



Verification of the Sustainability Quality of the second Sustainability Bond issued by the German State of North Rhine-Westphalia

24 February 2016

Aim and Scope of this Second Party Opinion

The German State of North Rhine-Westphalia (NRW) commissioned oekom research to assist with the issuance of its Sustainability Bond by verifying and confirming the sustainable added value of this bond using the criteria and indicators of a sustainability framework concept. The aim of this sustainability bond issuance is to promote and illustrate NRW's sustainability policy as well as its sustainability strategy and at the same time to finance projects and initiatives with clear environmental and social benefits in NRW.

oekom research's mandate included the following services:

- Definition of a framework concept containing a clear description of eligible project categories and the social and environmental criteria assigned to each category for evaluating the sustainability-related performance of the projects financed through the proceeds of the bond.
- Verification of compliance of financed projects with the verification framework criteria.
- Verification of alignment of financed projects with the Green Bond Principles.
- Review and classification of the Federal Republic of Germany's sustainability performance on the basis of the oekom Country Rating.

Overall Evaluation of the Sustainability Bond

oekom's overall evaluation of the Sustainability Bond issued by the State of North Rhine-Westphalia is positive:

- The sustainability bond's formal concept, defined processes and (announced) disclosures are largely aligned with the Green Bond Principles (Part I of this Second Party Opinion).
- The overall sustainability quality of the bond and the sustainability performance of each of the funded projects in terms of sustainability benefits and risk avoidance and minimisation is good (Part II of this Second Party Opinion).
- The country, which the issuer forms part of, shows a good sustainability performance (Part III of this Second Party Opinion).

There are some aspects for which more specific selection or performance criteria would be recommended as it could still add to the overall quality of the Sustainability Bond:

- Quantitative targets or requirements concerning energy efficiency improvements for projects in categories *F. Sustainable urban development* and *G. Modernisation of educational and public health facilities* (e.g. required efficiency improvement of 20%).

- Comprehensive environmental standards for projects in categories *C. Public transportation and local mobility*, *F. Sustainable urban development* and *G. Modernisation of educational and public health facilities* (e.g. noise mitigation, minimisation of environmental impact during construction work).
- Transparency regarding the occurrence of fatal accidents at all construction sites. Data is missing for category *G. Modernisation of educational and public health facilities*.

Part I – Green Bond Principles

1) Use of Proceeds

The proceeds of this Sustainability Bond will be used to finance selected eligible projects belonging to the 2015 budget of the State of North Rhine-Westphalia, which closes on or about the end of the first quarter of 2016. An amount equivalent to the net proceeds will be used to refinance projects and initiatives of the State of North Rhine-Westphalia with clear environmental and/or social benefits, in accordance with NRW's sustainability policy.

The following categories have been chosen for allocating the proceeds of this issuance (the percentages relate to a tentative maximum € 1,589.9m issuance financing all eligible projects):

Project Category	Percentage
A Education and sustainability research	43%
B Inclusion and social coherence	9%
C Public transportation and local mobility	11%
D Climate protection and energy transition	3%
E Protection of natural resources	4%
F Sustainable urban development	4%
G Modernisation of educational and public health facilities	26%

The use of proceeds may include operating or capital expenditures (excluding personnel costs) of projects as well as indirect investments in projects such as grants for private and public companies and for special purposes.

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

2) Process for Project Evaluation and Selection

The project selection for inclusion in the Sustainability Bond is carried out by the Treasury Department of North Rhine-Westphalia in cooperation with other NRW ministries. The selection is based on eligibility criteria defined by NRW. Main criterion is a clear environmental and/or social benefit as set out in NRW's sustainability policy. The NRW sustainability strategy adopted in a preliminary version on 29 September 2015 serves as the political reference for the bond. The strategy is meant to implement the new global Sustainable Development Goals (SDGs) on state level. The selected projects are part of the State's discretionary spending. Projects prescribed by federal law are excluded.

In addition, oekom research has defined a Sustainability Bond Verification Framework (Annex 1 of this document). For each eligible project category, it comprises a list of specific sustainability criteria. On this basis, the sustainability quality of the projects has been verified by oekom research.

3) Management of Proceeds

Consequently to the issuance of the Sustainability Bond, 100% of the net proceeds will be used to finance selected eligible projects belonging to the 2015 budget.

Details are listed in the following table (figures in millions of euros):

Project Category		Budget Plan 2015	Budget Results 2015 ¹	Eligible for Sust. Bond
A	Education and sustainability research	949.7	983.2	678.4
	Enlargement of universities	868.5	906.3	601.5
	Support for best in class universities	31.0	29.8	29.8
	Innovation and sustainable development	34.1	32.4	32.4
	Consumer protection	16.1	14.7	14.7
B	Inclusion and social coherence	168.8	146.5	146.5
	Inclusion, integration and qualification	63.0	48.1	48.1
	Promotion of language skills in early childhood education, support and advice for families	58.1	55.5	55.5
	School social work	47.7	42.9	42.9

¹ Budget results may exceed budget plan due to specific permission (as provided for the specific budget item).

Project Category		Budget Plan 2015	Budget Results 2015	Eligible for Sust. Bond
C	Public transportation and local mobility	181.2	179.8	179.8
	Public transportation for low-income citizens	30.0	29.8	29.8
	Public transportation for pupils and students	130.0	130.0	130.0
	Transportation infrastructure for cyclists and pedestrians	21.2	20.0	20.0
D	Climate protection and energy transition	67.1	49.4	49.4
	Climate protection and renewable energies	62.6	44.7	44.7
	Enhancement of resource efficiency	4.5	4.7	4.7
E	Protection of natural resources	105.8	66.5	61.7
	Protection of nature, landscape and biodiversity	39.0	31.9	30.1
	Flood protection and river restoration	30.0	19.4	19.4
	Responsible agriculture and rural development	36.8	15.2	12.2
F	Sustainable urban development	55.3	62.4	62.4
	Urban reconstruction in the west	20.6	29.6	29.6
	Social city	34.7	32.8	32.8
G	Modernisation of educational and public health facilities	413.1	411.7	411.7
	University buildings	141.3	116.7	116.7
	University medical clinics	271.8	295.0	295.0
Total		1,941.0	1,899.5	1,589.9

4) Reporting

NRW will publish relevant information and links to public project information on its website². The issuer will decide whether the recommended quantitative indicators set out in the Sustainability Bond Verification Framework will be used for reporting.

In addition, the Statistical Office of NRW (IT.NRW) will publish bi-annual reports on the state of sustainable development in NRW based on a system of about 60 indicators as part of the sustainability strategy process (starting in mid-2016).

² <http://www.sustainability-bond.nrw.de>, 24.02.2016

Part II – Sustainability Quality of the Sustainability Bond

1) Sustainability Bond Verification Framework

The Sustainability Bond Verification Framework serves as a framework for verifying the sustainability quality and thus the social and environmental added value of the use of proceeds of this Sustainability Bond issuance.

The verification framework comprises firstly a clear definition of eligible categories of projects offering social and environmental added value. Secondly, it encloses the specific sustainability criteria for each project category by means of which this added value and hence the sustainability performance of the Sustainability Bond can be clearly identified and verified. The sustainability criteria are complemented by specific and measurable indicators, which allow for a quantitative evaluation of the sustainability performance of the Sustainability Bond and can be used for comprehensive reporting.

Details of the individual criteria and indicators for the seven project categories can be found in Annex 1 “Sustainability Bond Verification Framework”.

2) Verification of the Projects financed by the Sustainability Bond

Methods

Applying the quantitative indicators of the Sustainability Bond Verification Framework, oekom research has verified whether the projects funded by the bond match the project categories and criteria listed in the Sustainability Bond Verification Framework.

The verification was carried out using publicly available information as well as information and documents provided to oekom research, in part on a confidential basis, by the State of NRW (strategy papers, explanatory information concerning budgetary items, NRW laws, regulations and standards, etc.).

Findings

Project category A: Education and sustainability research

Sustainability Risks and Benefits of the Project Category

This category encompasses projects by the State of NRW financing the creation of further courses and places of study at public universities and universities of applied sciences. Additionally, consumer protection measures as well as research into sustainable development are funded.

All projects selected for the Sustainability Bond are situated in highly-regulated and developed countries.

From a sustainability point of view, providing access to education is a prerequisite for successful integration into the working world and economic independence. Furthermore, high-quality public tertiary education and the promotion of research into sustainability-related contents, among other factors, enable society to tackle major social and environmental challenges such as climate change, demographic change and resource scarcity.

At the same time, these projects come with some social and environmental risks. Access to education might not be granted in a non-discriminatory way. Employees at research facilities and universities could face precarious employment situations. Also, research funding could go to technologies with negative sustainability impacts such as armaments, crude oil and coal as fossil resources, nuclear power or tobacco.

Project Type	Percentage of volume in this project category
Enlargement of universities	89%
Support for best in class universities	4%
Innovation and sustainable development	5%
Consumer protection	2%

- A.1. Non-discriminatory access to education
 - ✓ 100% of financed projects directed at the creation of additional university places are implemented at public universities which guarantee a non-discriminatory access to education and appropriate support through a system of scholarships in accordance with the UN Convention on Children's Rights, the International Compact on Economic Social and Cultural Rights of 19 December 1966 (as published in "Bundesgesetzblatt BGBL 1976") and the European Charter of Fundamental Rights.
 - ✓ 100% of relevant financed projects involve public universities and colleges that currently do not charge any study fees.
 - ✓ A system of subsidised loans governed by the German Act on Support for Education (Bundesausbildungsförderungsgesetz/BAföG) assists socially disadvantaged students in covering their expenses for daily life.

- A.2. Working conditions of teaching and research staff
 - ✓ For 100% of financed projects, high labour standards regarding e.g. working time, periods of rest (in accordance with e.g. the German Working Hours Act – Arbeitszeitgesetz/ ArbZG), minimum wages (in accordance with e.g. the Minimum Wage Law – Mindestlohngesetz/ MiLoG), freedom of association, collective bargaining (in accordance with e.g. the German Works Constitution Act – Betriebsverfassungsgesetz/ BetrVG and the German Act on Collective Agreements – Tarifvertragsgesetz/ TVG), non-discrimination (in accordance with e.g. the German Anti-Discrimination Act – Allgemeines Gleichstellungsgesetz/ AGG) and health and safety (in accordance with e.g. the German Occupational Safety Act – Arbeitsschutzgesetz/ ArbSchG) are in place.
- A.3. Exclusion of research into controversial technologies
 - ✓ For 100% of relevant financed projects, research into controversial technologies (armaments, crude oil, coal, nuclear power and tobacco) is excluded from funding.

Project category B: Inclusion and social coherence

Sustainability Risks and Benefits of the Project Category

Activities grouped into this category support the inclusion of people with disabilities and immigrants. Additionally, projects addressing early childhood development are funded.

All projects selected for the Sustainability Bond are situated in highly-regulated and developed countries.

The inclusion of people with disabilities entails social benefits such as the enhancement of the quality of their lives. Furthermore, inclusion of people with disabilities and immigrants contributes to a more diverse, fair, peaceful and just society with equal opportunities for all. It also enables society to better benefit from the human capital of its population. The value of equal opportunities is further supported by pre-school language training.

Potential social risks include discriminatory access to programmes and services and exclusion through high fees. Another social risk could be precarious employment situations for teaching and office staff.

Project Type	Percentage of volume in this project category
Inclusion, integration and qualification	33%
Promotion of language skills in early childhood education, support and advice for families	38%
School social work	29%

- B.1. Non-discriminatory access to programmes/offers/services
 - ✓ A non-discriminating and barrier-free society is a defined target of NRW's sustainability policy and the financed projects in this category.

- ✓ For 100% of financed projects, high social standards regarding non-discrimination (in accordance with e.g. the UN Convention on the Rights of Persons with Disabilities – UN-Behindertenrechtskonvention/ BRK and the German Anti-Discrimination Act – Allgemeines Gleichstellungsgesetz/ AGG) are in place.
- B.2. Free, fairly priced and/or subsidised participation in programmes/initiatives
 - ✓ For 100% of relevant financed projects, programmes/initiatives are either free of charge or heavily subsidised for participants.
- B.3. Working conditions of teaching and office staff
 - ✓ For 100% of financed projects, high labour standards regarding e.g. working time, periods of rest (in accordance with e.g. the German Working Hours Act – Arbeitszeitgesetz/ ArbZG), minimum wages (in accordance with e.g. the Minimum Wage Law – Mindestlohngesetz/ MiLoG), freedom of association, collective bargaining (in accordance with e.g. the German Works Constitution Act – Betriebsverfassungsgesetz/ BetrVG and the German Act on Collective Agreements – Tarifvertragsgesetz/ TVG), non-discrimination (in accordance with e.g. the German Anti-Discrimination Act – Allgemeines Gleichstellungsgesetz/ AGG) and health and safety (in accordance with e.g. the German Occupational Safety Act – Arbeitsschutzgesetz/ ArbSchG) are in place.

Project category C: Public transportation and local mobility

Sustainability Risks and Benefits of the Project Category

Financed activities include reimbursements of municipal and regional spending for offering subsidised public transportation for low-income citizens as well as pupils, students and trainees. Furthermore, costs for the improvement of supply and quality in educational traffic (“Ausbildungsverkehr”) are covered. The second part of this category encompasses projects to improve conditions for cyclists and pedestrians, particularly on short-haul routes (local mobility) and to build new cycling paths along state roads and disused railway lines.

All projects selected for the Sustainability Bond are situated in highly-regulated and developed countries.

From a sustainability point of view, providing subsidised public transportation enhances the participation of all social classes in a society which is increasingly characterised by mobility. At the same time, the public transport system is strengthened. Furthermore, additional cycling paths enhance safety of transportation for cyclists, can entail health benefits by encouraging more cycling and improve local air quality by reducing the need for private cars in cities.

None the less, these projects do imply some social and environmental risks. Access to subsidised public transport might not be granted in a non-discriminatory way and subsidies might still not lead to fairly priced fares. Regarding the construction of cycling paths, risks are construction workers’ health and safety as well as overall working conditions and environmental hazards caused by the construction.

Project Type	Percentage of volume in this project category
Public transportation for low-income citizens	17%
Public transportation for pupils and students	72%
Transportation infrastructure for cyclists and pedestrians	11%

C.1. Public transportation

- C.1.1. Non-discriminatory access to subsidised public transportation
 - ✓ A non-discriminating and barrier-free society is a defined target of NRW's sustainability policy and the financed projects in this category.
 - ✓ For 100% of financed projects, high social standards regarding non-discrimination (in accordance with e.g. the German Anti-Discrimination Act – Allgemeines Gleichstellungsgesetz/ AGG and the UN Convention on the Rights of Persons with Disabilities – UN-Behindertenrechtskonvention/ BRK) are in place.
- C.1.2. Fairly priced subsidised public transportation
 - ✓ For 100% of financed projects, subsidised public transportation is offered at reduced fares for eligible persons (e.g. pupils, students, low-income citizens).

C.2. Local mobility

- C.2.1. Working conditions during construction
 - ✓ For 100% of financed projects, high labour standards regarding e.g. working time, periods of rest (in accordance with e.g. the German Working Hours Act – Arbeitszeitgesetz/ ArbZG), minimum wages (in accordance with e.g. the 9th Ordinance on Compulsory Working Conditions in the Construction Sector – Neunte Verordnung über zwingende Arbeitsbedingungen im Baugewerbe/ 9. BauArbbV and the Minimum Wage Law – Mindestlohngesetz/ MiLoG), freedom of association, collective bargaining (in accordance with e.g. the German Works Constitution Act – Betriebsverfassungsgesetz/ BetrVG and the German Act on Collective Agreements – Tarifvertragsgesetz/ TVG) and health and safety (in accordance with e.g. the German Occupational Safety Act – Arbeitsschutzgesetz/ ArbSchG) are in place.
- C.2.2. 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) 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 standards (regarding e.g. noise mitigation, minimisation of environmental impact during construction work) are applied.

Project category D: Climate protection and energy transition

Sustainability Risks and Benefits of the Project Category

Funding clustered into this category partially goes to the Efficiency Agency North Rhine-Westphalia (EFA NRW). EFA NRW advises municipalities as well as small and medium-sized enterprises on policies and strategies to enhance their resource and energy efficiency. The remaining funds are used to support research and development projects into climate protection and energy transition.

All projects selected for the Sustainability Bond are situated in highly-regulated and developed countries.

The main sustainability benefit of these activities comprises climate and environmental protection through the long-term reduction of energy and resource consumption. This again reinforces a transition towards a low carbon economy.

However, risks arise as funding could go to technologies with negative sustainability impacts such as armaments, crude oil, coal, nuclear power or tobacco. Additionally, subsidised advisory services provided by the EFA NRW might still not be offered free of charge, fairly priced and/or at subsidised rates. Additionally, employees at funded companies could face precarious employment situations.

Project Type	Percentage of volume in this project category
Climate protection and renewable energies	90%
Enhancement of resource efficiency	10%

- D.1. Exclusion of controversial business areas
 - ✓ For 100% of relevant financed projects, funding to controversial business areas (armaments, crude oil, coal, nuclear power, hydraulic fracturing and tobacco) is excluded.
- D.2. Free, fairly priced and/or subsidised participation in programmes/initiatives
 - ✓ For 100% of relevant financed projects, general advisory services are offered free of charge and workshops as well as company-specific consulting services are heavily subsidised.
- D.3. Working conditions of employees at funded companies
 - ✓ For 100% of financed projects, high labour standards regarding e.g. working time, periods of rest (in accordance with e.g. the German Working Hours Act – Arbeitszeitgesetz/ ArbZG), minimum wages (in accordance with e.g. the Minimum Wage Law – Mindestlohngesetz/ MiLoG), freedom of association, collective bargaining (in accordance with e.g. the German Works Constitution Act – Betriebsverfassungsgesetz/ BetrVG and the German Act on Collective Agreements – Tarifvertragsgesetz/ TVG), non-discrimination (in accordance with e.g. the German Anti-Discrimination Act – Allgemeines Gleichstellungsgesetz/ AGG) and health and safety (in accordance with e.g. the German Occupational Safety Act – Arbeitsschutzgesetz/ ArbSchG) are in place.

Project category E: Protection of natural resources

Sustainability Risks and Benefits of the Project Category

Activities pooled into this category either fund measures to avoid loss of biodiversity and to increase the population of endangered species or provide financial support for flood protection projects and the restoration of the original natural state of watercourses.

All projects selected for the Sustainability Bond are situated in highly-regulated and developed countries.

Sustainability benefits include the restoration of natural habitats, which fulfil important ecosystem functions and provide the basis for life, prosperity and health. Additionally, biodiversity is strengthened and the risk of flooding is reduced.

Potential negative impacts could, however, arise at construction sites. Specifically, measures may impact the ecological quality of natural resources if they are not carried out in accordance with best (ecological) practice. A further social risk is poor working conditions of construction workers.

Project Type	Percentage of volume in this project category
Protection of nature, landscape and biodiversity	49%
Flood protection and river restoration	31%
Responsible agriculture and rural development	20%

- E.1. 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) 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 standards (regarding e.g. noise mitigation, minimisation of environmental impact during construction work) are applied.
- E.2. Modelling on natural state of water bodies, scientific monitoring, structural quality mapping
 - ✓ For 100% of relevant financed projects, scientifically based ecological flood protection measures modelled on the natural state of the water body are carried out and exclude conventional flood protection (technical regulation of rivers).
 - ✓ For 100% of relevant financed projects, high standards regarding subsequent monitoring (in accordance with e.g. the European Water Framework Directive/ WFD) are in place.

- E.3. Working conditions during construction work
 - ✓ For 100% of financed projects, high labour standards regarding e.g. working time, periods of rest (in accordance with e.g. the German Working Hours Act – Arbeitszeitgesetz/ ArbZG), minimum wages (in accordance with e.g. the 9th Ordinance on Compulsory Working Conditions in the Construction Sector – Neunte Verordnung über zwingende Arbeitsbedingungen im Baugewerbe/ 9. BauArbbV and the Minimum Wage Law – Mindestlohngesetz/ MiLoG), freedom of association, collective bargaining (in accordance with e.g. the German Works Constitution Act – Betriebsverfassungsgesetz/ BetrVG and the German Act on Collective Agreements – Tarifvertragsgesetz/ TVG) and health and safety (in accordance with e.g. the German Occupational Safety Act – Arbeitsschutzgesetz/ ArbSchG) are in place.
 - ✓ For 100% of financed projects, no fatal accidents have occurred during construction at the project sites.

Project category F: Sustainable urban development

Sustainability Risks and Benefits of the Project Category

Through these activities the State of NRW tackles several challenges faced by local communities such as the effects of a shrinking population and a stagnating economic development. Funds are directed at issues such as urban renewal, labour market development, economic structure and growth, housing, social and cultural infrastructure, integration and inclusion, schools, promotion of health, prevention of crime and public relations.

All projects selected for the Sustainability Bond are situated in highly-regulated and developed countries.

The financing of such activities bears social benefits by promoting social cohesion, cultural diversity and by improving the quality of life in cities. Additionally, the needs of various demographic and societal groups are integrated. By renewing urban infrastructure, promoting new forms of mobility and environment-friendly reconstruction of buildings and neighbourhoods, these projects moreover bring environmental benefits, such as reduced energy consumption, with them.

On the other hand, these projects also encompass social and environmental risks. 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 could lead to negative environmental impacts. Social and environmental risks that could arise from all projects are: construction workers’ health and safety risks 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 should be involved in the planning process to ensure all stakeholders are heard.

Project Type	Percentage of volume in this project category
Urban reconstruction in the west	47%
Social city	53%

- F.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.
- F.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 German law (e.g. Closed Substance Cycle and Waste Management Act – Kreislaufwirtschafts- und Abfallgesetz/ KrW-AbfG, Hazardous Substances Ordinance – Gefahrstoffverordnung/ GefStoffV and (federal) Nature Conservation Act – Bundesnaturschutzgesetz/ BNatSchG).
- F.3. Working conditions during construction work
 - ✓ For 100% of financed projects, high labour standards regarding e.g. working time, periods of rest (in accordance with e.g. the German Working Hours Act – Arbeitszeitgesetz/ ArbZG), minimum wages (in accordance with e.g. the 9th Ordinance on Compulsory Working Conditions in the Construction Sector – Neunte Verordnung über zwingende Arbeitsbedingungen im Baugewerbe/ 9. BauArbbV and the Minimum Wage Law – Mindestlohngesetz/ MiLoG), freedom of association, collective bargaining (in accordance with e.g. the German Works Constitution Act – Betriebsverfassungsgesetz/ BetrVG and the German Act on Collective Agreements – Tarifvertragsgesetz/ TVG) and health and safety (in accordance with e.g. the German Occupational Safety Act – Arbeitsschutzgesetz/ ArbSchG) are in place.
 - ✓ For 100% of financed projects, no fatal accidents have occurred during construction at the project sites.
- F.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.
- F.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.
- F.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).

Project category G: Modernisation of educational and public health facilities

Sustainability Risks and Benefits of the Project Category

This category bundles activities by the State of NRW to modernise educational and public health facilities. Especially the modernisation and extension of university medical clinics is funded but also the modernisation of general university buildings.

All projects selected for the Sustainability Bond are situated in highly-regulated and developed countries.

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.

Projects in this category bear similar social and environmental risks as those in the previous one. 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 could lead to negative environmental impacts. Social and environmental risks that could arise from all projects are: construction workers' health and safety risks 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 should be involved in the planning process to ensure all stakeholders are heard.

Project Type	Percentage of volume in this project category
University buildings	28%
University medical clinics	72%

- G.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.
- G.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 German law (e.g. Closed Substance Cycle and Waste Management Act – Kreislaufwirtschafts- und Abfallgesetz/ KrW-AbfG, Hazardous Substances Ordinance – Gefahrstoffverordnung/ GefStoffV and (federal) Nature Conservation Act – Bundesnaturschutzgesetz/ BNatSchG).

- G.3. Working conditions during construction work
 - ✓ For 100% of financed projects high labour standards regarding e.g. working time, periods of rest (in accordance with e.g. the German Working Hours Act – Arbeitszeitgesetz/ ArbZG), minimum wages (in accordance with e.g. the 9th Ordinance on Compulsory Working Conditions in the Construction Sector – Neunte Verordnung über zwingende Arbeitsbedingungen im Baugewerbe/ 9. BauArbbV and the Minimum Wage Law – Mindestlohngesetz/ MiLoG), freedom of association, collective bargaining (in accordance with e.g. the German Works Constitution Act – Betriebsverfassungsgesetz/ BetrVG and the German Act on Collective Agreements – Tarifvertragsgesetz/ TVG) and health and safety (in accordance with e.g. the German Occupational Safety Act – Arbeitsschutzgesetz/ ArbSchG) are in place.
 - No information is available on whether fatal accidents have occurred during construction at the project sites.
- G.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.
- G.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.
- G.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).

Part III – Assessment of the Federal Republic of Germany’s Sustainability Performance

In order to evaluate the sustainability performance of public authority bond issuers, oekom research applies the rating of the country which these form part of. In the oekom Country Rating with a rating scale from A+ (excellent) to D- (poor), the Federal Republic of Germany was awarded a score of B- and classified as “Prime”. This means that the country performed well in terms of sustainability. In oekom research’s view, the securities issued by the regional and local public authorities of Germany all meet the basic requirements for sustainable investments.



As at 22 February 2016, this rating puts the Federal Republic of Germany in place 13 out of 57 countries rated by oekom research.

The oekom Country Rating evaluates the following six areas in order to determine the sustainability performance of a country:

Social Rating

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

Environmental Rating

- Natural Resources
- Climate Change and Energy
- Production and Consumption

The Federal Republic of Germany achieved a rating that was significantly above the average of all countries in the social part of the rating. In the environmental part, the country shows an average or slightly above average performance of all rated countries.

The Federal Republic of Germany violates none of the exclusion criteria screened by oekom research.

Details on the rating of the issuer can be found in Annex 2 “oekom Country Rating”.

A handwritten signature in blue ink, appearing to be "A. Geyer", is written over a faint, illegible stamp or background.

oekom research AG

Munich, 24 February 2016

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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 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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Annexes

- **Annex 1: oekom Sustainability Bond Verification Framework**
- **Annex 2: oekom Country Rating of the Federal Republic of Germany**

Annex 1: Sustainability Bond Verification Framework

Sustainability Bond Verification Framework

The Sustainability Bond Verification Framework serves as a structure for verifying the sustainability quality – i.e. the social and environmental added value – of the projects to be financed through the Sustainability Bond issuance. It comprises firstly the definition of use of proceeds categories 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 Sustainability Bond issuance can be clearly identified and verified.

The sustainability criteria are complemented by specific indicators, which make it possible to enable quantitative measurement of the sustainability performance of the Sustainability Bond issue and can be used for comprehensive reporting.

Use of Proceeds

The proceeds of this second Sustainability Bond issued by the State of North Rhine-Westphalia will be exclusively used for the following seven project categories:

- A. Education and sustainability research**
- B. Inclusion and social coherence**
- C. Public transportation and local mobility**
- D. Climate protection and energy transition**
- E. Protection of natural resources**
- F. Sustainable urban development**
- G. Modernisation of educational and public health facilities**

The use of proceeds may include operating or capital expenditures (excluding personnel costs) of projects as well as indirect investments in projects such as grants for private and public companies and for special purposes.

Sustainability Criteria and Quantitative Indicators for Use of Proceeds

A. Education and sustainability research

A.1. Non-discriminatory access to education

- Percentage of financed projects relating to this project category for which financed institutions are required to guarantee non-discriminatory access to education.

A.2. Working conditions of teaching and research staff

- Percentage of financed projects relating to this project category for which binding high labour and non-discrimination standards apply for both teaching and research staff.

A.3. Exclusion of research into controversial technologies

- Percentage of financed projects relating to this project category for which the projects do not involve the financing of research into any controversial business areas, such as armaments, crude oil, coal, nuclear power or tobacco.

B. Inclusion and social coherence

B.1. Non-discriminatory access to programmes/offers/services

- Percentage of financed projects relating to this project category for which financed institutions are required to guarantee non-discriminatory access to programmes/offers/services.

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

- Percentage of financed projects relating to this project category for which financed institutions offer participation free of charge, fairly priced and/or subsidised for socially disadvantaged participants.

B.3. Working conditions of teaching and office staff

- Percentage of financed projects relating to this project category for which binding high labour and non-discrimination standards apply for both teaching and office staff.

C. Public transportation and local mobility

C.1. Public transportation

C.1.1. Non-discriminatory access to subsidised public transportation

- Percentage of financed projects relating to this project category for which financed institutions are required to guarantee non-discriminatory access to offers/services.

C.1.2. Fairly priced subsidised public transportation

- Percentage of financed projects relating to this project category for which financed institutions offer services fairly priced.

C.2. Local mobility

C.2.1. Working conditions during construction

- Percentage of financed projects relating to this project category for which high labour and health and safety standards apply for both own employees and contractors.

C.2.2. Consideration of environmental aspects during planning and construction

- Percentage of financed projects relating to this project category that meet high environmental standards and requirements during the construction phase (e.g. noise mitigation, minimisation of environmental impact during construction work).

D. Climate protection and energy transition

D.1. Exclusion of controversial business areas

- Percentage of financed projects relating to this project category for which the projects do not involve any funding to controversial business areas, such as armaments, crude oil, coal, nuclear power or tobacco.

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

- Percentage of financed projects relating to this project category for which financed institutions offer participation free of charge, fairly priced and/or subsidised for socially disadvantaged participants.

D.3. Working conditions of employees at funded companies

- Percentage of financed projects relating to this project category for which binding high labour and non-discrimination standards apply for employees at funded companies.

E. Protection of natural resources

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

- Percentage of financed projects relating to this project category for which adequate environmental purchasing standards are in place.

E.2. Modelling on natural state of water bodies, scientific monitoring, structural quality mapping

- Percentage of financed projects relating to this project category for which the relevant plans are scientifically monitored and are modelled on the natural state of the water body.

E.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 apply for both own employees and contractors.
- Occurrence of fatal accidents related to construction work at project sites.

F. Sustainable urban development

F.1. Achieved energy efficiency (modernisations only)

- Percentage of financed projects relating to this project category for which energy efficiency improved by 20% or more.

F.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.

F.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 apply for both own employees and contractors.
- Occurrence of fatal accidents related to construction work at project sites.

F.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.

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

F.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).

G. Modernisation of educational and public health facilities

G.1. Achieved energy efficiency (modernisations only)

- Percentage of financed projects relating to this project category for which energy efficiency improved by 20% or more.

G.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.

G.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.

G.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.

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

G.6. Community dialogue (new builds only)

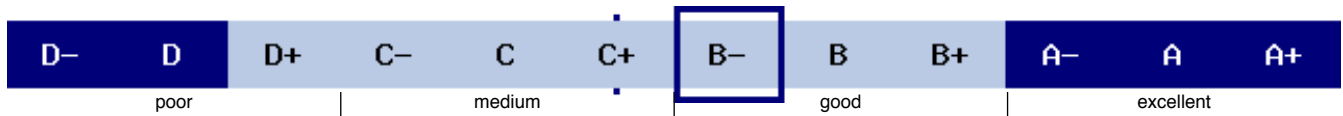
- Percentage of financed projects relating to this project category that feature community dialogue as an integral part of the planning process and the operational phase (e.g. sound information of communities, community advisory panels and committees, surveys and dialogue platforms, grievance mechanisms and compensation schemes).

oekom Country Rating

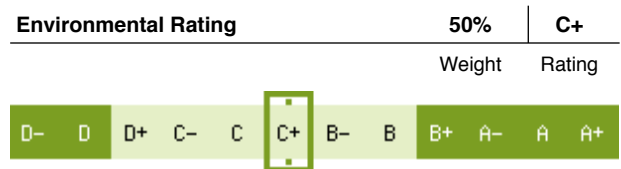
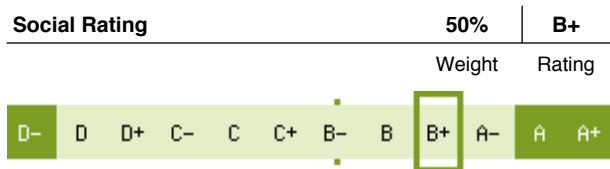
Germany

Score **57.69%**
Rank **13 out of 57**

Status **Prime**
Rating **B-**



- A country is being classified as Prime if it ranks among the world's best countries and fulfills the minimum requirements defined by oekom research (best in class).
- The highlighted sections on the rating scales indicate the range of ratings achieved. The average rating is marked with a vertical line.
- If relevant information is not made available, it may result in a poorer rating of the country within the applied rating method.



Strengths and Weaknesses

Social Rating

Political System and Governance
+ relatively high level of government effectiveness
+ high political stability
- relatively high general government gross debt

Human Rights and Fundamental Freedoms
+ human rights largely observed
- insufficient gender equality

Social Conditions
+ high employment rate
+ low youth unemployment rate
- relatively high at-risk of poverty rate

Environmental Rating

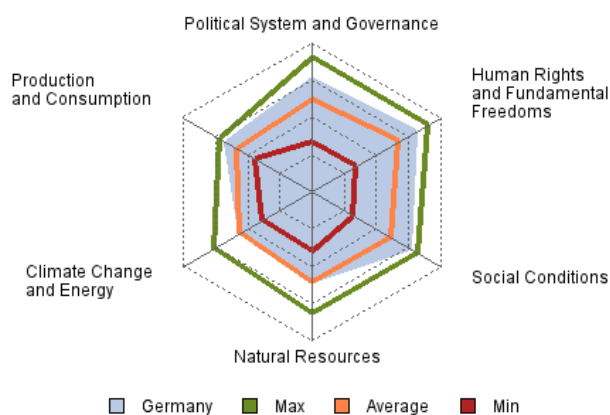
Natural Resources
+ high proportion of protected areas
- high number of threatened animal species
- high share of sealed area

Climate Change and Energy
+ low energy consumption relative to GDP
- no comprehensive national and international climate policy
- coal and gas form high proportion of energy mix

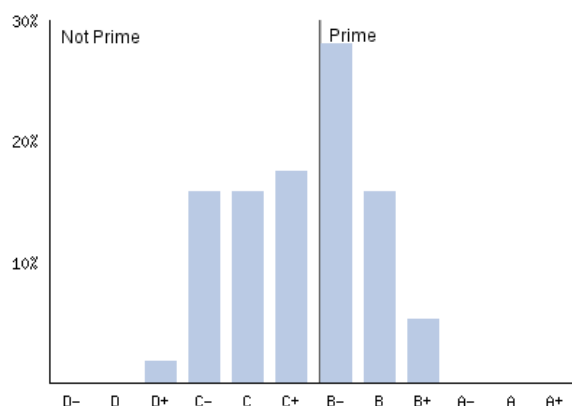
Production and Consumption
+ above average level of corporate social responsibility
+ high level of resource productivity
- high private consumption in the fields of cars, meat, energy, etc.

Benchmark Results

Rating Categories



Breakdown of Ratings



Germany

Country Profile

National territory (2015):	357,120.00	[in km2]
National population (2015):	80,854.00	[in 1,000]
Population density (2015):	226.41	[persons / km2]
Average annual population change (2014):	0.30	[as % of national population]
Human Development Index (2015):	6.00	[Rank]
Unemployment rate (2014):	5.00	[as % of labour force]
GDP per Capita (2014):	45,802.00	[in USD (PPP) per capita]
Real GDP growth (2014):	1.60	[in %]
Consumer prices (2014):	0.80	[in %]
Budget deficit (2014):	0.30	[as % of GDP]
General government gross debt (2014):	74.60	[as % of GDP]
Current account balance (2014):	7.40	[as % of GDP]

Exclusion Criteria

	Yes	No		Yes	No
Authoritarian Regime	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Freedom of Speech and Press	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Child Labour	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Human Rights	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Climate Protection	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Labour Rights	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Corruption	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Military Budget	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Death Penalty	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Money Laundering	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Discrimination	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Nuclear Power	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Euthanasia	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Nuclear Weapons	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Freedom of Association	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Whaling	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

An overview of the way in which the individual exclusion criteria are applied in practice can be found at www.oekom-research.com.

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