



## Assessment of the Sustainability Quality of the Green Bond issued by NRW.BANK

9 December 2018

### Aim and Scope of this Second Party Opinion

NRW.BANK, the state development bank of North Rhine-Westphalia (NRW), has commissioned ISS-oekom to assist with the issuance of its Green Bond by assessing the sustainable added value of its bond.

ISS-oekom's mandate included the following services:

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

### Overall Evaluation of the Green Bond

ISS-oekom's overall evaluation of the Green Bond by NRW.BANK is positive:

- NRW.BANK 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 Green Bond Principles (Part I of this Second Party Opinion).
- The overall sustainability quality in terms of sustainability benefits and risk avoidance and minimisation is good (Part II of this Second Party Opinion).
- The issuer itself shows a good sustainability performance (Part III of this Second Party Opinion).

Certain minor aspects could still add to the overall quality of the asset pool: more specific selection or performance criteria would be recommended for environmental aspects of projects, especially for the solar power category, where too little information is available on the manufacturers of solar modules.

**1) Use of Proceeds**

The proceeds of this Green Bond will be used exclusively to refinance loans disbursed not longer than 12 months before the start of the Second Party Opinion and whose intended purposes are clearly defined and limited by the project categories and criteria specified below.

The following categories have been chosen for allocating the proceeds of this issuance:

	Project Area	Financed Projects	Percentage of Bond Issuance
<b>Renewable energy</b>			
A	Wind power	€ 27,930,930 6 onshore projects	6%
B	Solar energy	€ 1,030,000 3 PV projects	<1%
<b>Energy Efficiency</b>			
C	Transmission of renewable energy	€ 200,000,000	40%
<b>Clean transportation</b>			
D	Public transportation (hybrid/hydrogen buses)	€ 5,000,000 30 hydrogen buses	1%
<b>Green buildings</b>			
E	Loans for energy efficient residential buildings	€ 13,085,500 Several energy efficiency renovations of residential buildings	3%
F	Modernisation and extension of educational and public health facilities	€ 57,526,969 4 university clinics	11%
G	Municipal climate projects	€ 195.561.264	39%

<b>Total</b>	<b>€ 500.134.663</b>	<b>100%</b>
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## 2) Process for Project Evaluation and Selection

The selection of assets for inclusion in the Green Bond is carried out internally by NRW.BANK. The department Capital Market, more precisely NRW.BANK's Green Bond Team carries out this selection.

The selection is based on a set of eligibility criteria defined by NRW.BANK, which are:

- Contribution to the sustainability strategy of the German State of North Rhine-Westphalia as well as the United Nations' Sustainable Development Goals.
- Contribution to the fight against climate change
  - Mitigation: limiting greenhouse gas emissions in contribution to the goal of limiting temperature rises to two degrees Celsius above pre-industrial levels, as stated by the UNFCC Paris Agreement.
  - Adaptation: municipal climate projects help fighting existing climate change and its impacts.

## 3) Management of Proceeds

The proceeds of this Green Bond will be exclusively used to refinance loans disbursed not longer than 12 months before the start of the Second Party Opinion and which correspond to the eligibility criteria above. The chosen projects are thus internally earmarked and will be exclusively refinanced via this Green Bond. The proceeds are immediately allocated to the refinancing of the loans, which spares the issuer a specific ring-fencing.

According to the issuer, the term of the bond corresponds to the shortest single repayment term. Thus, no reinvestment of funds – topping up – will take place during the duration of the bond, rendering an assessment of additional loans and projects unnecessary.

## 4) Reporting

NRW.BANK commits to a regular reporting towards the Green Bond's investors via its dedicated web page (<http://www.nrwbank.com/greenbond>) and in its yearly Sustainability Report.

The reporting includes an impact assessment in line with the recommendations of the Harmonized Framework for Impact Reporting<sup>1</sup>. The impact assessment on the indicators relating to this Green Bond is executed and verified by the Wuppertal Institute.

<sup>1</sup> <http://treasury.worldbank.org/cmd/pdf/InformationonImpactReporting.pdf>

**1) ISS-oekom Green Bond KPIs**

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

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

**1) Evaluation of the projects refinanced by the Green Bond****Method**

ISS-oekom has evaluated whether the assets included in the Green Bond Asset Portfolio match the categories and criteria listed in the ISS-oekom Green Bond KPIs. The evaluation was carried out using information and documents provided to ISS-oekom on a confidential basis by NRW.BANK (e.g. information on credit guidelines). National legislation and standards were drawn on to complement the information provided by NRW.BANK.

## Findings

### A. Wind power

Share in use of proceeds: €27,930,930 (6% of the total credit amount)

Project types: Construction and operation of wind power plants

Loan recipients: Private and public wind park operators and cooperatives

#### Sustainability Risks and Benefits of the Project Category

##### This project category contributes to the following SDGs:

- SDG 13 (climate action)
- SDG 7 (affordable clean energy)

The environmental benefits of wind power generation projects comprise the contribution to climate protection and to the transition towards a low-carbon economy. Further benefits are less environmental degradation and pollution (e.g. through resource extraction, releases of waste streams to water or soil) in comparison to fossil fuel or nuclear power plants. From a social perspective, the transition from fossil fuels to wind power lowers negative human rights impacts of oil, gas and coal production (e.g. land-use conflicts, resettlement). In addition – different from fossil fuels combustion - wind power does not negatively impact air quality.

However, the construction and operation of wind power plants can result in negative environmental impacts (e.g. noise and other negative impacts on biodiversity) and impacts on local communities. Further risks include potentially poor working conditions during construction and maintenance of power plants (especially with respect to worker safety) as well as in the production processes of wind power equipment. As the construction of these plants requires large amounts of raw materials and equipment, life cycle aspects are an important factor when assessing the overall environmental footprint of related projects.

All wind power projects selected for the Green Bond are located in Germany, a country with high level of social and environmental legislation.

#### 1. Site selection

- ✓ None of the projects are located in key biodiversity areas (Ramsar sites, IUCN protected areas I-IV).
- ✓ 5 projects out of 6, accounting for 97% of the loans' volume, underwent an Environmental Impact Assessments at the planning stage.

#### 2. Community dialogue

- ✓ 5 projects out of 6, accounting for 97% of the loans' volume, feature community dialogue as an integral part of the planning process (e.g. sound information of communities, community advisory panels and committees, surveys and dialogue platforms, grievance mechanisms and compensation schemes).

### **3. Environmental aspects of construction and operation**

- ✓ 5 projects out of 6, accounting for 97% of the loans' volume, meet high environmental standards during the construction phase (e.g. noise mitigation, minimisation of environmental impact during construction work).
- ✓ 5 projects out of 6, accounting for 97% of the loans' volume, provide for measures to protect habitat and wildlife during operation of the power plant (e.g. measures to protect birds and bats).

### **4. Working conditions during construction and maintenance work**

- ✓ 100% of the projects are located in a country that provides for high labour and health and safety standards for construction and maintenance work (e.g. ILO core conventions).

### **Controversy assessment**

A controversy assessment on the included projects did not reveal any controversial activities or practices that could be attributed to NRW.BANK.

## B. Solar power

Share in use of proceeds: €1,030,000 (0,24% of the total credit amount)

Project types: Construction and operation of PV rooftop installations

Loan recipients: Public and private solar park operators and cooperatives

### Sustainability Risks and Benefits of the Asset Category

#### This project category contributes to the following SDGs:

- SDG 13 (climate action)
- SDG 7 (affordable clean energy)

The environmental benefits of PV power generation projects comprise the contribution to climate protection and to the transition towards a low-carbon economy. Further benefits are less environmental degradation and pollution (e.g. resource extraction, releases of waste streams to water or soil) in comparison to fossil fuel or nuclear power plants. From a social perspective, the transition from fossil fuels to PV power reduces negative human rights impacts of oil, gas and coal production (e.g. land-use conflicts, resettlement). In addition – different from fossil fuels combustion - PV power does not negatively impact air quality.

With respect to potential risks, the manufacturing of PV panels in developing countries such as China can have negative social and environmental impacts. As the production of PV panels requires scarce raw materials and as the panels contain hazardous substances, aspects such as recyclability, management of hazardous substances and conversion efficiency are relevant to evaluate the overall environmental performance of related projects. However, in comparison with other renewable energy sources, social and environmental risks related to PV power are deemed to be low.

All PV assets selected for the Green Bond are located in highly-regulated and developed countries.

#### 1. Site Selection (not applicable for PV roof systems):

- 100% of the projects are located on rooftops, therefore not in key biodiversity areas (Ramsar sites, IUCN protected areas I-IV). This indicator is therefore not applicable.

#### 2. Supply chain standards

- No information is available on high labour and health and safety standards in the supply chain of the deployed solar modules (e.g. ILO core conventions).

#### 3. Environmental aspects of solar power plants

- No information is available on projects that feature a conversion efficiency of at least 15%.

- No information is available on projects that provide for high environmental standards regarding take-back and recycling of solar modules at end-of-life stage (e.g. in line with WEEE requirements).
- No information is available on projects that provide for high standards regarding the reduction or elimination of toxic substances within solar panels (e.g. in line with RoHS requirements or other relevant standards).

#### **4. Working conditions during construction and maintenance work**

- ✓ 100% of projects provide for high labour and health and safety standards for construction and maintenance work (e.g. ILO core conventions).

#### **Controversy Assessment** (not applicable for PV roof systems)

All project are PV roof systems therefore a controversy assessment was not necessary.

## C. Transmission of renewable energy

Share in use of proceeds: €200,000,000 (40% of the total credit amount)

Project types: Grid expansion for transmission of electricity from wind turbines to the electrified network

Loan recipients: Private operator

### Sustainability Risks and Benefits of the Project Category

#### This project category contributes to the following SDGs:

- SDG 13 (climate action)
- SDG 7 (affordable clean energy)

The environmental benefits of electrical transmission of renewable energy comprise the contribution to climate protection and the transition towards a low-carbon economy, by expanding the electrical grid and fostering the transmission of clean energy to the population.

However, the construction and operation of transmission lines can result in negative environmental impacts (e.g. noise and other negative impacts on biodiversity) and impacts on local communities. Further risks include potentially poor working conditions during construction and maintenance of power lines (especially with respect to worker safety).

All projects selected for the Green Bond are located in Germany, a country with high level of social and environmental legislation.

### 1. Site selection

- ✓ 100% of assets are not in key biodiversity areas (Ramsar sites, IUCN protected areas I-IV), or had alternative route planning considered and/or route planning optimised, in consultation with experts.

### 2. Community dialogue

- ✓ 100% of assets feature community dialogue as an integral part of the planning process (e.g. sound information of communities, community advisory panels and committees, surveys and dialogue platforms, grievance mechanisms and compensation schemes).

### 3. Environmental aspects of construction

- ✓ 100% of transmission lines fulfil high environmental standards and requirements (environmental impact assessment, biodiversity assessment, research on impacts on flora and fauna, relocation of endangered species if applicable, research and mitigation with regard to soil warming), as required by legislation.
- ✓ For 100% of assets, low-impact methods are applied during cable-laying (horizontal drilling, consideration of breeding periods of affected animals).

#### **4. Safety of transmission network and electrical substations**

- ✓ For 100% of assets, operational safety is ensured (i.e. control centre, electrical flow and substation monitoring).

#### **5. Working conditions during construction and operation**

- ✓ 100% of assets provide for high labour and health and safety standards for construction and maintenance work (e.g. ILO core conventions).

#### **Controversy Assessment**

A controversy assessment on the included projects did not reveal any controversial activities or practices that could be attributed to NRW.BANK.

## D. Public transportation (hydrogen buses)

Share in use of proceeds: €5,000,000 (1% of the total credit amount)

Project types: Construction and operation of 30 hydrogen fuel buses

Loan recipients: Public operator

### Sustainability Risks and Benefits of the Asset Category

#### This project category contributes to the following SDGs:

- SDG 13 (climate action)
- SDG 11 (sustainable cities and communities)

The use of electric buses is positive from an environmental point of view as electric buses help to foster climate protection through lower carbon emissions. From a social point of view, passenger bus transport helps to reduce inequalities as it gives mobility to people not possessing a private vehicle.

At the same time, when evaluating the production of electric buses, certain risks have to be taken into account. Major risks from an environmental point of view stem from the negligence of environmental impacts throughout the whole life-cycle (i.e. all impacts from cradle to grave). Social risks stem from safety of both workers at production sites and potential bus operators and passengers.

### 1. Production standards

- ✓ 100% of assets provide for a comprehensive environmental management system at the bus manufacturing sites.
- ✓ 100% of assets provide for high labour and health and safety standards at the manufacturing sites (e.g. ILO core conventions).

### 2. Environmental aspects of buses

- None of the assets have information on comprehensive life-cycle-assessments.
- ✓ For 100% of assets energy efficiency during operation is optimised.

### 3. Social aspects of buses

- ✓ All projects ensure health and safety for both passengers and operators (e.g. fire protection, minimisation of noise exposure, accessibility).

### Controversy Assessment

A controversy assessment on the included projects did not reveal any controversial activities or practices that could be attributed to NRW.BANK.

## E. Loans for energy efficient residential buildings

Share in use of proceeds: €13,085,500 (3% of the total credit amount)

Project types: Energy efficiency renovations of residential buildings

Loan recipient: Private borrowers

### Sustainability Risks and Benefits of the Project Category

#### This project category contributes to the following SDGs:

- SDG 13 (climate action)
- SDG 11 (sustainable cities and communities)

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

However, projects in this category bear similar social and environmental risks as those in category B. Furthermore, fair banking practices need to be in place in the retail client business in order to mitigate potential social risks, e.g. over-indebtedness or foreclosure.

### 1. Achieved energy efficiency of buildings

- No information is available on the annual primary energy consumption for space heating and domestic water of financed buildings.
- ✓ For 100% of loans allocated to residential buildings, the credit terms require that building regulations of the Energy Saving Ordinance (Energieeinsparverordnung / EnEV) must always be observed in the version applicable at the time of credit application.

### 2. Responsible treatment of customers with debt repayment problems

- NRW.BANK has preventive measures and sustainable solutions for customers with debt repayment problems in place (e.g. pro-actively approaching customers potentially at risk, internal debt counselling and support for external debt counselling and foreclosure as a last resort). However, due to NRW.BANK's business model as a development bank these loans are granted by the client's principle bank and not NRW.BANK directly. Therefore NRW.BANK's measures do not apply and no statement on the share of loans ensuring preventive measures and sustainable solutions for customers with debt repayment problems can be made.

### Controversy Assessment

Due to the low risk of residential loans, no controversy assessment was conducted.

## F. Modernisation and extension of educational and public health facilities

Share in use of proceeds: €57,526,969 (11% of the total credit amount)

Project types: Modernisation and extension of university medical clinics

Loan recipients: University clinics Aix-la-Chapelle, Bonn, Munster and Cologne

### Sustainability Risks and Benefits of the Project Category

#### This project category contributes to the following SDGs:

- SDG 13 (climate action)
- SDG 11 (sustainable cities and communities)
- SDG 3 (good health and well-being)

Sustainability benefits encompass enhanced provision of public health services and the establishment of additional university training facilities. Furthermore, energy efficiency improvements in existing buildings help reduce energy consumption in the long-run and therefore reinforce the transition towards a low carbon economy.

When modernising facilities minimum energy efficiency improvements should be achieved to reduce the impact of those facilities on the environment. Additionally, improper disposal of hazardous substances can lead to negative environmental impacts. Social and environmental risks that can arise from all projects are: construction workers' health and safety as well as overall working conditions and environmental hazards caused during construction. Regarding new builds, social and environmental impacts in the supply chain need to be considered and affected communities involved in the planning process to ensure all stakeholders are heard.

All modernisation and extension projects selected for the Green Bond are located in Germany, a country with high level of social and environmental legislation.

#### 1. Achieved energy efficiency (modernisations only)

- No information is available on achieved energy efficiency of financed projects.
- ✓ For 100% of financed projects, the German Energy-Saving Ordinance (Energieeinsparverordnung/EnEV) requires compliance with detailed and stringent energy performance standards.

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

- ✓ For 100% of financed projects, the implementing construction companies and subcontractors isolate and remove waste and pollutants in compliance with local regulation.

### **3. Working conditions during construction work**

- ✓ For 100% of projects high labour standards regarding e.g. working time, periods of rest, minimum wages, freedom of association, collective bargaining and non-discrimination (in accordance with local regulations) are in place.
- In 2015, before construction/modernisation began, there was a fatal accident in connection with the maintenance of an onsite generator in one project. Liability cannot be attributed to NRW.BANK

### **4. Consideration of environmental aspects during planning and construction**

- ✓ For 100% of financed 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.

### **5. Social and environmental standards in the supply chain**

- ✓ For 100% of financed 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 financed 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.

### **6. Community dialogue**

- ✓ 100% of financed 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**

A controversy assessment on the included projects did not reveal any controversial activities or practices that could be attributed to NRW.BANK apart from the above-mentioned fatal accident.

## G. Municipal climate projects

Share in use of proceeds: € 195.561.264 (39% of the total credit amount)

Project types: Municipal projects including construction of modern wastewater system infrastructure, water supply, tree planting, and LED streetlighting, and restoration of the original natural state of watercourses such rivers Emscher, Seseke and their tributaries.

Loan recipients: Municipalities of North Rhine-Westphalia

### Sustainability Risks and Benefits of the Project Category

#### This project category contributes to the following SDGs:

- SDG 13 (climate action)
- SDG 11 (sustainable cities and communities)
- SDG 14 (life below water)
- SDG 6 (Clean water and sanitation)

Environmental benefits of this category include the restoration of natural habitats and development of climate properties of cities, thus strengthening biodiversity as well as a reduction of flooding risks.

However, the restoration of watercourses and wastewater plants can also result in negative environmental and social impacts at construction sites. Specifically, risks include potentially poor working conditions as well as environmental impairments during construction and maintenance.

All projects selected for the Green Bond are located in Germany, a country with high level of social and environmental legislation.

### 1. Consideration of environmental aspects during planning and construction

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

### 2. Modelling on natural state of water bodies, scientific monitoring, structural quality mapping (only to applicable projects)

- ✓ For 100% of projects, appropriate planning, implementation and subsequent monitoring for ten years are based on the European Water Framework Directive (WFD) and thus modelled on the natural state of watercourses.

### 3. Sustainability standards for the wastewater and water supply systems (only to applicable projects)

- No information is available on projects that feature measures to reduce the environmental impacts of sewage sludge disposal (e.g. exclusion of introduction into waterways and landfill, exclusion or standards for agricultural use, utilisation of energy).
- ✓ 100% of assets provide for high standards regarding the quality of treated and drinking water (as provided by legislation Wasserhaushaltsgesetz (WHG)).

#### **4. Environmental aspects of plantings** (only for applicable projects)

- ✓ 100% of project for which plants originate from sources that provide for sustainable soil and biodiversity management along the whole value chain (e.g. strong position on pesticide and chemical fertiliser use, deforestation, soil degradation, biodiversity).

#### **5. Working conditions during construction and operation**

- ✓ For 100% of projects, high labour and health and safety standards for both own employees and contractors are in place (provided for by national legislation).

#### **Controversy assessment**

A controversy assessment on the included project did not reveal any controversial activities or practices that could be attributed to NRW.BANK.

## Climate Bond Initiative Standard

All of the wind and solar power projects as well as the public transport projects that received loans to be refinanced by NRW.BANK's Green Bond 2018 meet the eligibility criteria of the Climate Bonds Standard for Wind Energy<sup>2</sup>, Solar Energy<sup>3</sup> and Low Carbon Transport<sup>4</sup> respectively:

Eligible projects and assets relating to wind energy generation are projects and assets that operate or are under construction to operate in one or more of the following activities:

- Onshore wind energy generation facilities
- Dedicated operational production, manufacturing or distribution facilities for key components, such as wind turbines, platforms etc.
- Dedicated transmission infrastructure and support facilities

Eligible projects and assets relating to solar energy generation are projects and assets that operate or are under construction to operate in one or more of the following activities:

- Onshore solar electricity generation facilities
- Wholly dedicated transmission infrastructure and other supporting infrastructure for onshore solar electricity generation facilities including inverters, transformers, energy storage systems and control systems
- Onshore solar thermal facilities such as solar hot water systems

Eligible projects and asset category relating to low carbon transport are projects and assets that operate or are under construction to operate in one or more of the following activities:

All infrastructure, infrastructure upgrades, rolling stock and vehicles for public transport, including electrified rail, trams, trolleybuses and cable cars as well as buses with no direct emissions (electric and hydrogen).

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2 [https://www.climatebonds.net/files/files/Sector%20Criteria%20-%20Wind%20v1\\_0%281%29.pdf](https://www.climatebonds.net/files/files/Sector%20Criteria%20-%20Wind%20v1_0%281%29.pdf)

3 [https://www.climatebonds.net/files/files/Sector%20Criteria%20-%20Solar%20v2\\_1.pdf](https://www.climatebonds.net/files/files/Sector%20Criteria%20-%20Solar%20v2_1.pdf)

4 <https://www.climatebonds.net/files/files/Low%20Carbon%20Transport%20Background%20Paper%20Feb%202017.pdf>

## Part III – Assessment of NRW.BANK’s Sustainability Performance

In the ISS-oekom Corporate Rating with a rating scale from A+ (excellent) to D- (poor), NRW.BANK was awarded a score of C and rated “Prime”. This means that the company performed well in terms of sustainability, both compared against others in the industry and in terms of the industry-specific requirements defined by ISS-oekom. In ISS-oekom’s view, the securities issued by the company thus all meet the basic requirements for sustainable investments.



As of 09.12.2018, this rating puts NRW.BANK in place 16 out of 28 companies rated by ISS-oekom in the Financials/Development Banks sector.

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

- Sustainability standards for financial products and services
- Goal-oriented promotion of sustainability issues
- Climate change and related risks
- Labour standards and working conditions

In two of these four key issues, NRW.BANK achieved a rating that was above the average for the sector.

The company holds a stake in casinos and lotteries on behalf of the German State of North Rhine-Westphalia, accounting for less than 1% of net assets (estimated). Other than this, the company is not involved in any controversial areas of business or business practices and does not breach any of the other exclusion criteria frequently applied by sustainability-oriented investors.

More details on the rating of the issuer can be found in Annex 2 “ISS-oekom Corporate Rating of NRW.BANK”.

A handwritten signature in blue ink, appearing to read "J. G. ...", is written over a faint, illegible stamp.

ISS-oekom

Munich, 9 December 2018

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## Disclaimer

1. ISS-oekom 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.
2. 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-oekom 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.
3. 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.
4. We would point out that this SPO, in particular the images, text and graphics contained therein, and the layout and company logo of ISS-oekom are protected under copyright and trademark law. Any use thereof shall require the express prior written consent of ISS-oekom. 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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## About ISS-oekom

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

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

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## Annex

- Annex 1: ISS-oekom Green Bond KPIs
- Annex 2: ISS-oekom Corporate Rating of NRW.BANK



## Annex 1: ISS-oekom Green Bond KPIs

### ISS-oekom Green Bond KPIs

The ISS-oekom Green Bond KPIs serve as a structure for evaluating the sustainability quality – i.e. the social and environmental added value – of the use of proceeds of NRW.BANK'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 Green Bond can be clearly identified and described.

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

### Use of Proceeds

The proceeds of this Green Bond issued by NRW.BANK will be used for the following project categories exclusively:

#### **Renewable energy**

- A. Wind power
- B. Solar power

#### **Energy efficiency**

- C. Transmission of renewable energy

#### **Clean transportation**

- D. Public transportation (buses)

#### **Green Buildings**

- E. Loans for energy efficient residential buildings
- F. Modernisation of educational and public health facilities

#### **Biodiversity and environmental quality of habitats**

- G. Municipal climate projects

### Wind power

#### 1. Site selection

- Percentage of assets that are not located in key biodiversity areas (Ramsar sites, IUCN protected areas I-IV).
- Percentage of assets that underwent environmental impact assessments at the planning stage.

#### 2. Community dialogue

- Percentage of assets that feature community dialogue as an integral part of the planning process (e.g. sound information of communities, community advisory panels and committees, surveys and dialogue platforms, grievance mechanisms and compensation schemes).

#### 3. Environmental aspects of construction and operation

- Percentage of assets that meet high environmental standards during the construction phase (e.g. noise mitigation, minimisation of environmental impact during construction work).
- Percentage of assets that provide for measures to protect habitat and wildlife during operation of the power plant (e.g. measures to protect birds and bats).

#### 4. Working conditions during construction and maintenance work

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

### Controversy Assessment

Assessment of controversial assets (e.g. due to labour rights violations, adverse biodiversity impacts).

### Solar power

#### 1. Site Selection (not applicable for PV roof systems):

- Percentage of assets that are not located in key biodiversity areas (Ramsar sites, IUCN protected areas I-IV).

#### 2. Supply chain standards

- Percentage of assets that provide for high labour and health and safety standards in the supply chain of solar modules (e.g. ILO core conventions).

#### 3. Environmental aspects of solar power plants

- Percentage of assets that feature a conversion efficiency of at least 15%.
- Percentage of assets that provide for high environmental standards regarding take-back and recycling of solar modules at end-of-life stage (e.g. in line with WEEE requirements).

- Percentage of assets that provide for high standards regarding the reduction or elimination of toxic substances within solar panels (e.g. in line with RoHS requirements or other relevant standards).
4. Working conditions during construction and maintenance work
- Percentage of assets that provide for high labour and health and safety standards for construction and maintenance work (e.g. ILO core conventions).

#### Controversy Assessment

- Assessment of controversial assets (e.g. due to labour rights violations, adverse biodiversity impacts).

## Transmission of renewable energy

### 1. Site selection

- Percentage of assets that are not located in key biodiversity areas (Ramsar sites, IUCN protected areas I-IV), or for which alternative route planning has been considered and/or route planning has been optimised in consultation with experts

### 2. Community dialogue

- Percentage of assets that feature community dialogue as an integral part of the planning process (e.g. sound information of communities, community advisory panels and committees, surveys and dialogue platforms, grievance mechanisms and compensation schemes).

### 3. Environmental aspects of construction

- Percentage of onshore cables that fulfil high environmental standards and requirements (environmental impact assessment, biodiversity assessment, research on impacts on flora and fauna, relocation of endangered species if applicable, research and mitigation with regard to soil warming).
- Percentage of onshore cables for which low-impact methods are applied during cable-laying (horizontal drilling, consideration of breeding periods of affected animals).

### 4. Safety of transmission network and electrical substations

- Percentage of assets for which operational safety is ensured (i.e. control centre, electrical flow and substation monitoring).

### 5. Working conditions during construction and operation

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

#### Controversy Assessment

- Assessment of controversial assets (e.g. due to labour rights violations, adverse biodiversity impacts).

## **Public transportation (hydrogen buses)**

### 1. Productions standards

- Percentage of assets that provide for a comprehensive environmental management system at the manufacturing sites of buses.
- Percentage of assets that provide for high labour and health and safety standards at the manufacturing sites of buses (e.g. ILO core conventions).

### 2. Environmental aspects of buses

- Percentage of assets for which comprehensive life-cycle-assessments have been conducted.
- Percentage of assets for which energy efficiency during operation is optimised (e.g. E-buses, hybrid and biofuel buses).

### 3. Social aspects of buses

- Percentage of assets which ensure health and safety for both passengers and operators (e.g. fire protection, minimisation of noise exposure, accessibility).

### Controversy Assessment

- Assessment of controversial assets (e.g. due to labour rights violations, fatalities).

## **Loans for energy efficient residential buildings**

### 1. Achieved energy efficiency of buildings

- Percentage of financed projects relating to this project category for which energy efficiency improved by 20% or more (modernisations only).
- Percentage of loans allocated to residential buildings that comply with and/or exceed the requirements of the latest German building decree (Energieeinsparverordnung / EnEV).

### 2. Responsible treatment of customers with debt repayment problems

- Percentage of loans for which preventive measures and sustainable solutions for customers with debt repayment problems are in place.

## **Modernisation and extension of educational and public health facilities**

### 1. Achieved energy efficiency

- Percentage of financed projects which received good scores in the energy efficiency ratings of the buildings certificates (e.g. BREEAM, LEED) or that are proven to be part of the top 15% of the local market in terms of energy efficiency (new builds only).
  - Percentage of financed projects relating to this project category for which energy efficiency improved by 20% or more (modernisations only).
2. Safe disposal of removed construction materials that are harmful to health (modernisations only)
    - Percentage of financed projects relating to this project category for which the implementing construction companies and subcontractors and suppliers are required to comply with appropriate standards.
  3. Working conditions during construction work
    - Percentage of financed projects relating to this project category for which binding high labour and health and safety standards are applied for both own employees and contractors.
    - Occurrence of fatal accidents related to construction work at project sites
  4. Consideration of environmental aspects during planning and construction (new builds only)
    - Percentage of financed projects relating to this project category for which adequate environmental purchasing standards are in place.
  5. Social and environmental standards in the supply chain (new builds only)
    - Percentage of financed projects relating to this project category for which the suppliers are required to comply with appropriate standards.
  6. Community dialogue (new builds only)
    - Percentage of financed projects relating to this project category that feature community dialogue as an integral part of the planning process and the operational phase (e.g. sound information of communities, community advisory panels and committees, surveys and dialogue platforms, grievance mechanisms and compensation schemes).

## Controversy Assessment

- Assessment of controversial assets (e.g. due to labour rights violations, fatalities etc.)

## Municipal climate projects

1. Consideration of environmental aspects during planning and construction
  - Percentage of projects that require sustainability criteria such as energy and resource efficiency to be taken into consideration in all public procurement contracts.
2. Modelling on natural state of water bodies, scientific monitoring, structural quality mapping (only to applicable projects)
  - Percentage of loans allocated to projects for which the relevant plans are scientifically monitored and are modelled on the natural state of the water body.
3. Sustainability standards for the wastewater and water supply systems (only to applicable projects)

- Percentage of projects that feature measures to reduce the environmental impacts of sewage sludge disposal (e.g. exclusion of introduction into waterways and landfill, exclusion or standards for agricultural use, utilisation of energy).
  - Percentage of projects that provide for high standards regarding the quality of treated and drinking water.
4. Environmental aspects of plantings (only for applicable projects)
- Percentage of projects for which plants originate from sources that provide for sustainable soil and biodiversity management along the whole value chain (e.g. strong position on pesticide and chemical fertiliser use, deforestation, soil degradation, biodiversity).
5. Working conditions during construction and operation
- Percentage of projects for which high labour and health and safety standards for both own employees and contractors are in place.

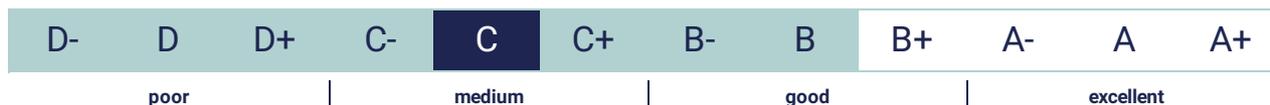
#### Controversy assessment

- A controversy assessment on the included project did not reveal any controversial activities or practices that could be attributed to NRW.BANK.

# ISS-oekom Corporate Rating

## NRW.BANK

<b>Industry</b>	Financials/Development Banks	<b>Status</b>	<b>Prime</b>
<b>Country</b>	Germany	<b>Rating</b>	<b>C</b>
<b>ISIN</b>	DE000NWB1939	<b>Prime Threshold</b>	<b>C</b>

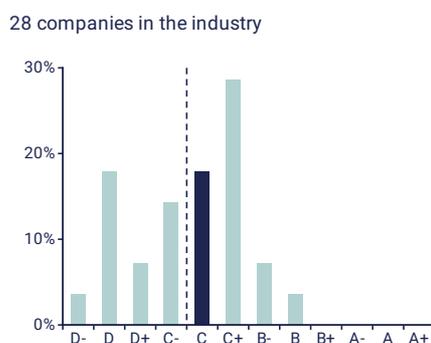


The assessment of a company's sustainability performance is based on approximately 100 criteria, selected specifically for each industry. A company's failure to disclose, or lack of transparency, regarding these matters will impact a company's rating negatively.

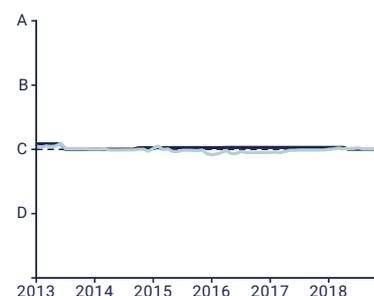
### Industry Leaders

Company name (in alphabetical order)	Country	Grade
Asian Development Bank	PH	B
Council of Europe Development Bank	FR	B-
European Bank for Reconstruction and Development/The	GB	B-

### Distribution of Ratings



### Rating History



Legend: ■ Industry ■ Company - - - Prime

### Key Issue Performance



### Strengths and Weaknesses

- + reasonable programmes with high social benefit
- + reasonable integration of environmental and social aspects into the company's own investment portfolio
- + reasonable measures to reduce the environmental impact of own operations
- + various options to facilitate the work-life balance of employees
- no indication of strict and comprehensive environmental lending guidelines for corporate and public sector customers
- no comprehensive measures regarding responsible treatment of customers with debt repayment problems

### Controversy Monitor

<b>Company</b>		<b>Industry</b>	
Controversy Score	-2	Maximum Controversy Score	-14
Controversy Level	Minor	Controversy Risk	Minor



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Please note that all data in this report relates to the point in time at which the report was generated.  
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# NRW.BANK

## Methodology - Overview

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

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

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

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

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

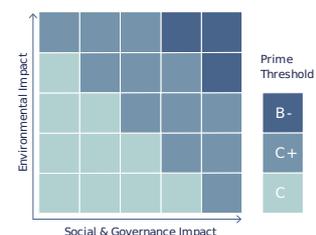
The controversy score is a unit of measurement for the number and severity of a company's current controversies. All controversial business areas and business practices receive a negative score, which can vary depending on the significance, number and severity of the controversies. Both the company's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

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

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

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

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



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

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

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

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

A+: the company shows excellent performance.

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

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

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

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