basic ESG requirements. It is also assigned a Decile Rank, indicating its relative performance, with 1 indicating a high relative ESG performance, and 10 a low relative ESG performance.

COUNTRY	STATUS	Rating	DECILE RANK
THE FEDERAL REPUBLIC OF GERMANY	PRIME	B	1

This means that the country's sustainability performance is good, both compared against others and in terms of the absolute requirements defined by ISS ESG. In ISS ESG's view, the securities issued by the country therefore all meet the basic requirements for sustainable investments.

As of 21.08.2020, this rating places the Federal Republic of Germany 12th out of 124 countries rated by ISS ESG.

The ISS ESG Country Rating evaluates the following eight areas in order to determine the sustainability performance of a country:

Governance and Social Performance

- Social Rating
- Political System and Governance
- Human Rights and Fundamental Freedoms
- Social Conditions

Environmental Performance

- Environmental Rating
- Natural resources
- Climate change and energy
- Production and consumption

In all areas, besides "Natural resources", Germany rates above average. A significant outperformance was achieved for the governance and social performance indicators.

The country has a low controversy level with no structural controversy as of 21.08.2020.

Details on the rating of the issuer can be found in Annex 1.

²⁷ Prime is only awarded to the top performers.

DISCLAIMER

1. Validity of the SPO: For the version of Germany's Green Bond Framework adopted on 24.08.2020 and securities issued on its basis.
2. ISS ESG 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.
3. We would, however, point out that we do not warrant that the information presented in this SPO is complete, accurate or up to date. Any liability on the part of ISS ESG in connection with the use of these SPO, the information provided in them and the use thereof shall be excluded. In particular, we point out that the verification of the compliance with the selection criteria is based solely on random samples and documents submitted by the issuer.
4. All statements of opinion and value judgements given by us do not in any way constitute purchase or investment recommendations. In particular, the SPO is no assessment of the economic profitability and credit worthiness of a bond but refers exclusively to the social and environmental criteria mentioned above.
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ANNEX 1: ISS ESG Country Rating

The following pages contain extracts from the Federal Republic of Germany's 2020 ISS ESG Country Rating.

ESG Country Rating

Germany

Status **Prime**

Rating **B**

Prime Threshold **B-**

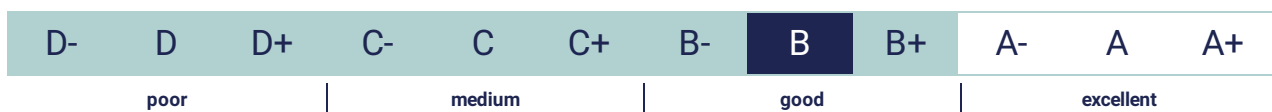
Decile Rank **1**

Country ESG Performance

Prime

RATED BY ISS ESG

Absolute Rating



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

Decile Rank



Indicates decile rank relative to all rated entities. A decile rank of 1 indicates a high relative ESG performance, while a 10 indicates a lower relative ESG performance.

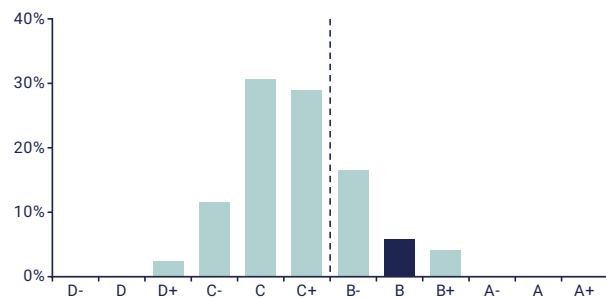
Country Leaders

Country (in alphabetical order)	Grade
Denmark	B+
Sweden	B+
Switzerland	B+

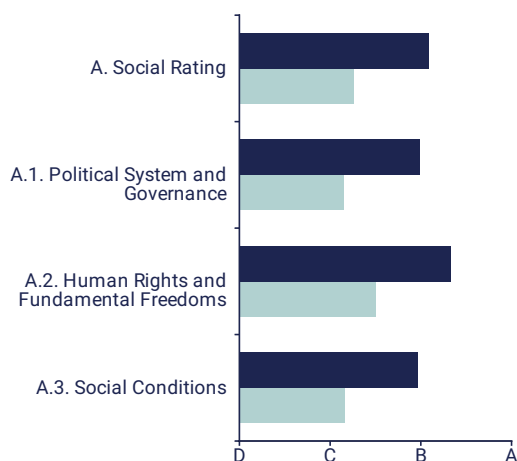
Legend: ■ Universe ■ Country --- Prime

Distribution of Ratings

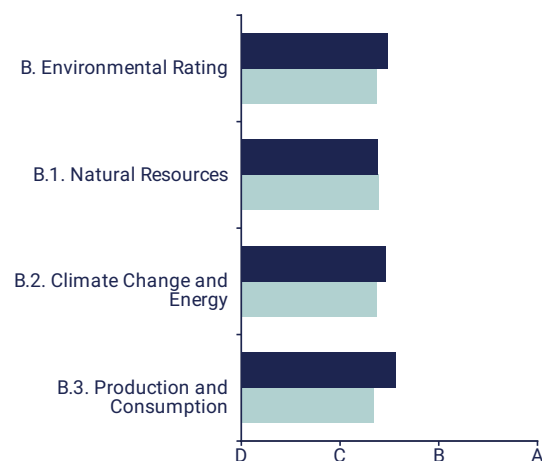
124 entities in the universe



Governance and Social Performance



Environment Performance



Germany

Analyst Opinion

Governance Opinion

Germany is a federal republic and a constitutional parliamentary democracy with a bicameral parliament. The last federal elections were held in September 2017, resulting in a coalition of the conservative Christ Democratic Union/Christ Social Union (CDU/CSU) and the Social Democratic Party (SPD). The Bundestag elected Angela Merkel, then leader of the CDU, again as chancellor.

Germany is a stable democracy with intact checks and balances, well-functioning institutions and a constitution, which protects important civil and political rights. While the level of corruption is perceived to be relatively low by the German public, the country's financial system exhibits a very high level of financial secrecy and thus fosters money laundering and tax evasion.

Basic human rights and fundamental civil and political freedoms, such as equality before the law, freedom of the press and the right to asylum are respected by the government and generally considered non-negotiable by society. However, some politicians and parts of the public reacted to the large influx of migrants to Europe in recent years with right wing-rhetoric and xenophobic sentiments, leading to increasing discrimination against minorities. In addition, women are underrepresented in the national parliament and still face significant disadvantages in the labor market.

Regarding foreign affairs, Germany is a member of the European Union and as such is involved in a non-violent crisis with Russia over international power and ideological differences in the Ukraine. Moreover, while the military expenditure is on a lower-medium level, the country is one of the world's largest exporters of conventional weapons.

Social Opinion

Germany is a welfare state with a well-functioning healthcare system, resulting in a relatively high life expectancy and low private expenditure on health. The country's social security system comprises a comprehensive scope of branches but is only partially effective in reducing the population's vulnerability to poverty. In addition, private wealth remains very unevenly distributed and increasing inequality is perceived a major challenge by large parts of the society. Basic labor rights are protected by law and working conditions are generally good. While a stable economy results in low unemployment rates, the relatively high level of long-term unemployment remains a problem. Migrants are to some extent excluded from receiving high-quality education, from participating in the labor market and from enjoying the benefits of the welfare state.

Environmental Opinion

As an industrialised country, Germany's per capita energy consumption and greenhouse gas emissions are comparatively high. In 2019, Germany adopted a climate protection programme and introduced the federal climate change act, fixing sector goals and establishing mechanisms for controlling. It's yet unclear whether targets can be achieved (55% reduction until 2030, base year 1990) under the given mix of policies, especially with regard to the transport and building sectors.

The area under sustainable forestry and under organic agriculture, as well as the area of protected land is high. Genetically modified crops are not used in Germany. Despite this, a large number of plants, animal and fish species in Germany are threatened by extinction.

While Germany's industry has a very high resource productivity, general consumption patterns of industry and households regarding material, food and energy, as well as the country's transport system, are environmentally unsustainable.

Sustainability Summary

Germany is a well-functioning democracy with effective political institutions and a stable economy. Civil and political rights are respected and generally effectively protected, but the European migrant crisis led to an increase of xenophobic sentiments in society and the rise of right-wing political forces. Germany's industrialised economy and the society's unsustainable consumption patterns have significant negative impacts on the local and global environment. Whether a policy framework adopted in 2019 does effectively counter climate change in line with the Paris Agreement goals has yet to be seen.

Germany

Methodology - Overview

The ESG Country Rating methodology was originally developed by Institutional Shareholder Services Germany (formerly oekom research) and has been consistently updated for many years.

ESG Country Rating – The ESG Country Rating universe comprises 58 countries, as well as Hong Kong and the European Union, representing 96 per cent of global outstanding sovereign debt (as of June 2018). The assessment of a country's sustainability performance is based on approximately 100 environmental, social and governance criteria with equal weight assigned to the social and environmental dimension. All criteria are individually weighted and evaluated and the results are aggregated to yield an overall score (rating). The selection of criteria is derived from ISS ESG's understanding of sustainability and reflects various global challenges that are embodied in the Sustainable Development Goals. Criteria are selected according to their relevance (materiality) and the quality of data regarding availability, up-to-dateness and consistency for all the countries rated.

Country controversies – In addition to the rating, ISS ESG conducts a comprehensive analysis of relevant controversies. Thereby, our clients have the possibility to consider, either separately or in addition to the rating, circumstances in areas they view as especially critical. The country controversy assessment is either directly derived from information provided by credible and acknowledged external sources, such as indices or blacklists, or it is based on the country's performance in the respective rating section. In the latter cases, underperformance in a specific set of indicators constitutes a controversy. Some controversy issues are delineated on different levels of severity.

Country leaders - List (in alphabetical order) of the top three countries from the ESG Country Rating universe at the time of generation of this report.

Criteria design – The rating comprises both qualitative and quantitative criteria. For instance, the safeguarding of fundamental freedoms by a country's government is mostly assessed in qualitative terms, while a country's consumption of resources is quantified. Qualitative criteria are evaluated against absolute targets and/or best practices, the assessment of quantitative indicators is based on thresholds. Those either reflect normative considerations and/or relative performance in a given area. In order to ensure their validity, some quantitative indicators are normalised against eligible denominators. To assess the quality of government policy in a specific area, we use indicators measuring input, such as spending on education as a proportion of GDP, as well as criteria measuring output, such as female participation in education.

Decile Rank - The Decile Rank indicates in which decile (tenth part of total) the individual Country Rating ranks from 1 (best – country's rating is in the first decile within the country universe) to 10 (lowest – country's rating is in the tenth decile within the country universe). The Decile Rank is determined based on the underlying numerical score of the rating. If the total number of countries cannot be evenly divided by ten, the surplus countries are distributed from the top (1. decile) to the bottom. If there are Country Ratings with identical absolute scores that would span a division in decile ranks, all ratings with an equal decile score are classified in the higher decile, resulting in a smaller number of Country Ratings in the decile below.

Distribution of Ratings - Overview of the distribution of the ratings of all countries that are included in the ESG Country Rating universe (country portrayed in this report: dark blue).

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

A+: the country shows excellent performance

D-: the country shows poor performance

Overview of the range of scores achieved in the ESG Country Rating universe (light blue) and indication of the grade of the country evaluated in this report (dark blue).

Sources of Information - The sources we draw on include international institutions such as the World Bank, the International Energy Agency (IEA) and the World Health Organisation (WHO), as well as respected non-governmental organisations such as Amnesty International, Transparency International and the Stockholm International Peace Research Institute (SIPRI). A selection of sources used for this report is illustrated in the annex.

Status & Prime Threshold – Countries are categorised as Prime if they achieve/exceed the minimum sustainability performance requirements (Prime threshold) defined by ISS ESG for the Country Rating.

Update cycle - The vast majority of rating criteria is updated annually, only single indicators receive event-driven updates. The exact timing is determined by the publication dates of major sources of information.

ANNEX 2: Methodology

ISS ESG Green Bond KPIs

The ISS ESG Green Bond KPIs serves as a structure for evaluating the sustainability quality – i.e. the social and environmental added value – of the use of proceeds of the Federal Republic of Germany's Green German Federal Security.

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 assets can be clearly identified and described.

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

To review the KPIs used in this SPO, please contact Federico Pezzolato (details below) who will send them directly to you.

Asset evaluation methodology

ISS ESG evaluates whether the assets included in the asset pool match the eligible project category and criteria listed in the Green Bond KPIs.

All percentages refer to the amount of assets within one category (e.g. wind power). Additionally, the assessment “no or limited information is available” represented by a red circle, either indicates that no information was made available to ISS ESG or that the information provided did not fulfil the requirements of the ISS ESG Green Bond KPIs. ISS ESG requires a minimum of 50% of the asset pool to positively qualify against the KPIs, represented by a green tick.

The evaluation was carried out using information and documents provided to ISS ESG on a confidential basis by the Federal Republic of Germany (e.g. Due Diligence Reports). Further, national legislation and standards, depending on the asset location, were drawn on to complement the information provided by the issuer.

Assessment of the contribution and association to the SDG

The 17 Sustainable Development Goals (SDGs) were endorsed in September 2015 by the United Nations and provide a benchmark for key opportunities and challenges toward a more sustainable future. Using a proprietary method, ISS ESG identifies the extent to which the Federal Republic of Germany's Green German Federal Security contributes to related SDGs and has a positive association with their respective sub-targets.

About ISS ESG SPO

ISS ESG is one of the world's leading rating agencies in the field of sustainable investment. The agency analyses companies and countries regarding their environmental and social performance.

As part of our Sustainable (Green & Social) 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 assess alignment with external principles (e.g. the ICMA Green / Social Bond Principles), analyse the sustainability quality of the assets and review the sustainability performance of the issuer themselves. Following these three steps, we draw up an independent SPO so that investors are as well informed as possible about the quality of the bond / loan from a sustainability perspective.

Learn more: <https://www.isscorporatesolutions.com/solutions/esg-solutions/green-bond-services/>

For Information about SPO services, and this Green German Federal Security, contact:

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