



SECOND PARTY OPINION (SPO)

Sustainability Quality of the Issuer and Green Bond Framework

Federal State of Hesse

13 June 2023

VERIFICATION PARAMETERS

Type(s) of instruments contemplated	<ul style="list-style-type: none">Green Bond
Relevant standards	<ul style="list-style-type: none">Green Bond Principles, as administered by the International Capital Market Association (ICMA) (as of June 2021 with June 2022 Appendix 1)
Scope of verification	<ul style="list-style-type: none">Federal State of Hesse's Green Bond Framework (as of April 28, 2023)Federal State of Hesse's eligibility criteria (as of April 28, 2023)
Lifecycle	<ul style="list-style-type: none">Pre-issuance verification
Validity	<ul style="list-style-type: none">Valid as long as the cited Framework and the underlying portfolio remain unchanged.

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SCOPE OF WORK

The Federal State of Hesse (“the Issuer” or “Hesse”) commissioned ISS Corporate Solutions (ICS) to assist with its Green Bond by assessing three core elements to determine the sustainability quality of the instrument:

1. Hesse’s Green Bond Framework (as of April 28, 2023) – benchmarked against the International Capital Market Association's (ICMA) Green Bond Principles (GBP).
2. The eligibility criteria – whether the project categories contribute positively to the UN SDGs and how they perform against proprietary issuance-specific key performance indicators (KPIs) (See Annex 1).
3. Linking the transaction(s) to Hesse’s overall ESG profile – drawing on the issuance-specific Use of Proceeds categories.

ASSESSMENT SUMMARY

SPO SECTION	SUMMARY	EVALUATION ¹
Part 1: Alignment with GBP	The Issuer has defined a formal concept for its Green Bond regarding use of proceeds, processes for project evaluation and selection, management of proceeds and reporting. This concept is in line with the ICMA GBP.	Aligned
Part 2: Sustainability quality of the eligibility criteria	<p>The Green Bond will refinance eligible expenditure categories which include:</p> <p>Green categories: Eco-friendly Public Transport; Measures Concerning Forests; CO₂-neutral State Administration / Energy Efficiency Of Public Buildings; Organic Farming And Nature Conservation; Climate Plan; Sustainable (Waste) Water Management; Further Climate And Environmental Protection Measures</p> <p>Product and/or service-related use of proceeds categories² individually contribute to one or more of the following SDGs:</p>  <p>Process-related use of proceeds categories³ individually improve (i) the Issuer's operational impacts on one or more of the following SDGs:</p>  <p>The environmental and social risks associated with those use of proceeds categories are well managed.</p>	Positive
Part 3: Linking the transaction(s) to Hesse's overall ESG profile	The key sustainability objectives and the rationale for issuing Green Bonds are clearly described by the Issuer. The project categories financed are in line with the sustainability objectives of the Issuer.	Consistent with Issuer's sustainability strategy

¹ The evaluation is based on the Hesse's Green Bond Framework (April 28, 2023 version) and on the ISS ESG Country Rating updated on the February 27, 2023 and applicable at the SPO delivery date.

² Eco-friendly Public Transport; Measures Concerning Forests; Green Buildings; Organic Farming And Nature Conservation; Climate Plan; Sustainable (Waste) Water Management; Further Climate And Environmental Protection Measures

³ CO₂-neutral State Administration / Energy Efficiency Of Public Buildings; Measures Concerning Forests; Organic Farming And Nature Conservation; Climate Plan; Further Climate And Environmental Protection Measures

SPO ASSESSMENT

PART I: ALIGNMENT WITH ICMA GREEN BOND PRINCIPLES

This section evaluates the alignment of the Hesse's Green Bond Framework (as of April 28, 2023) with the ICMA GBP.

GBP	ALIGNMENT	OPINION
1. Use of Proceeds	✓	<p>The Use of Proceeds description provided by Hesse's Green Bond Framework is aligned with the ICMA GBP.</p> <p>The Issuer's green categories align with the project categories as proposed by the ICMA GBP. Disclosure of when the distribution of proceeds by project category will be provided and the allocation period is defined. The Environmental benefits also are described.</p> <p>The Issuer also defines exclusion criteria for harmful projects categories in line with best market practices.</p>
2. Process for Project Evaluation and Selection	✓	<p>The Process for Project Evaluation and Selection description provided by Hesse's Green Bond Framework is aligned with the ICMA GBP.</p> <p>The project selection process is defined. ESG risks associated with the project categories are identified and managed through an appropriate process. Moreover, the projects selected show alignment with the sustainability strategy of the Issuer.</p> <p>The issuer clearly defines responsibilities and involves various stakeholders in the process for project evaluation and selection and is transparent about it, which is in line with best market practices. Furthermore, the issuer also identifies alignment of its Green Bond framework and its green projects with official or market-wide taxonomies or green standards.</p>
3. Management of Proceeds	✓	<p>The Management of Proceeds proposed by Hesse's Green Bond Framework is aligned with the ICMA GBP.</p> <p>The net proceeds collected will be less than or equal to the amount allocated to eligible projects, with no exceptions. The net proceeds are tracked in an appropriate manner. The net proceeds are managed per bond (bond-by-bond approach). Moreover, the Issuer discloses the temporary investment instruments for unallocated proceeds.</p>

		The issuer has defined an expected allocation period of 12 months, in line with best market practice.
4. Reporting	✓	<p>The allocation and impact reporting proposed by Hesse’s Green Bond Framework is aligned with the ICMA GBP.</p> <p>The Issuer commits to disclose the allocation of proceeds transparently and to report in an appropriate frequency. The reporting will be publicly available on the Issuer’s website. Hesse explains the level of expected reporting and the type of information that will be reported. Moreover, the Issuer commits to report annually, until the bond proceeds have been fully allocated.</p> <p>The issuer is transparent on the level of impact reporting and on the information to be reported, also reporting the location and link of the report, in line with best market practices.</p>

PART II: SUSTAINABILITY QUALITY OF THE ELIGIBILITY CRITERIA

A. CONTRIBUTION OF THE GREEN BOND TO THE UN SDGs⁴

Sub-sovereigns can contribute to the achievement of the SDGs by providing specific services/products which help address global sustainability challenges, and by being responsible actors, working to minimize negative externalities in their operations along the entire value chain. The aim of this section is to assess the SDG impact of the UoP categories financed by the Issuer in two different ways, depending on whether the proceeds are used to refinance:

- specific products/services,
- improvements of operational performance.

1. Products and services




The assessment of UoP categories for refinancing products and services is based on a variety of internal and external sources, such as the ISS ESG SDG Solutions Assessment (SDGA), a proprietary methodology designed to assess the impact of an Issuer's products or services on the UN SDGs, as well as other ESG benchmarks (the EU Taxonomy Climate Delegated Acts, the ICMA Green and/or Social Bond Principles and other regional taxonomies, standards and sustainability criteria).

The assessment of UoP categories for refinancing specific products and services is displayed on 3-point scale (see Annex 1 for methodology):



Each of the Green Bond's Use of Proceeds categories has been assessed for its contribution to, or obstruction of, the SDGs:

GREEN CATEGORIES

USE OF PROCEEDS (PRODUCTS/SERVICES)	CONTRIBUTION OR OBSTRUCTION	SUSTAINABLE DEVELOPMENT GOALS
<p>Eco-friendly public transport <i>Financing of public transport associations to ensure comprehensive passenger transport in Hesse</i></p>	Contribution	
<p>Eco-friendly public transport <i>Financing of specific passenger public transport projects (e.g., station modernization, rail network expansion)</i></p>	Contribution	 

⁴ The impact of the UoP categories on UN Social Development Goals is assessed with proprietary methodology and may therefore differ from the Issuer's description in the framework.

Eco-friendly public transport⁵

Expenditures to promote more climate-friendly means of transport and its usage (e.g., job tickets, student tickets)

Eco-friendly public transport

Funding and promotion of municipal measures to improve infrastructure for pedestrian and bicycle traffic

Measures concerning forests

Expenditures for environmental protection in the state forest (e.g., for the preservation of species and development of biotopes)

Expenditures for nature conservation and landscape management in the national park

Green buildings – CO₂-neutral state administration / energy efficiency of public buildings

Investment program to implement the goals of the Hessian Energy Act

Organic farming and nature conservation

Expenditures to finance advisory and information events for low-emission farming and horticultural businesses

Climate Plan

Projects for the development and ramp-up of electric drives in public transport

Climate Plan

Projects to implement the local mobility strategy to strengthen pedestrian and bicycle traffic (Increasing mobility in rural areas; Promotion of climate-friendly (local) mobility (e.g. creation of data and planning bases for infrastructure, supply planning, construction of cycle paths, optimization of pedestrian traffic, working group for local mobility including public relations work and campaigns); the "School Mobility

Contribution



Contribution



Contribution



Contribution



Contribution



Contribution



Contribution



⁵ This category could provide both positive environmental and social benefits. Hesse decided to classify this as an environmental category. ISS considers that the most direct impact is linked to social related topics. However, Hesse points out that a green impact derives from the activity incentivising people to use public transport instead of their private vehicles, avoiding CO₂ emissions.

Management" specialist centre and the work of the local mobility working group)

Climate Plan

Projects to implement the local mobility strategy to strengthen pedestrian and bicycle traffic (Strengthening of intermodal and climate-friendly offers (e.g. municipal and company mobility management, rental offers, promotion of the use of cargo bikes/special bikes))

Expenditures for ecological flood protection and floodplain restoration

Contribution



Climate Plan

Measures to preserve and further develop biotope network systems

Contribution



Sustainable (waste) water management

Measures to preserve and restore natural waters

Contribution



Sustainable (waste) water management

Expenditures for the development of flood risk management plans and the construction of appropriate protection systems

Contribution



Further climate and environmental protection measures

Establishment of the State Energy Agency with the tasks of consulting, education and public relations on the topics of energy efficiency, renewable energies and climate protection

Acquisition of electric vehicles at the Hessian police departments

Contribution



2. Improvements of operational performance (processes)

The below assessment aims at qualifying the direction of change (or “operational impact improvement”) resulting from the operational performance projects refinanced by the UoP categories, as well as related UN SDGs impacted. The assessment displays how the UoP categories are mitigating the exposure to the negative externalities relevant to different sectors and business models.

The table below aims at displaying the direction of change resulting from the operational performance improvement projects. The outcome displayed does not correspond to an absolute or net assessment of the operational performance.

USE OF PROCEEDS (PROCESSES)	OPERATIONAL IMPACT IMPROVEMENT ⁶	SUSTAINABLE DEVELOPMENT GOALS
<p>CO₂-neutral state administration / energy efficiency of public buildings</p> <p><i>Expenditures to increase energy efficiency and to promote the use of renewable energy, as well as to promote energetic renovation of public buildings</i></p>	✓	 
<p>Measures concerning forests</p> <p><i>Expenditures to finance the 12-point plan for the reforestation of Hessian forests and to restore forest damage</i></p>	✓	
<p>Organic farming and nature conservation</p> <p><i>Expenditures to promote low-carbon farming and climate-friendly and organic practices</i></p>	✓	
<p>Climate Plan</p> <p><i>Expenditures for the creation of concepts and strategies in the field of sustainability and biodiversity</i></p>	✓	
<p>Further climate and environmental protection measures</p> <p><i>Expenditures related to climate protection (e.g. implementation of climate protection projects, promotion of climate analyses and studies)⁷</i></p>	✓	

⁶ Limited information is available on the scale of the improvement as no threshold is provided. Only the direction of change is displayed.

⁷ The State of Hesse has a clear process in place to define which projects will be selected for this category; see the funding guidelines: <https://www.wibank.de/resource/blob/wibank/385484/b18c3de7ad433fdae8da8133762b7291/richtlinie-klimaschutz-neu-data.pdf>; https://co2.hessen-nachhaltig.de/files/content/downloads/Lastenrad_Richtlinie_2.0.pdf.

B. MANAGEMENT OF ENVIRONMENTAL & SOCIAL RISKS ASSOCIATED WITH THE ELIGIBILITY CRITERIA

The table below evaluates the eligibility criteria against issuance-specific KPIs. All of the projects are/will be located in Germany.

ASSESSMENT AGAINST KPIs

Environmental and social risks relevant for all green project categories

Biodiversity

- ✓ 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. For all projects, Article 20a of the Basic Law for the Federal Republic of Germany, the Federal Nature Conservation Act, the Hessian Procurement and Tariff Compliance Act, the common circular decree (EMA Hessen) and the directive on energy-efficient construction and renovation of the State of Hesse must be observed.

- ✓ An Environmental Impact Assessment (EIA) is carried out for projects that require it in line with national standards based on several regulations such as the EU Environmental Impact Assessment Directive and the Natura 2000 Impact Assessment.

Community Dialogue

- ✓ The State of Hesse is bound by the legal obligation of the administration (Art. 20 Basic Law for the Federal Republic of Germany) to comply with national legislation as well as international standards and conventions, which require a minimum standard of environmental protection and social norms. These principles are taken into account when making budget expenditures. By doing so, the State of Hesse considers and manages potential environmental risks associated with the eligible green expenditures. The IMWG will also consider - if necessary - ESG controversies that could call into question the quality of the corresponding past-related Green Bond expenditures.

Sustainability in public procurement is also taken into account by the Joint Circular on Public Procurement (Vergabeerlass). The Hessian State Budget Code requires that economic feasibility studies (incorporating ecological and social costs, sustainability aspects (e.g. climate protection, climate change adaptations) as well as project associated risks) are to be prepared for projects within the administration.

- ✓ The regulations of the German Building Code (Baugesetzbuch/BauGB) provide for the consideration of local residents' interests during the development of land-use plans and zoning maps (e.g. through public display of development plans, possibility to voice concerns, case-dependent compensation measures).

Circular Economy / Waste Management

For waste management, the EU Waste Framework Directive (Directive 2008/98/EG) defines essential waste-related terms and establishes, among other things, a five-level waste hierarchy. The Waste Framework Directive includes requirements to promote waste prevention and minimum recycling rates. Member States must take measures to encourage the reuse of products and create systems that encourage repair and reuse.

✓ The law to promote the recycling economy and ensure the environmentally compatible management of waste (recycling economy law) forms the core regulation of waste legislation. Regulations for specific product waste can also be found in the Packaging Act, the End-of-Life Vehicle Ordinance, the Battery Act and the Electrical and Electronic Equipment Act. The Electrical and Electronic Equipment Act, for example, has the goal of avoiding waste, reducing the amount of waste through reuse and includes specifications for collection, recovery and recycling quotas as well as reducing pollutants by prohibiting the use of certain hazardous substances in the manufacture of electrical and electronic equipment.

The Federal Circular Economy Act is supplemented and specified by the waste laws of the federal states. The state waste laws essentially concern questions of enforcement.

For construction of assets, the implementing construction companies and subcontractors have to isolate and remove waste and pollutants (in accordance with national legislation).

According to Directive 2008/98/EC, construction and demolition waste must have achieved a recycling rate of at least 70 percent by the end of 2020. This requirement is implemented by Section 14 (2) of the Circular Economy Act.

✓ In addition to the European Water Framework Directive and other European and national legislation and regulations, the Water Resources Act (WHG) forms the basis for sustainable water management. According to the WHG, the discharged water must meet a quality standard (based on the state of the art) before it can be discharged.

Directive 2016/2284 (NEC Directive) sets national emission reduction commitments for the air pollutants sulfur dioxide, nitrogen oxides (NOx), ammonia (NH3) and volatile organic compounds other than methane and particulate matter. The EU legal requirements for pollutants and original federal law requirements can be found above all in the Federal Immission Control Act and the ordinances that follow from it. Furthermore, the Hessian State Agency for Nature Conservation, Environment and Geology operates a state-wide measuring network for area-based monitoring and assessment of air quality.

Protection against hazardous substances is defined in the Chemicals Act.

Labour and Health & Safety

- ✓ For all projects in the country and with financing by the state, national legislation and standards must be complied with. Furthermore, the Hessian Procurement and Tariff Compliance Act must also be observed, ensuring high labour and health & safety standards.

All expenditures are disbursed in Germany, a country where high standards regarding labor rights are in place (e.g. ILO Core Conventions).

User's safety for products

For any type of expenditure, health and safety for employees, contractors, operators, etc. are ensured according to European and national legislation and standards.

The German product safety law (ProdSG) specifies that products may only be available on the market provided if they do not endanger the safety and health of persons among others when used as intended or in a foreseeable manner.

- ✓ The Food, Consumer Goods and Feed Code (LFGB) also ensures the protection of end consumers by preventing or averting a risk to human health caused by food items, cosmetic products and consumer goods.

The Federal Building Code regulates urban land-use planning and is supplemented by the Hessian Building Code containing regulations on fire protection, heat, noise, vibration protection, among others.

The Ordinance on the Registration of Road Vehicles (StVZO) specifies that vehicles need to be constructed and equipped in a way that their operation does not harm anyone or endanger, hinder or bother them more than is unavoidable and also that vehicle occupants are protected as far as possible from injuries, especially in the event of accidents, and the extent and consequences of injuries remain as small as possible.

Inclusion

- ✓ According to Article 3, the Basic Law for the Federal Republic of Germany prohibits discrimination by the state on the basis of gender, descent, race, language, homeland and origin, faith, religious or political views. In addition, no one may be discriminated against on the grounds of disability. Similar provisions can be found in the Constitution of the State of Hesse.

Quality management

There is no general legal regulation on the cross-sectoral application of quality standards or quality management systems.

- ✓ However, the Hessian State Budget Code stipulates that appropriate economic feasibility studies must be carried out for all financially effective measures in this context, ecological and social follow-up costs must also be explicitly taken into account. The Ministry of

Finance in Hesse went through an environmental management process and is EMAS validated. To ensure quality of the management within the state's operations, Hesse implemented the Hessian Climate Act, which provides laws on the climate-neutral operation in state administration by 2030; on a renovation roadmap to be drawn up for state-owned buildings by 2026 and, carbon price needing to be used as a basis for the planning, selection and implementation of investments and for procurement. Furthermore, an environmental impact assessment is carried out for certain projects related to biodiversity, water, climate, soil and landscape.

The quality standards for the sectors are ensured through acts and laws implemented within Hesse aiming at monitoring and perceiving the respective risks and needs of each sector.

The budgetary and economic management of the state is annually audited by the Hessian Court of Audit as the highest state authority, checking how Hesse's tax revenues are being handled with the information being reported to the parliament and made public.

Ethics

- ✓ The Public Corporate Governance Code (PCGC) of the State of Hesse presents essential rules and recommendations for the control, management and monitoring of companies in which the State of Hesse has a stake. These rules are based on statutory regulations and recognised standards of good and responsible corporate governance. The collective agreement stipulates that employees may not accept rewards, gifts, commissions or other benefits from third parties related to their work. Exceptions are only possible with the employer's consent. If employees are offered such benefits, they must notify the employer immediately without delay. The Hessian Ministry of Finance (HMdF), for example, has an internal audit department that can be contacted immediately if there are any suspicions of corrupt behavior. In addition, a central coordination office for the prevention of fraudulent actions or errors ("Zenko") in the accounting-relevant application systems was also set up at the HMdF for all departments in 2012, which collects reports on known fraudulent actions, abnormalities and errors from accounting-relevant application systems of all departments. Based on this systematic recording, risks can be assessed and further measures can be taken.

There are also the Principles for sponsoring, advertising, donations and patronage donations to finance public tasks (StAnz, 01/18/2016), guidelines for preventing and combating corruption in public administration (StAnz. 52/2019 p. 1357) and the Hessian Public Procurement and Tariff Loyalty Act (HVTG) that further regulate how corruption can be prevented and tackled.

Water

- ✓ The Water Framework Directive seeks to protect inland surface waters, transitional waters, coastal waters and groundwater of EU member states.

The most important regulations at federal level are enshrined in the Water Resources Act (WHG) that regulates wastewater management (technical standard of wastewater treatment is defined within the Act - § 7a WHG) and seeks to ensure a minimum of pollution of wastewater in Germany. Regulation of water withdrawal, water scarcity, water supply and water quality are done through the General Conditions for Water Supply Ordinance (AVBWasserV), while the quality requirements for drinking water in Germany are also specified in the Drinking Water Ordinance (TrinkwV).

Environmental and social risks relevant for specific green project categories

Sustainable Forestry

- ✓ Hesse complies with national and European forest regulation. The Law on the Conservation of Forests and the Promotion of Forest Management (Federal Forest Law) seeks to maintain and, if required, increase forests and promote forestry among others, as it recognizes the utility function of forests and its significance for the environment.

The Hessian State Forest is certified according to the requirements of the FSC and the PEFC.

Environmental Impact of agriculture – Organic farming and nature conservation

- ✓ Hesse complies with the Federal Nature Conservation Act and the Federal Soil Protection Act that contains special provisions for the agricultural use of land. Moreover, an EIA for agricultural projects is often required under national law.

Exclusion of sectors and activities that have a detrimental impact on environment or society

According to the issuer, eligible expenditures will exclude the following expenditures: armaments, oil and coal as fossil fuels, shale gas/fracking, nuclear energy (e.g. production, transport, storage and power generation) or tobacco.

PART III: LINKING THE TRANSACTION TO HESSE'S ESG PROFILE

A. CONSISTENCY OF GREEN BOND WITH HESSE'S SUSTAINABILITY STRATEGY

Key sustainability objectives and priorities defined by the Issuer

Hesse has implemented a sustainability strategy since 2008. The sustainability strategy motto of the State of Hesse is "Hesse sustainable - learning and acting for our future". It organises dialogue-oriented processes with people from business, science, administration, politics and society and initiates joint activities for a sustainable Hesse. According to Hessian Constitution since 2018, the principle of sustainability must be taken into account in all decisions and actions of politics and administration in the city and state, thereby securing the future of the state ecologically, economically and socially.

In 2015, the Hessian state government committed to achieving climate neutrality as a long-term climate protection goal. As part of Hesse's sustainability strategy, it was decided to define climate protection and climate change adaptation as a priority topic. The Integrated Climate Protection Plan Hesse 2025 was adopted in 2017 and included over 140 measures for climate protection and adaptation to the consequences resulting from climate change. In 2019, Hesse committed to reduce its greenhouse gas emissions by 55 percent by 2030, and by at least 90 percent by 2050, compared to the 1990 baseline level. In 2021, the greenhouse gas neutrality target was brought forward from 2050 to 2045, to be in line with the federal government's target.

The Hessian Act on the Promotion of Climate Protection and Adaptation to the Consequences of Climate Change (Hessisches Klimagesetz - HKlimaG) and a new Climate Plan Hesse (containing 57 new measures) was adopted in 2023. These limit Hesse's contribution to the rise in the average global temperature to well below two degrees Celsius, if possible 1.5 degrees Celsius, compared to pre-industrial levels. The law also sets stricter targets for reducing greenhouse gas emissions compared to 1990 levels. By 2030, a 65 percent reduction compared to 1990 levels is envisioned, while a new target is to reduce greenhouse gases by at least 88 percent by 2040 compared to 1990. The necessary path towards net greenhouse gas neutrality is to be achieved by 2045 at the latest and negative greenhouse gas emissions are the target after 2050. The Climate Plan Hesse will run until 2030 with monitoring and reporting occurring every 5 years to evaluate the implementation success of the Climate Plan Hesse (§ 9 HKlimaG). In case of target deviations, further measures for the necessary path correction will be implemented.

Hesse, through the State Office for Statistics, publishes a "Fortschrittsbericht"⁸ (progress report) on its sustainability strategy (approximately every two years). It is based on Hesse's sustainability targets that are mapped to UN SDGs and predefined indicators reflecting the progress made. The voluntary report was designed to disclose on the progress made in a factual and statistical manner

In light of the recent discussion on the CSRD (Corporate Sustainability Reporting Directive) in the corporate sector – although its application to the public sector is still unclear - Hesse will supplement the sustainability reporting in the annual report, starting with the 2022 report, so that all of the state's expenditures are mapped to the 17 SDGs.

On 13 May 2019, the State of Hesse became the first federal state to join the UN PRI for its fund "Versorgungsrücklage des Landes Hessen" (pension reserve). In addition to the overarching strategy, several other measures and actors provide extra support for the achievement of the Climate Plan Hesse, such as: alliance of municipalities with the federal state "Hessen aktiv: Die Klima-Kommunen"

⁸ Latest Report: https://umwelt.hessen.de/sites/umwelt.hessen.de/files/2022-12/fortschrittsbericht_nachhaltigkeit_2022.pdf.

("Hesse active: The climate municipalities") to promote climate protection; information and knowledge to support sustainable development provide by entities such as Hessian universities and the Centre for Climate Change and Adaptation of the Hessian State Agency for Nature Conservation, Environment and Geology; amendments made in 2022 to the Hessian Energy Act (HEG) to further advance the energy turnaround and further reducing emissions or the adoption of environmental management system based on the EMAS (Eco Management and Audit Scheme) standard within the Hessian Finance Department to improve environmental performance through site-specific analysis of environmental data.

In connection with the Hessian Green Bond, an interministerial Working Group (IMWG) has been established. The IMWG combines expertise of multiple ministries and, chaired by the Hessian Ministry of Finance, consists of representatives from the debt management office as well as appointed ministerial representatives from the departments responsible for the respective relevant budget titles (economics / energy / transport / housing; environment / climate protection / agriculture / consumer protection; interior / sports; science / art; construction and finance). The IMWG makes relevant decisions including, among others, the validation of the Green Bond Framework for the second Green Bond of the State of Hesse, the assessment of the eligibility criteria as well as the selection of eligible green expenditures and the validation of the corresponding allocation and impact reports. The IMWG reviews eligible green expenditures in principle on an annual basis.

Hesse is also bound by the legal obligation of the administration (Art. 20 Basic Law for the Federal Republic of Germany) to comply with national legislation as well as international standards and conventions, which require a minimum standard of environmental protection and social norms. These principles are taken into account when making budget expenditures. By doing so, the State of Hesse considers and manages potential environmental risks associated with the eligible green expenditures, this includes climate risks such as physical and transition risks related to the 30 Green Bond projects. The IMWG will also consider - if necessary - ESG controversies that could call into question the quality of the corresponding past-related Green Bond expenditures. In addition, the international labour standards of the International Labour Organization (ILO) are an integral part of the EU legal system. Therefore, by complying with this EU legislative requirement, the eligible green expenditures of the State of Hesse also meet requirements for minimum social standards. The State of Hesse monitors the state's expenditures to ensure that they comply with existing laws and regulations and that they can achieve the intended environmental impacts.

The Hessian state government is also a member of 'Under2 Memorandum of Understanding', since 2015 when it signed it at the Climate Change Conference in Paris. The signatories, including regions and municipalities, work together on solutions for climate protection. Since 2020, the Hessian Alliance for Sustainability also adopted a mission statement for the sustainability strategy comprising 22 guiding principles outlining how the global sustainability goals of the United Nations are applied to Hesse and its commitment to the target indicators of the sustainability strategy.

Rationale for issuance

Hesse considers green and sustainable finance as a key driver in the transition towards a more sustainable economy.

Hesse has established a Green Bond Framework to be able to issue its second Green Bond in compliance with international climate standards, to further contribute to making its refinancing ecologically sustainable and to meet its policy goal of reducing global warming. In order to achieve it

Hesse has identified seven focus areas to address environmental issues (Eco-friendly public transport; Measures concerning forests; CO₂-neutral state administration / energy efficiency of public buildings; Organic farming and nature conservation; Climate Plan; Sustainable (waste) water management; Further climate and environmental protection measures) and ascribed strategic priorities to each of them.

By issuing its Green Bond Framework, Hesse also expects to provide the desired and necessary transparency to this type of financial product to investors and meet their growing need to invest financial resources in an ecologically sustainable manner.

Opinion: *The key sustainability objectives and the rationale for issuing Green Bonds are clearly described by the Issuer. The project categories financed are in line with the sustainability objectives of the Issuer.*

B. COUNTRY'S EXPOSURE TO ESG RISKS

This section aims to provide macro-country level ESG risks and offers additional context to the issuance assessed in the present report. It leverages ISS ESG Country Rating methodology as well as relevant external sources such as United Nations Development Programme, Transparency International and Institute for Economics & Peace.

Issuer overview

The State of Hesse is located in the centre of Germany, covering an area of 21.115 km² with an estimated population of 6.3 million inhabitants.

Germany is located in Western Europe. It is a federal parliamentary republic, classified as a high income country by the World Bank. Germany has an estimated population of 83 million inhabitants as of 2021, with 77% of its population living in urban areas as of 2019, and a level of greenhouse gas emissions per capita of 7.9 as of 2019, which have decreased in recent years.

Additional information relating to Germany, based on international indices:

INDEX	RANK, AS OF DATE
Human Development Index ⁹	9 out of 191, in 2021
Corruption Perception Index ¹⁰	9 out of 180 , in 2022
Global Peace Index ¹¹	16 out of 163, in 2022

ESG risks associated with the Issuer and sovereign Issuers

Leveraging ISS ESG's Country Rating methodology, key challenges faced by sovereign Issuers have been identified in terms of sustainability management as displayed in the table below. Please note, this is not an Issuer-specific assessment.

ESG KEY ISSUES FOR SOVEREIGN ISSUERS	
Political system and governance	Natural resources
Human Rights and fundamental freedoms	Climate change and energy
Social conditions	Product and consumption

Please note that the consistency between the issuance subject to this report and the Issuer's sustainability strategy is further detailed in Part III.B of the report.

Exposure of the Issuer's country to controversial areas

At the date of publication, ISS ESG has no controversial areas in which the country of the Issuer would be involved.

⁹ Source: <https://hdr.undp.org/data-center/country-insights#/ranks>

¹⁰ Source: <https://www.transparency.org/en/cpi/2022/index/deu>

¹¹ Source: <https://www.visionofhumanity.org/maps/#/>

DISCLAIMER

1. Validity of the Second Party Opinion (“SPO”): Valid as long as the cited Framework and the underlying portfolio remain unchanged.
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ANNEX 1: Methodology

Green and Social KPIs

The Green and Social Bond KPIs serve as a structure for evaluating the sustainability quality – i.e. the social and environmental added value – of the use of proceeds of Hesse’s Green Bond.

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 expenditures can be clearly identified and described.

The sustainability criteria are complemented by specific indicators, which enable quantitative measurement of the sustainability performance of the expenditures and which can also be used for reporting. If a majority of expenditures fulfill the requirement of an indicator, this indicator is then assessed positively. Those indicators may be tailor-made to capture the context-specific environmental and social risks.

Environmental and social risks assessment methodology

The Environmental and social risks assessment evaluates whether the expenditures included in the expenditure pool match the eligible project category and criteria listed in the Green and Social Bond KPIs.

All percentages refer to the amount of expenditures within one category (e.g. wind power). Additionally, the assessment “no or limited information is available” either indicates that no information was made available or that the information provided did not fulfil the requirements of the Green and Social Bond KPIs.

The evaluation was carried out using information and documents provided on a confidential basis by Hesse (e.g. Due Diligence Reports). Further, national legislation and standards, depending on the expenditures 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, the extent to which Hesse’s Green Bond contributes to related SDGs has been identified.

ANNEX 2: ISS ESG Country Rating Methodology

ISS ESG Country Rating provides relevant and forward-looking environmental, social, and governance (ESG) data and performance assessments.

For more information, please visit:

<https://www.issgovernance.com/file/publications/methodology/Country-Rating-Methodology.pdf>

ANNEX 3: Quality management processes

SCOPE

Hesse commissioned ICS to compile a Green Bond SPO. The Second Party Opinion process includes verifying whether the Green Bond Framework aligns with the ICMA GBP and to assess the sustainability credentials of its Green Bond, as well as the Issuer's sustainability strategy.

CRITERIA

Relevant Standards for this Second Party Opinion

- ICMA Green Bond Principles

ISSUER'S RESPONSIBILITY

Hesse's responsibility was to provide information and documentation on:

- Framework
- Eligibility criteria
- Documentation of ESG risks management at the framework level

ISS ESG's VERIFICATION PROCESS

ISS ESG is one of the world's leading independent environmental, social and governance (ESG) research, analysis and rating houses. The company has been actively involved in the sustainable capital markets for over 25 years. Since 2014, ISS ESG has built up a reputation as a highly-reputed thought leader in the green and social bond market and has become one of the first CBI approved verifiers.

This independent Second Party Opinion of the Green Bond to be issued by Hesse has been conducted based on a proprietary methodology and in line with the ICMA GBP.

The engagement with Hesse took place from March to June 2023.

ISS' BUSINESS PRACTICES

ISS has conducted this verification in strict compliance with the ISS Code of Ethics, which lays out detailed requirements in integrity, transparency, professional competence and due care, professional behavior and objectivity for the ISS business and team members. It is designed to ensure that the verification is conducted independently and without any conflicts of interest with other parts of the ISS Group.

About this 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.

We assess alignment with external principles (e.g. the ICMA Green / Social Bond Principles), analyse the sustainability quality of the expenditures 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/>

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