



5 June 18

Assessment of the Sustainability Quality of the Green Bond 2018 issued by NRW.BANK

Aim and Scope of this Second Party Opinion

NRW.BANK, the state development bank of North-Rhine Westphalia (NRW), has commissioned oekom research¹ to assist with the issuance of its Green Bond by assessing the sustainable added value of this bond.

oekom research's mandate included the following services:

- Definition of Green Bond KPIs ("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 oekom Corporate Rating.
- Analysis of the alignment of the Green Bond against the Sustainable Development Goals (SDGs)

Overall Evaluation of the Green Bond

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

- NRW.BANK has defined a formal concept for its Green Bonds 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 of the financed projects 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).

The Green Bond shows a good sustainability performance and positively contributes to the Sustainable Development Goals. However, there are some aspects for which a better sharing of information could lead to a better assessment of the sustainable quality of the projects; this is especially the case for

¹ On March 15, 2018, oekom research joined Institutional Shareholder Services Inc. ("ISS"). oekom research will be renamed ISS-oekom.

information related to solar projects, or information on life cycle assessments in categories such as public transportation.

Part I – Green Bond Principles

1) Use of Proceeds

The proceeds of this Green Bond will be used exclusively to refinance loans which have already been granted 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
Renewable energy			
A	Wind power	€ 326,248,533 65 onshore projects	65%
B	Solar energy	€ 2,966,970 6 PV projects	<1%
Clean transportation			
C	Electric vehicles (electric cars)	€ 95,700 1 electric vehicle	<1%
D	Public transportation (electric buses)	€ 2,646,200 8 electric buses	<1%
E	Public transportation (electric trams)	€ 4,000,000 12 trams	1%
F	Transport infrastructure (charging stations)	€ 500,000 Charging stations	<1%
G	Transport infrastructure (electric signalling box)	€ 2,225,000 1 signaling box	<1%
Green buildings			
H	Modernisation of educational and public health facilities	€ 114,347,537 4 university hospitals	23%

J	Loans for energy efficient residential buildings	€ 46,970,060 Several energy efficiency renovations of residential buildings	9%
Total		€ 500,000,000	100%

All projects meet specific environmental and social standards (see part II of this document). These criteria are clearly defined and assessable using quantitative indicators. The criteria are designed to ensure a positive impact of the projects which is not impaired by adverse impacts and effects in other areas (e.g. environmental impacts, impacts on local communities)

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.

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 Reporting². The impact assessment on the indicators relating to this Green Bond is executed and verified by the Wuppertal Institute.

² <http://treasury.worldbank.org/cmd/pdf/InformationonImpactReporting.pdf>

Part II – Sustainability Quality of the Green Bond

1) oekom Green Bond KPIs

The 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 also be used for reporting. Details on the individual criteria and indicators for the categories can be found in Annex 1 „oekom Green Bond KPIs“.

2) Evaluation of the Projects Refinanced by the Green Bond

Methods

oekom research has evaluated whether the assets included in the Green Bond Asset Pool match the categories and criteria listed in the oekom Green Bond KPIs. The evaluation was carried out using information and documents provided to oekom research on a confidential basis by NRW.BANK (e.g. information on credit guidelines). Further, national legislation and standards, depending on the asset location, were drawn on to complement the information provided by NRW BANK.

All percentages refer to the respective volume of the loans within the Green Bonds.

Findings

A. Wind power

Share in use of proceeds: €326,248,533 (65% of the total credit amount)

Project types: Construction and operation of wind power plants

Loan recipients: Public and private 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).
- ✓ 53 projects, accounting for 90,31% of the loans' volume, underwent environmental impact assessments at the planning stage.

2. Community dialogue

- ✓ 53 projects, accounting for 90,31% of the of 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

- ✓ 53 projects, accounting for 90,31% of the of loans' volume, meet high environmental standards during the construction phase (e.g. noise mitigation, minimisation of environmental impact during construction work).
- ✓ 53 projects, accounting for 90,31% of the of 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

For 64 projects, accounting for 99,82% of the loans' volume, a controversy assessment did not reveal any controversial activities or practices that could be attributed to NRW.BANK. For 1 project, accounting for 0,18% of the loans' volume, the controversy assessment revealed a potential controversy: the association of environmental agencies in North-Rhine Westphalia (Landesbüro der Naturschutzverbände NRW), in an official statement directed at the city of Paderborn, criticised the construction of one project for an allegedly faulty expert assessment on species protection within the application process to construct the wind power plant. To the knowledge of oekom research the case had not been resolved until the issue date.

B. Solar power

Share in use of proceeds: €2,966,970 (0,59% of the total credit amount)

Project types: Construction and operation of PV plants and 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.

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

- ✓ 2 projects, accounting for 100% of the applicable loans' volume, are not located in key biodiversity areas (Ramsar sites, IUCN protected areas I-IV).

2. Supply chain standards

- No information is available on 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

- 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

- ✓ All the 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)

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

C. Electric and alternative drive vehicles

Share in use of proceeds: €95,700 (0,02% of the total credit amount)

Project types: Acquisition of an electric vehicle

Loan recipients: Private 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 cars is positive from an environmental point of view as electric cars help to foster climate protection through lower carbon emissions compared to combustion engines. Additionally, noise levels in cities can be reduced through electric vehicles.

At the same time, when evaluating the production of electric cars, 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). From a social point of view, electric vehicle transport risks are associated to injuries and fatalities caused by car accidents.

1. Production standards

- ✓ The only financed project provides for a comprehensive environmental management system at the car manufacturing sites.
- ✓ The only financed project provides for high labour and health and safety standards at the car manufacturing sites. (e.g. ILO core conventions).

2. Environmental aspects of cars

- For the only financed project, no information on a comprehensive life-cycle-assessment is available.
- ✓ The only financed project is an electric vehicle therefore energy efficiency during operation is assured.

3. Social aspects of cars

- ✓ For the only financed project, product safety is ensured (minimum of 3 Stars rating on NCAP crash test).

Controversy Assessment

Due to the nature of the project, oekom research did not retain necessary conducting a controversy assessment.

D. Public transportation (electric buses)

Share in use of proceeds: €2,646,200 (0,53% of the total credit amount)

Project types: Construction and operation of 8 electric 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

- None of the projects have available information on a comprehensive environmental management system at the manufacturing sites.
- ✓ All projects 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 projects have available information on comprehensive life-cycle-assessments.
- ✓ All projects are electric buses therefore 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. Public transportation (electric trams)

Share in use of proceeds: €4,000,000 (0,80% of the total credit amount)

Project types: Construction and operation of 12 trams

Loan recipients: Public operator

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)

The production of electric trains is positive from an environmental point of view as electric trains help to foster climate protection through lower carbon emissions. From a social point of view, passenger train transport helps to reduce injuries and fatalities caused by car accidents.

At the same time, when evaluating the production of electric trains, 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 train operators and passengers.

1. Production standards

- ✓ All projects provide for a comprehensive environmental management system at the manufacturing site.
- ✓ All projects provide for high labour and health and safety standards at the manufacturing sites. (e.g. ILO core conventions).

2. Environmental aspects of trams

- None of the projects have available information related to comprehensive life-cycle-assessments.
- ✓ All projects are electric trams therefore energy efficiency during operation is optimised.

3. Social aspects of buses

- ✓ All projects ensure health and safety for both passengers and operators (e.g. vigilance control, 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.

F. Transport infrastructure (charging station)

Share in use of proceeds: €500,000 (0,10% of the total credit amount)

Project types: Construction of electric vehicle charging stations inside carparks

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 production of charging stations for electric cars is positive from an environmental point of view as they provide the underlying infrastructure that helps fostering climate protection through lower carbon emissions.

At the same time, when evaluating the production of charging stations, 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 mainly concern the health and safety of workers at construction sites.

1. Environmental aspects of charging stations

- None of the projects have available information on comprehensive life-cycle-assessments.

2. Working conditions during construction and maintenance work

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

Controversy Assessment

Due to the nature of the project, no controversy assessment was conducted.

G. Transport infrastructure (electric signalling box)

Share in use of proceeds: €2,225,000 (0,44% of the total credit amount)

Project types: Construction and operation of a signalling box on a metro line

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)

Public transport infrastructure is positive from an environmental point of view as it helps to foster climate protection through lower carbon emissions and optimised transport efficiency. From a social point of view, signalling boxes increase the safety of infrastructure operation.

At the same time, when evaluating public transport projects, certain risks have to be taken into account. Major risks from an environmental point of view stem from the potential negligence of environmental impacts during construction of signalling boxes. Social risks of signalling boxes concern the health and safety of workers at construction sites and transport safety.

1. Environmental aspects of construction

- Environmental standards during the construction phase (e.g. resource efficiency, renaturation) are not applicable for this project due to its location in an already existing infrastructure.

2. Working conditions during construction and maintenance work

- ✓ The project financed provides for high labour and health and safety standards for construction and maintenance work (e.g. ILO core conventions).

3. Social aspects of public transport infrastructure

- ✓ The project financed has a transport safety management system in place (i.e. policies, responsibilities, risk assessments and monitoring, training, emergency management).

Controversy Assessment

Due to the nature of the project, no controversy assessment was conducted.

H. Modernisation of educational and public health facilities

Share in use of proceeds: €114,347,537 (23% 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 one project, a fatal accident leading to the death of one worker occurred during the maintenance phase. Liability cannot be attributed to NRW.BANK.

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

- ✓ 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 (new builds only)

- ✓ 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 (new builds only)

- ✓ 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.

I. Loans for energy efficient residential buildings

Share in use of proceeds: €46,970,060 (9% of the total credit amount)

Project types: Energy efficiency renovations of residential buildings

Loan recipient: Private borrower

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 nature of the project, no controversy assessment was conducted.

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 Energy³, Solar Energy⁴ and Low Carbon Transport⁵ 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 electrified public transport, including electrified rail, trams, trolleybuses and cable cars as well as buses with no direct emissions (electric and hydrogen).

3 https://www.climatebonds.net/files/files/Sector%20Criteria%20-%20Wind%20v1_0%281%29.pdf

4 https://www.climatebonds.net/files/files/Sector%20Criteria%20-%20Solar%20v2_1.pdf

5 <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 oekom Corporate Rating with a rating scale from A+ (excellent) to D- (poor), NRW.BANK was awarded a score of C and rated “Prime”, meaning that it fulfils oekom research’s demanding requirements regarding sustainability performance in its sector.



As of 05.06.2018, this rating puts NRW.BANK in place 16 out of 28 companies rated by oekom research in the Financials/Development Banks sector.

In this sector, oekom research 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 “oekom Corporate Rating NRW.BANK”.

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

oekom research AG

Munich, 5 June 2018

Disclaimer

1. oekom research AG uses a scientifically based rating concept to analyse and evaluate the environmental and social performance of companies and countries. In doing so, we adhere to the highest quality standards which are customary in responsibility research worldwide. In addition we create a Second

Party Opinion (SPO) on bonds based on data from the issuer.

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 oekom research AG 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 assessment 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.

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About oekom research

oekom research 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. oekom research 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 decisionmaking. oekom research'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 analyse 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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Annexes

Annex 1: oekom Green Bond KPIs

Annex 2: oekom Corporate Rating NRW.BANK

Annex 1: oekom Green Bond Analysis Framework

oekom Green Bond Analysis Framework

The 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

Clean transportation

- C. Electric vehicles
- D. Public transportation (buses)
- E. Public transportation (trams)
- F. Transportation infrastructure (charging stations)
- G. Transportation infrastructure (signalling box)

Green Buildings

- H. Modernisation of educational and public health facilities
- I. Loans for energy efficient residential buildings

Sustainability Criteria and Quantitative Indicators for Use of Proceeds

Project category A: 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).

Project category B: 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).

Project category C: Electric and alternative drive vehicles

1. Productions standards

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

2. Environmental aspects of cars

- Percentage of assets for which comprehensive life-cycle-assessments have been conducted.
- Percentage of assets for which energy efficiency during operation is optimised (OK for electric vehicles. Threshold of 95g/km Co₂ emissions in hybrid and alternative driving vehicles).

3. Social aspects of cars

- Percentage of assets where product safety is ensured (minimum of 3 Stars rating on NCAP crash test).

Controversy Assessment

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

Project category D: Public transportation (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).

Project category E: Public transportation (trains)

1. Productions standards

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

2. Environmental aspects of trains

- 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. through energy recovery systems for trains).

3. Social aspects of trains

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

Controversy Assessment

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

Project category F: Transport infrastructure (charging stations)

1. Environmental aspects of charging stations

- Percentage of assets for which comprehensive life-cycle-assessments have been conducted.

2. 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, fatalities etc.)

Project category G: Transport infrastructures (signalling box)

1. Environmental aspects of construction

- Percentage of assets that meet high environmental standards during the construction phase (e.g. resource efficiency, renaturation).

2. 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).

3. Social aspects of public transport infrastructure

- Percentage of assets that have a transport safety management system in place (i.e. policies, responsibilities, risk assessments and monitoring, training, emergency management).

Controversy Assessment

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

Project category F: Modernisation 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.)

Project category J: 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.

oekom Corporate Rating

NRW.BANK

Industry Financials/Development Banks

Status Prime

Corporate Responsibility

Prime

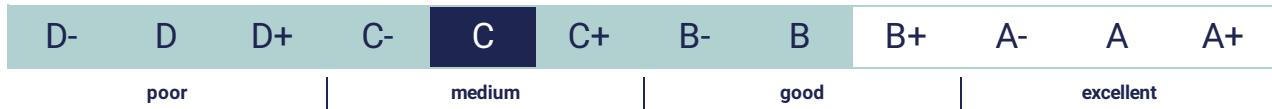
Country Germany

Rating C

rated by oekom research

ISIN DE000NWB1939

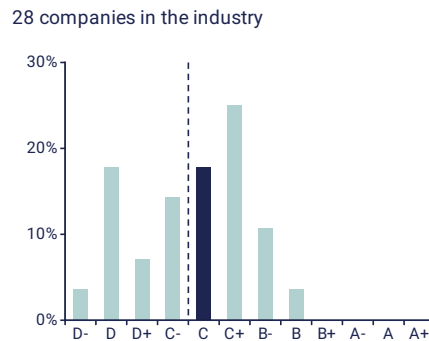
Prime Threshold C



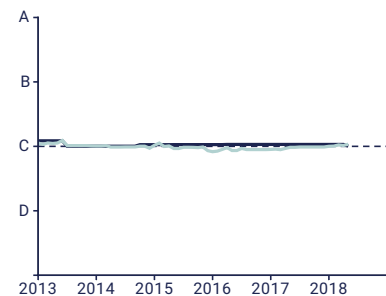
Industry Leaders

Company name (in alphabetical order)	Country	Grade
Asian Development Bank	PH	B
European Bank for Reconstruction and Development/The	GB	B-
International Finance Corp.	US	B-

Distribution of Ratings

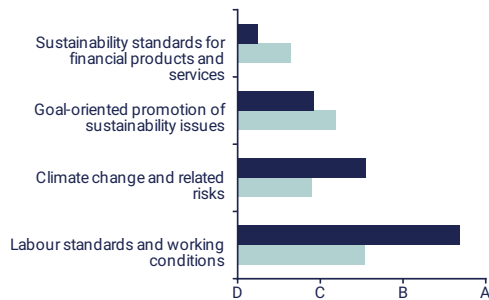


Rating History



Legend: Industry Company --- Prime

Key Issue Performance

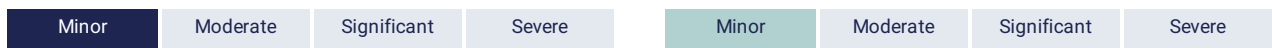


Strengths and Weaknesses

- + 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

Company		Industry	
Controversy Score	-2	Maximum Controversy Score	-16
Controversy Level	Minor	Controversy Risk	Minor



Disclaimer

- oekom research AG uses a scientifically based rating concept to analyse and evaluate the environmental and social performance of companies and countries. In doing so, we adhere to the highest quality standards which are customary in responsibility research worldwide.
- We would, however, point out that we do not warrant that the information presented in this Rating Report is complete, accurate or up to date. Any liability on the part of oekom research AG in connection with the use of these pages, the information provided in them and the use thereof shall be excluded.
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Methodology - Overview

oekom Corporate Rating - The oekom Universe comprises more than 3,800 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 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 oekom research 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 oekom Controversy Monitor is a tool for assessing and managing reputational and financial risks associated with companies' negative environmental and social impacts.

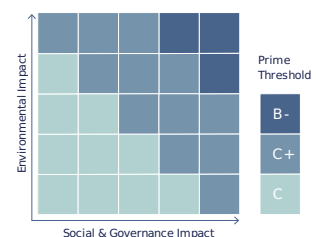
The controversy score is a unit of measurement for the number and severity of a company's current controversies. All controversial business areas and business practices receive a negative score, which can vary depending on the significance, number and severity of the controversies. Both the company's 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 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 two dimensions of the oekom Corporate Rating, the Social Rating and the Environmental Rating, are weighted and the sector-specific minimum requirements for the 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 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 oekom for a specific industry (absolute best-in-class approach) in the 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.