

SECOND PARTY OPINION (SPO)

Sustainability Quality of the Issuer and Sustainability Bond Asset Pool

State of North Rhine-Westphalia (NRW)
31 October 2019

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Overall Evaluation of the Sustainability Bond

NRW commissioned ISS ESG to assist with its Sustainability Bond by assessing three core elements to determine the sustainability quality of the Bond:

1. NRW's Sustainability Bond framework – benchmarked against the International Capital Market Association's (ICMA) Sustainability Bond Guidelines (SBGs).
2. The asset pool – whether the projects aligned with ISS ESG's issue-specific key performance indicators (KPIs) (See Annex 2).
3. NRW's sustainability performance, according to the ISS ESG Country Rating.

ISS ESG ASSESSMENT SUMMARY

SPO SECTION	SUMMARY	EVALUATION ¹
Part 1: Performance against the SBGs	The issuer has defined a formal concept for its Sustainability Bond regarding use of proceeds, processes for project evaluation and selection, management of proceeds and reporting. This concept is in line with the ICMA SBGs.	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 Sustainability Bond KPIs. Said KPIs contain a clear description of eligible asset categories and the social and environmental criteria attributed to each category for evaluating the sustainability-related performance of the assets financed through the proceeds of the bonds.</p> <p>All assets of the asset pool are located in Germany, a highly regulated and developed country. Legislative frameworks in those countries set minimum standards, which reduce environmental and social risks.</p>	Positive
Part 3: Issuer sustainability performance	<p>Germany, the country in which NRW is located in, shows a good sustainability performance and has been rated 'B-', therefore classified as 'Prime' by the methodology of the ISS ESG Country Rating.</p> <p>It is rated 12th out of 60 countries in the ISS ESG Country Rating Universe as of 31.10.2019. This equates to a high relative performance, with a Decile Rank² of 2, i.e. the top 20%.</p>	<p>Status: Prime</p> <p>Rating: B-</p> <p>Prime threshold: B-</p> <p>Ranking against peers: Top 20%</p>

¹ The ISS ESG's present evaluation will remain valid until any modification of the Sustainability 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 03.05.2019). As of 31.10.2019, NRW confirmed that to their knowledge no controversy could be linked to any of the budget items.

² Rank relative to industry group. 1 indicates a high relative ESG performance, while 10 indicates a low relative ESG performance.

Contribution of the Sustainability Bond to the UN SDGs

Based on the assessment of the sustainability quality of the sustainability bond asset pool and using a proprietary methodology, ISS ESG assessed the contribution of NRW's sustainability bond to the Sustainable Development Goals defined by the United Nations (UN SDGs).

This assessment is displayed on 5-point scale (see Annex 2 for methodology):

Significant Obstruction	Limited Obstruction	No Net Impact	Limited Contribution	Significant Contribution
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Each of the bond's Use of Proceeds categories has been assessed for its contribution to, or obstruction of, the SDGs:

USE OF PROCEEDS	CONTRIBUTION OR OBSTRUCTION	SUSTAINABLE DEVELOPMENT GOALS
Education and sustainability research	Significant contribution	
Inclusion and social coherence	Significant contribution	
Public transportation and local mobility	Significant contribution	 
Climate protection and energy transition	Significant contribution	 
Protection of natural resources	Significant contribution	 
Sustainable urban development	Limited Contribution	
Modernisation of educational and public health facilities	Significant contribution	 

ISS ESG SPO ASSESSMENT

PART I: SUSTAINABILITY BOND GUIDELINES

1. Use of Proceeds

NRW has defined a Sustainability Bond Framework in which the different use of proceeds categories are defined.

The proceeds of this Sustainability Bond will be used to finance selected eligible projects belonging to the 2019 budget of NRW. An amount equivalent to the net proceeds will be used to finance projects and initiatives of NRW with clear environmental and/or social benefits, in accordance with NRW's sustainability policy. In case the net proceeds exceed the actual amount of eligible projects of the budgetary year 2019, the exceeding amount will be used to finance equivalent projects of the following budgetary year.

The following categories have been chosen for allocating the proceeds of this issuance (the percentages relate to a tentative maximum €2,897.5m issuance financing all eligible projects).

All selected assets are located in Germany, a highly regulated and developed country.

ASSET CATEGORY	INCLUDED IN SUSTAINABILITY BOND PORTFOLIO	SHARE OF ASSET POOL
A Education and sustainability research	✓ Yes	33%
B Inclusion and social coherence	✓ Yes	19%
C Public transportation and local mobility	✓ Yes	7%
D Climate protection and energy transition	✓ Yes	3%
E Protection of natural resources	✓ Yes	5%
F Sustainable urban development	✓ Yes	15%
G Modernisation of educational and public health facilities	✓ Yes	16%
Total		100%

The use of proceeds may include operating or capital expenditures of projects (excluding personnel costs of NRW).

In addition to belonging to one of the above categories, which are generally positive from a sustainability perspective, all projects meet specific environmental and social standards. These criteria are clearly defined and verifiable using qualitative criteria and quantitative indicators. The criteria are designed to ensure a positive impact of the projects that is not impaired by adverse impacts and effects in other areas (e.g. supply chain, environmental impacts, impacts on local communities, etc.).

Opinion: ISS ESG considers the Use of Proceeds description provided by NRW's Sustainability Bond Framework as complete, exhaustive and aligned with the SBGs. Environmental and social benefits are described and quantified.

2. Process for Project Evaluation and Selection

The project selection for inclusion in the Sustainability Bond is carried out by NRW's Treasury Department in cooperation with other NRW ministries. The selection is based on eligibility criteria defined by NRW. Main criterion is a clear environmental and/or social benefit as set out in NRW's sustainability policy. The NRW Sustainability Strategy, which has been approved by the State government on 14 June 2016, serves as the political reference for the bond. The strategy is meant to implement the UN Sustainable Development Goals (SDGs) at a state level. The selected projects are part of the State's discretionary spending. Projects prescribed by federal law are excluded.

Opinion: ISS ESG considers the Process for Project Evaluation and Selection description provided by NRW's Sustainability Bond Framework as complete, exhaustive and aligned with the SBGs. Moreover, the projects selected show alignment with the sustainability strategy of the issuer.

3. Management of Proceeds

100% of the net proceeds of the bonds will be used to finance selected eligible projects belonging to the 2019 budget. Details are listed in the following table (figures in millions of euros):

	PROJECT CATEGORY	BUDGET PLAN 2019
A	Education and sustainability research	968.4
	Enlargement of universities, additional training facilities	860.2
	Support for best in class universities	32.0
	Innovation and sustainable development	57.4
	Consumer protection	18.8
B	Inclusion and social coherence	556.9
	Inclusion, integration and qualification	184.8
	Promotion of language skills in early childhood education, support and advice for families, early education without charge	324.4
	School social work	47.7
C	Public transportation and local mobility	214.2
	Public transportation for low-income citizens	40.0
	Public transportation for pupils and students	135.0
	Transportation infrastructure for cyclists and pedestrians	39.2

D	Climate protection and energy transition	96.1
	Climate protection and renewable energies	90.2
	Enhancement of resource efficiency	5.9
E	Protection of natural resources	153.4
	Protection of nature, landscape and biodiversity	40.6
	Flood protection and river restoration	66.7
	Responsible agriculture and rural development	46.1
F	Sustainable urban development	430.4
	Urban reconstruction in the west	50.1
	Social city	55.2
	Geriatric care and demographic change	16.3
	Broadband expansion	308.9
G	Modernisation of educational and public health facilities	478.1
	University buildings	164.2
	University medical clinics	313.9
Total		2,897.5

Opinion: ISS ESG finds that Management of Proceeds proposed by NRW is well aligned with the SBGs, as all the proceeds are to be directly allocated to the 2019 budget.

4. Reporting

NRW will publish relevant information and links to public project information on its website³. The issuer will decide whether the recommended quantitative indicators set out in the ISS ESG Sustainability Bond Analysis Framework will be used for reporting. In addition, the Statistical Office of NRW will continuously update on the state of sustainable development in NRW based on a system of about 60 indicators as part of the sustainability strategy process⁴.

Opinion: ISS ESG finds that the allocation reporting proposed by NRW is in line with industry best practices and with the SBGs.

External review

NRW commissioned ISS ESG to provide this Second Party Opinion, based on the assessment of a defined asset pool. This is the sixth Sustainability Bond by NRW and ISS ESG has provided Second Party Opinions on all five previous Sustainability Bonds issued by NRW.

³ <http://www.sustainability-bond.nrw.de>

⁴ <http://www.nachhaltigkeitsindikatoren.nrw.de/indikatoren/>

PART II: SUSTAINABILITY QUALITY OF THE ASSET POOL

A. Education and sustainability research

PROJECT TYPE	PERCENTAGE OF VOLUME IN THIS PROJECT CATEGORY
Enlargement of universities, additional training facilities	89%
Support for best in class universities	3%
Innovation and sustainable development	6%
Consumer protection	2%

As a Use of Proceeds category, education and sustainability research has a significant contribution to the SDG 4 “Quality Education”.

Additionally, when considering the deeper ESG management, education and sustainability research can be associated to other SDGs.

The table below presents the findings of an ISS ESG assessment of the assets financed against KPIs and the association with SDGs based on a mapping methodology.

ASSESSMENT AGAINST ISS ESG KPI	ASSOCIATION WITH THE SDGS
A.1. Non-discriminatory access to education	
<ul style="list-style-type: none"> ✓ For 100% of projects, high social standards regarding non-discrimination are in place (in accordance with national legislation). 	
<ul style="list-style-type: none"> ✓ 100% of projects addressing the enlargement of universities or the creation of additional training facilities are directed at the public universities and colleges that currently do not charge any study fees or at professional schools with programmes heavily subsidised for participants. 	
<ul style="list-style-type: none"> ✓ A system of subsidised loans governed by the German Act on Support for Education (Bundesausbildungsförderungsgesetz/BAföG) assists socially disadvantaged students in covering their living expenses. 	
A.2. Working conditions of teaching and research staff	
<ul style="list-style-type: none"> ✓ 100% of projects are located in Germany where high labour standards are in place for both teaching and research staff (e.g. ILO core conventions). 	

A.3. Exclusion of research into controversial technologies

- ✓ For 100% of projects, research into controversial technologies (armaments, crude oil, coal, nuclear power and tobacco) is excluded from funding.



B. Inclusion and social coherence

PROJECT TYPE	PERCENTAGE OF VOLUME IN THIS PROJECT CATEGORY
Inclusion, integration and qualification	33%
Promotion of language skills in early childhood education, support and advice for families	58%
School social work	9%

As a Use of Proceeds category, inclusion and social coherence has a significant contribution to the SDG 4 “Quality Education”.

Additionally, when considering the deeper ESG management, inclusion and social coherence research can be associated to other SDGs.

The table below presents the findings of an ISS ESG assessment of the assets financed against KPIs and the association with SDGs based on a mapping methodology.

ASSESSMENT AGAINST ISS ESG KPI	ASSOCIATION WITH THE SDGS
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B.1. Non-discriminatory access to programmes/offers/services

- ✓ For 100% of projects, high social standards regarding non-discrimination are in place (in accordance with national legislation).



B.2. Free, fairly priced and/or subsidised participation in programmes/initiatives

- ✓ 100% of projects, programmes and initiatives are either free of charge or heavily subsidised for participants.



B.3. Working conditions of teaching and research staff

- ✓ 100% of projects are located in Germany where high labour standards are in place for both teaching and research staff (e.g. ILO core conventions).



C. Public transportation and local mobility

PROJECT TYPE	PERCENTAGE OF VOLUME IN THIS PROJECT CATEGORY
Public transportation for low-income citizens	19%
Public transportation for pupils and students	63%
Transportation infrastructure for cyclists and pedestrians	18%

As a Use of Proceeds category, public transportation and local mobility has a significant contribution to the SDG 10 “Reduced inequalities” and to the SDG 11 “Sustainable cities and communities”.

Additionally, when considering the deeper ESG management, public transportation and local mobility can be associated to other SDGs.

The table below presents the findings of an ISS ESG assessment of the assets financed against KPIs and the association with SDGs based on a mapping methodology.

ASSESSMENT AGAINST ISS ESG KPI	ASSOCIATION WITH THE SDGS
C.1. Non-discriminatory access to subsidised public transportation	
<p>✓ For 100% of projects, high social standards regarding non-discrimination are in place (in accordance with national legislation).</p>	
C.2. Fairly priced subsidised public transportation	
<p>✓ For 100% of projects, subsidised public transportation is offered at reduced fares for eligible persons.</p>	
C.3. Working conditions during construction	
<p>✓ 100% of projects are located in Germany where high labour standards are in place for both own employees and contractors (e.g. ILO core conventions).</p>	
C.4. Consideration of environmental aspects during planning and construction	
<p>✓ For 100% of projects, the Collective Bargaining and Public Procurement Act of North Rhine-Westphalia (Tariftreue- und Vergabegesetz NRW/TVgG-NRW) requires that sustainability criteria such as energy and resource efficiency have to be taken into consideration in all public procurement contracts.</p>	

- No information is available on the number of projects for which comprehensive and specific environmental standards (regarding e.g. noise mitigation, minimisation of environmental impact during construction work) are applied.



D. Climate protection and energy transition

PROJECT TYPE	PERCENTAGE OF VOLUME IN THIS PROJECT CATEGORY
Climate protection and renewable energies	94%
Enhancement of resource efficiency	6%

As a Use of Proceeds category, climate protection and energy transition has a significant contribution to the SDG 7 “Affordable and clean energy” and to the SDG 13 “Climate action”.

Additionally, when considering the deeper ESG management, climate protection and energy transition can be associated to other SDGs.

The table below presents the findings of an ISS ESG assessment of the assets financed against KPIs and the association with SDGs based on a mapping methodology.

ASSESSMENT AGAINST ISS ESG KPI	ASSOCIATION WITH THE SDGS
D.1. Exclusion of controversial business areas	
<ul style="list-style-type: none"> ✓ For 100% of projects, funding to controversial business areas (armaments, crude oil, coal, nuclear power, fracking and tobacco) is excluded. 	
D.2. Free, fairly priced and/or subsidised participation in programmes/initiatives	
<ul style="list-style-type: none"> ✓ For 100% of projects, general advisory services are offered free of charge and workshops as well as company-specific consulting services are heavily subsidised. 	
D.3. Working conditions of employees at funded companies	
<ul style="list-style-type: none"> ✓ 100% of projects are located in Germany where high labour standards are in place (e.g. ILO core conventions). 	

E. Protection of natural resources

PROJECT TYPE	PERCENTAGE OF VOLUME IN THIS PROJECT CATEGORY
Protection of nature, landscape and biodiversity	27%
Flood protection and river restoration	44%
Responsible agriculture and rural development	30%

As a Use of Proceeds category, protection of natural resources has a significant contribution to the SDG 13 “Climate action” and to the SDG 15 “Life on land”.

Additionally, when considering the deeper ESG management, protection of natural resources can be associated to other SDGs.

The table below presents the findings of an ISS ESG assessment of the assets financed against KPIs and the association with SDGs based on a mapping methodology.

ASSESSMENT AGAINST ISS ESG KPI	ASSOCIATION WITH THE SDGS
E.1. Consideration of environmental aspects during planning and construction	
<p>For 100% of projects, the Collective Bargaining and Public Procurement Act of North Rhine-Westphalia (Tariftreue- und Vergabegesetz NRW/TVgG-NRW) requires that sustainability criteria such as energy and resource efficiency have to be taken into consideration in all public procurement contracts.</p>	
<p>No information is available on the number of projects for which comprehensive and specific environmental standards (regarding e.g. noise mitigation, minimisation of environmental impact during construction work) are applied.</p>	
E.2. Modelling on natural state of water bodies, scientific monitoring, structural quality mapping	
<p>For 100% of relevant projects, scientifically based ecological flood protection measures modelled on the natural state of the water body are carried out and exclude conventional flood protection (technical regulation of rivers).</p>	
<p>For 100% of relevant projects, high standards regarding subsequent monitoring (in accordance with e.g. the European Water Framework Directive/WFD) are in place.</p>	

E.3. Exclusion of research into controversial technologies

- ✓ 100% of projects are located in Germany where high labour and health and safety standards are in place for both own employees and contractors (e.g. ILO core conventions).



Controversy assessment

For 100% of projects, NRW has no information about any fatal accident that occurred during construction at the project sites.

F. Sustainable Urban Development

PROJECT TYPE	PERCENTAGE OF VOLUME IN THIS PROJECT CATEGORY
Urban reconstruction in the west	12%
Social city	13%
Geriatric care and demographic change	4%
Broadband expansion	72%

As a Use of Proceeds category, sustainable urban development has a limited contribution to the SDG 11 “Sustainable cities and communities”.

Additionally, when considering the deeper ESG management, sustainable urban development can be associated to other SDGs.

The table below presents the findings of an ISS ESG assessment of the assets financed against KPIs and the association with SDGs based on a mapping methodology.

ASSESSMENT AGAINST ISS ESG KPI	ASSOCIATION WITH THE SDGS
F.1. Achieved energy efficiency (modernisations only)	

- ✓ 100% of the relevant projects must observe the requirements of the Energy Saving Ordinance (Energieeinsparverordnung / EnEV) in the version applicable at the time of application for planning consent.



- No information is available on whether improvement projects reach or exceed a 20% energy efficiency improvement.



F.2. Safe disposal of removed construction materials that are harmful to health (modernisations only)

- ✓ For 100% of projects, the implementing construction companies and subcontractors have to isolate and remove waste and pollutants (in accordance with national legislation).



F.3. Working conditions during construction work

- ✓ 100% of projects are located in Germany where high labour and health and safety standards are in place for both own employees and contractors (e.g. ILO core conventions).



F.4. Consideration of environmental aspects during planning and construction (new builds only)

- ✓ For 100% of relevant projects, the Collective Bargaining and Public Procurement Act of North Rhine-Westphalia (Tariftreue- und Vergabegesetz NRW/TVgG-NRW) bindingly requires consideration of energy efficiency and other environmental aspects.



- No information is available on the number of projects for which comprehensive and specific environmental standards (regarding e.g. noise mitigation, minimisation of environmental impact during construction work) are applied.



F.5. Social and environmental standards in the supply chain (new builds only)

- ✓ For 100% of projects, the Collective Bargaining and Public Procurement Act of North Rhine-Westphalia (Tariftreue- und Vergabegesetz NRW/TVgG-NRW) applies. It requires compliance with the ILO core conventions in the supply chain.



- ✓ For 100% of projects, the Collective Bargaining and Public Procurement Act of North Rhine-Westphalia (Tariftreue- und Vergabegesetz NRW/TVgG-NRW) requires that sustainability criteria such as energy and resource efficiency have to be taken into consideration in all public procurement contracts.



- No information is available on the number of projects for which comprehensive and specific environmental supply chain standards are applied.



F.6. Community dialogue (new builds only)

- ✓ 100% of projects comply with the regulations of the German Building Code (Baugesetzbuch/BauGB). The regulations 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).



Controversy Assessment

For 100% of projects, NRW has no information about any fatal accident that occurred during construction at the project sites.

G. Modernisation of educational and public health facilities

PROJECT TYPE	PERCENTAGE OF VOLUME IN THIS PROJECT CATEGORY
University buildings	34%
University medical clinics	66%

As a Use of Proceeds category, modernisation of educational and public health facilities has a significant contribution to the SDG 3 “Good health and well-being” and to the SDG 4 “Quality education”.

Additionally, when considering the deeper ESG management, modernisation of educational and public health facilities can be associated to other SDGs.

The table below presents the findings of an ISS ESG assessment of the assets financed against KPIs and the association with SDGs based on a mapping methodology.

ASSESSMENT AGAINST ISS ESG KPI	ASSOCIATION WITH THE SDGS
G.1. Achieved energy efficiency (modernisations only)	
<ul style="list-style-type: none"> ✓ 100% of the relevant projects must observe the requirements of the Energy Saving Ordinance (Energieeinsparverordnung / EnEV) in the version applicable at the time of application for planning consent. ○ No information is available on whether improvement projects reach or exceed a 20% energy efficiency improvement. 	 
G.2. Safe disposal of removed construction materials that are harmful to health (modernisations only)	
<ul style="list-style-type: none"> ✓ For 100% of projects, the implementing construction companies and subcontractors have to isolate and remove waste and pollutants (in accordance with national legislation). 	

G.3. Working conditions during construction work

- ✓ 100% of projects are located in Germany where high labour and health and safety standards are in place for both own employees and contractors (e.g. ILO core conventions).



G.4. Consideration of environmental aspects during planning and construction (new builds only)

- ✓ For 100% of relevant projects, the Collective Bargaining and Public Procurement Act of North Rhine-Westphalia (Tariftreue- und Vergabegesetz NRW/TVgG-NRW) bindingly requires consideration of energy efficiency and other environmental aspects.



- No information is available on the number of projects for which comprehensive and specific environmental standards (regarding e.g. noise mitigation, minimisation of environmental impact during construction work) are applied.



G.5. Social and environmental standards in the supply chain (new builds only)

- ✓ For 100% of projects, the Collective Bargaining and Public Procurement Act of North Rhine-Westphalia (Tariftreue- und Vergabegesetz NRW/TVgG-NRW) applies. It requires compliance with the ILO core conventions in the supply chain.



- ✓ For 100% of projects, the Collective Bargaining and Public Procurement Act of North Rhine-Westphalia (Tariftreue- und Vergabegesetz NRW/TVgG-NRW) requires that sustainability criteria such as energy and resource efficiency have to be taken into consideration in all public procurement contracts.



- No information is available on the number of projects for which comprehensive and specific environmental supply chain standards are applied.



G.6. Community dialogue (new builds only)

- ✓ 100% of projects comply with the regulations of the German Building Code (Baugesetzbuch/BauGB). The regulations 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).



Controversy Assessment

For 100% of projects, NRW has no information about any fatal accident that occurred during construction at the project sites.

PART III: ASSESSMENT OF GERMANY'S ESG PERFORMANCE

The ISS ESG Country Rating comprises a rating scale from A+ (excellent) to D- (poor). Based on its performance relative to the other countries of the universe, ISS ESG designates a country as 'Prime' or 'Not Prime'. It is assigned a Decile Rank, indicating this relative industry group performance, with 1 indicating a high relative ESG performance, and 10 a low relative ESG performance.

COUNTRY	RATING	STATUS	DECILE RANK
GERMANY	B-	PRIME	2

This means that the country performs well in terms of sustainability, both compared against other countries and in terms of the country-specific 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 31.10.2019, this rating places Germany 12th out of 60 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

Germany rates above the average in all areas besides "Natural resources". In "Environmental Rating" and "Climate Change and Energy" the rating is slightly above average.

The country has a low controversy level.

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



Robert Hassler, Head of ISS ESG Ratings
London/Munich/Rockville/Zurich

DISCLAIMER

1. Validity of the SPO: For NRW's first issuance following the SPO release date.
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.
5. We would point out that this SPO, in particular the images, text and graphics contained therein, and the layout and company logo of ISS ESG and ISS ESG are protected under copyright and trademark law. Any use thereof shall require the express prior written consent of ISS. Use shall be deemed to refer in particular to the copying or duplication of the SPO wholly or in part, the distribution of the SPO, either free of charge or against payment, or the exploitation of this SPO in any other conceivable manner.

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ANNEX 1: ISS ESG Country Rating

The following pages contain extracts from NRW'S 2019 ISS ESG Country Rating.

ESG Country Rating

Germany

Status Prime

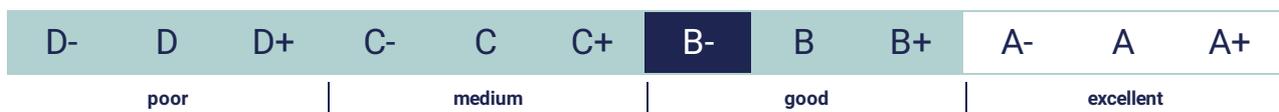
Rating B-

Prime Threshold B-

Decile Rank 2



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.

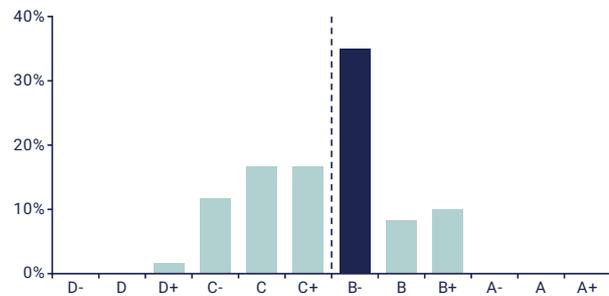
Country Leaders

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

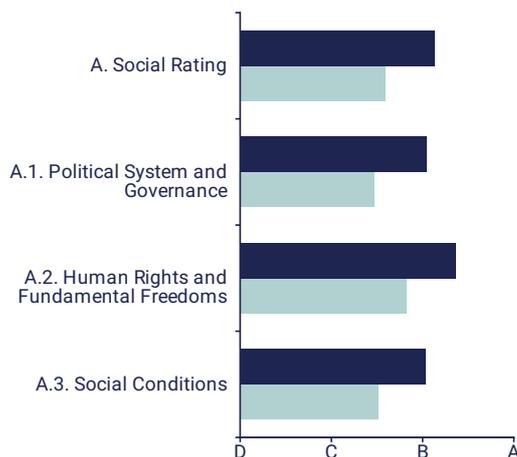
Legend: ■ Universe ■ Country --- Prime

Distribution of Ratings

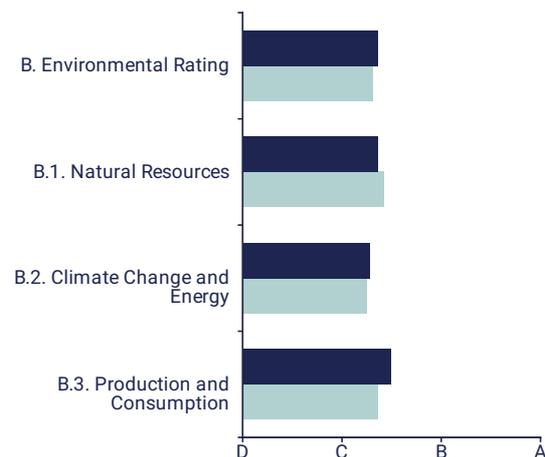
60 entities in the universe



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, 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. 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 industrialized country, Germany's per capita energy consumption and greenhouse gas emissions are comparatively high. A solid policy framework comprising ambitious targets and measures to ensure a significant decrease of emissions and effectively counter climate change is lacking. In addition, Germany experienced high financial losses caused by extreme weather events such as drought, storms and heavy precipitation in recent years. The area under sustainable forestry and under organic agriculture, as well as the area of protected land is high. Genetically modified crops are grown in Germany. Despite this, a large number of plants, animal and fish species in Germany are considered threatened.

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 industrialized economy and the society's unsustainable consumption patterns have significant negative impacts on the local and global environment. A policy framework which is suitable to effectively counter climate change is lacking.

Germany

Methodology - Overview

The ESG Country Rating methodology was originally developed by 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 Sustainability Bond KPIs

The ISS ESG Sustainability 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 NRW'S Sustainability 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 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 on the next page) 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 Sustainability 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” 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 Sustainability Bond KPIs.

The evaluation was carried out using information and documents provided to ISS ESG on a confidential basis by NRW (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 NRW's Sustainability Bond contributes to related SDGs and has a positive association with their respective sub-targets.

The contribution assessment is split into two Levels:

1. **Level 1:** Contribution and/or obstruction of the Use of Proceeds categories to be financed through the bond to the UN SDGs
2. **Level 2:** Association of the assets' ESG performance with further SDGs

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 Sustainability Bond, contact:

Federico Pezzolato

Federico.Pezzolato@isscorporatesolutions.com

SPO@isscorporatesolutions.com

+44.20.3192.5760