

Inaugural Sustainability Bond
State of North Rhine-Westphalia



Reporting on the eligible projects

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Introduction

The Government of the State of North Rhine-Westphalia steps in for successful, fair and sustainable development regarding social, ecological and economic matters. Therefore its aligned action is under the principle of sustainability. Being the most populous State, North Rhine Westphalia demonstrates how changing to a sustainable development can be successful by preservation and stabilization of the economic and industrial structures. Therefore the Government decided to promulgate a NRW Sustainability Strategy in September 2015.

The State's environment friendliness and sustainability can be found in serious political measures like the November 2014's framework for the Construction and Real Estate Agency NRW (Bau- und Liegenschaftsbetrieb NRW): With certification systems from the German Society for Sustainable Construction (Deutsche Gesellschaft für Nachhaltiges Bauen – DGNB) or the Evaluation system for sustainable construction (Bewertungssystem Nachhaltiges Bauen – BNB) the ecological, economic and social quality standard is certificated in an objective and transparent way. Another political objective is education for sustainable development (Bildung für nachhaltige Entwicklung – BnE). In this context, interdisciplinary knowledge shall be imparted from primary school to university to enable citizens to make decisions in a forward-looking way.

The Sustainability Bond (EUR 750m) was issued on March 4, 2015 with a maturity of March 2025 and a 0.5% Coupon. This report shows by way of example how the money was spent and gives an indication of the impact of the projects in terms of sustainable development.

A. Education and Sustainability Research: EUR 430.4m

- Expansion of universities of applied science

Budget item # 06 025 TG 73

EUR 166.0m

In 2014, the University of Applied Sciences Ruhr West opened its branch in Bottrop. The “Energy Campus Bottrop“ provides place for 900 students with its gross floor area of 11,400 sqm. A remarkable department there is the Institute of Energy Systems and Energy Industry:

Research focuses on how to increase the proportion of renewable energy of all energy consumption as well as energy efficiency. Therefore energetic coherence can be researched at its very own buildings. In addition there is a cogeneration unit, long-distance heating, concrete core temperature control, solar collectors as well as use of heat from waste water via heat exchange. The university provides a 600 sqm sized “Technikum” where heat pumps can be researched. Further information about the institute: www.hochschule-ruhr-west.de/forschung/fachbereich-1/institut-energiesysteme-und-energiewirtschaft/

With elevators and special markings the university is also well equipped for needs of people with disabilities. Also in 2014, the University of Applied Sciences in Hamm Lippstadt opened its 17,340 sqm-sized new facility in Hamm which provides 14 bachelor courses and 5 master courses for 4,500 students. Focus of the courses at the Hamm branch is energy and infrastructure system, renewable energies and building technology.

While building the facilities NRW paid close attention to energy efficiency and environment friendliness. By using excess heat from refrigeration (power of 120kW) at least 15% of energy can be saved. During the heating period the boiler system has less stand-by time through using the excess heat. By separating room heating and hot water production to different kinds of heat generation the condensing boiler technology can be used all year. The ventilation technology achieves 80% heat recovery. The floor heating's efficiency is partly improved. A reduction of the return-flow temperature by 5 degrees increases energy efficiency by 2%.

The Campus is completely barrier-free in areas of general public traffic. The entrance doors have automatic door openers. Tactile Elements are provided for visually impaired people to help get

around. The elevators have modules which give acoustic and visual information. There are no stairs at all at the campus.

The [University of Applied Sciences Rhein Waal](#) opened its Kamp Lintfort branch in 2014. The faculty of communication and environment with 8 bachelor courses and 4 master courses is located here. The Campus provides place for 2,000 Students at its gross floor area of 19,000 sqm. The building is planned in a sustainable fashion. Major elements are building control with a multibus system, two cogeneration units as well as presence depending lighting provided by LED.

- Bund-Länder-Covenant for the expansion of universities

Budget item # 06 100 TG 70

EUR 207.8m (of which capital expenditures EUR 146.3m)

In December 2014, federal and state governments reached an agreement concerning the extension of the Bund-Länder-Covenant for the enlargement of universities (Hochschulpakt 2020, third phase). The goal is to provide further places of study with regard to an ongoing increase in demand for college education. This trend has been caused, among other factors, by the shortening of secondary high school education by one year

(www.wissenschaft.nrw.de/fileadmin/Medien/Dokumente/Studium/Abi_2013/Monitoringbericht_2015.pdf).

In summer 2014, a program was issued to extend the places in master courses. 65,000 new places to study will be created until 2020. In 2014 alone, 935 places in the medical school have been created.

A detailed report of the Joint Research Conference (Gemeinsame Wissenschaftskonferenz) will be available at the end of 2016 (www.gwk-bonn.de/themen/wissenschaftspakte/hochschulpakt-2020).

- Research initiative "Progress for NRW"

Budget item # 06 100 TG 75

EUR 15.9m (of which capital expenditures EUR 0.4m)

The research initiative "Progress for NRW" ("Fortschritt NRW") promotes the junior researchers in in sustainable research. Therefore it issued the program "NRW college of progress" ("Fortschrittskolleg NRW"). In this college PhD students support the goals of the sustainability strategy. The Technical University of Dortmund supervises the project "Energy efficiency in the district". The goal is to extend efficiency and output of devices through joint usage in big buildings and districts. At the University of Paderborn, junior researchers work on extreme lightweight construction with hybrid materials. They adjust different materials to complex exposure profiles in lightweight construction under the name of "Light-Efficient-Mobile". Further information on promoted projects: www.wissenschaft.nrw.de/forschung/fortschritt-nrw/inter-und-transdisziplinaere-forschung.

- Modernisation of universities

Budget item # 06 110 TG 20

EUR 24.4m (of which capital expenditures EUR 11.6m)

The program for the modernisation of universities (Hochschulmodernisierungsprogramm) provides renovation and technical upgrades for various university facilities. Current standards for energy efficiency and accessibility are obeyed.

The renovation of various universities is under way. The projects focus on improving energy standards and remedying pollutants such as asbestos and PCB. If the modernisation is not economically feasible, new buildings are planned, which has already begun in many places. Detailed information on all activities: www.wissenschaft.nrw.de/hochschule/finanzierung/hochschulbau.

The University of Applied Sciences Düsseldorf ("Hochschule Düsseldorf") is building its new 54,000 sqm sized campus since 2012. Environmental friendliness and barrier-free access were central issues while planning the building. They have green roofs, a photovoltaic system, a geothermal energy test facility and a solar thermic system. All auditoriums are accessible for people

with disabilities. There are induction loops for the hearing impaired. Visually impaired people can reach the entrances with the help of a tactile guiding system.

- Consumer protection

Budget items # 10 040 684 10 and # 10 040 686 10
EUR 13.8m

In 2014, the consumers' association of North Rhine Westphalia (Verbraucherzentrale NRW) consulted more than one million consumers in its 60 information centers. The most important issues are energy, health, nutrition, environment as well as finance and law. Special projects strive to improve the nutrition in preschool and Kindergarten and to avoid food waste. The annual report for 2014 with further information is available at www.verbraucherzentrale-nrw.de/mediabig/234586A.pdf

- Sustainable development

Budget item # 10 020 TG 66
EUR 0.5m

Education is key for sustainable development. The goal of the initiative Education for Sustainable development ("Bildung für nachhaltige Entwicklung") is to make propositions and give advice for the implementation of the State's strategy, which has been finalized now (http://www.zukunft-lernen-nrw.de/fileadmin/PDF/2016-01-26_bne_strategie_zukunft_lernen.pdf).

- Foundation for Nature and Sustainable Development

Budget item # 10 020 TG 72
EUR 2.0m

The Foundation for Nature and Sustainable Development in North Rhine Westphalia (Stiftung Umwelt und Entwicklung NRW) supports non-profit organizations' projects on north-south-dialogue, environmental protection, nature conservation and intercultural learning as they support the sustainable development of the state. A good example is Saerbeck. Up to the year 2030 its energy shall be produced out of its own regenerative sources. Therefore a bioenergetics park was build which is also a place for research beside its function to produce energy. The foundation's annual report 2014 with further Information is available on at www.sue-nrw.de/images/stories/materialien/jahresbericht_2014.

B. Inclusion and Social Coherence: EUR 28.3m

- European Social Fund

Budget item # 11 032 TG 61
EUR 17.8m

Projects in this area focus on the core issues enhancing employability, dealing with interim periods and improving human capital/youth and employment. A special focus is the integration of young people into the labour market.

A project located in Münster helps young mothers and fathers to find training places and reconcile work and family life. Further information and other examples are available at www.mais.nrw/beispiele-guter-praxis-nrw.

The complete report for 2014 of the ESF program in North Rhine Westphalia is available at www.mais.nrw/sites/default/files/asset/document/esf_durchfuehrungsbericht_2014.pdf

- Inclusion of persons with disabilities

Budget item # 11 050 TG 80
EUR 3.9m

The program "NRW – One Society for All" ("NRW inklusiv – Eine Gesellschaft für alle") is a comprehensive set of measures adopted by the State to implement the UN Convention on the Rights of Persons with Disabilities. The projects and initiatives shall create opportunities for the partici-

pation of persons with disabilities in society

(www.mais.nrw/sites/default/files/asset/document/121115_endfassung_nrw-inklusive.pdf).

A good overview of inclusion projects is the inclusion registry NRW (“Inklusionskataster NRW”), which provides best practice examples for other municipalities. A recent example is the City of Unna with its initiative “Take the bus”. Barrier-free transportation provides a self-determined and environmental friendly way of mobility www.inklusive-gemeinwesen.nrw.de/projekte/kultur.

- Support for sheltered workshops for persons with disabilities

Budget item # 11 050 TG 85

EUR 5.0m (of which capital expenditures EUR 5.0m)

The support of employment opportunities is an important element to promote the participation in working life for disabled people. In cooperation with the regional office for NRW of the Federal Labour Office, 633 additional places of work have been created in 2014. As an example, Tecklenburg’s “Ledder Werkstätten” created 60 new places in packaging, assembling, logistic and house-keeping (www.ledgerwerkstaetten.de).

- Employment opportunities for persons with disabilities

Budget item # 11 050 TG 86

EUR 1.6m (of which capital expenditures EUR 1.6m)

Integration companies are independent companies which hire their staff in the regular labour market and have to compete on market economy terms. These companies permanently employ severely disabled persons, who make up at least 25 per cent, in most cases 50 per cent of their staff, with full coverage under the system of social security.

An example is “Mattea” from Leverkusen. 17 of the 37 employees working in the restaurant, catering and school meal services are disabled. A professional job aid provides individual help in the work process. The company is equipped with special fire protection lights and a special PC with a magnifying glass and braille keyboard. Further information is available at www.mais.nrw/integration-unternehmen-gute-praxis-leverkusen.

C. Public Transport and Local Mobility: EUR 169.5m

- Public transport for low-income citizens

Budget item # 09 110 TG 60

EUR 29.3m

The State promotes the participation of public transport to a broad level of the population by offering subsidized social tickets (“Sozialtickets”). In the year 2014, social tickets were available in 45 out of 53 municipalities, reaching 86% of the eligible persons. The discount is between 40 and 80% compared to a standard rate. According to a comprehensive evaluation, 80% of the users were satisfied with the ticket. Half of the interviewed people said that they use public transport more often now. Two thirds of them renounced using a car. Further information is available at www.landtag.nrw.de/portal/WWW/dokumentenarchiv/Dokument/MMV16-3361.pdf (see Attachment 1)

More detailed information about the rates of the transport associations is available at www.landtag.nrw.de/portal/WWW/dokumentenarchiv/Dokument/MMV16-2042.pdf

- Public transport for pupils and students

Budget item # 09 110 TG 74

EUR 130.0m

Pupils, students and trainees/apprentices can buy tickets at reduced fares. On the one hand it provides an environmental friendly way of transportation to school or to the work place, on the other hand children and young persons can use the public transport also during their leisure time

and by doing so get used to sustainable mobility. In 2014, there were about 2 million pupils in NRW and 120.000 new trainees/apprentices who could potentially use these tickets.

- Transport infrastructure for cyclists and pedestrians

Budget item # 09 140 TG 61

EUR 10.2m (of which capital expenditures EUR 10.1m)

The State provides financial support for projects which improve conditions for cyclists and pedestrians, particularly on short-haul routes (local mobility). A shift to non-motorized traffic significantly enhances air quality and contributes to the protection of natural resources as well as to the revitalization of inner city centers. Additionally, a shift to non-motorized traffic has positive effects on public health. Because it offers such a great variety of beneficial effects to society, promoting local mobility is an important goal of transport policy.

By way of example, the project "Rail to trail" built on massively in the last years. 300km bicycle paths were newly built on abandoned railroad tracks, bringing the overall network of such dedicated bicycle lanes to 1000km. There are many advantages: The routes are scenic and fewer streets have to be crossed. Even in mountainous surroundings there are no difficult gradients or disturbance by noise or traffic.

Further information about single routes is available at www.beg-nrw.com/bahnradwege.

D. Climate Protection and Energy Transition: EUR 49.2m

- Resource efficiency

Budget item # 10 020 TG 68

EUR 4.6m

The State sponsors the Efficiency Agency North Rhine-Westphalia (EFA NRW). EFA NRW supports municipalities as well as small and medium-sized manufacturing enterprises in the State with regard to policies and strategies enhancing their resource efficiency, thereby creating clear benefits for their businesses as well as for the environment.

A good practice is the project of a Lüdenscheid aluminium processing company. The EFA gave financial advice about financing a new, environmental friendly cooling system. Through the project implemented in 2014, the company was able to avoid 124t waste of aluminium, 46.281kWh of energy consumption, and 26.1t CO₂ emissions annually.

- Renewable energies

Budget item # 10 060 TG 63

EUR 12.6m (of which capital expenditures EUR 8.6m)

A significant contribution to the State's climate protection efforts is provided through the programme for rational energy consumption, renewable energies and energy saving "progres.nrw" (progres.nrw). The initiative provides services for entities, municipalities, research and consumers. Private households, which reduce the CO₂ emissions, can get an award called "Energy saver NRW" (Energiesparer NRW), which has already been conferred over 4,500 times.

- European Regional Development Fund (EFRD)

Budget item # 10 090 TG 75

EUR 32.0m (of which capital expenditures EUR 7.0m)

EFRD financed the project "Tangible climate protection and energy revolution" (Klimaschutz und Energiewende konkret – KEK). The goal of the energy consulting project was to support private households' progress towards the energy transition. Core element is on-site consultation, which was done in 17,000 private households. Through this effort, 10.5t CO₂ will be saved annually, which means an average of 623kg CO₂ per consultation. In the course of related construction pro-

jects, 800 jobs have been generated. More information on KEK is available at www.verbraucherzentrale.nrw/mediabig/231646A.pdf.

Another major project is the Innovation City Ruhr. The initiative's goal is to halve CO₂ emissions within the designated area through enhanced climate protection measures. Until 2015, 38% of the targeted savings have been implemented through 125 single projects. This is equivalent to a saving of 100.000t CO₂. Furthermore, 300 jobs have been generated.

Further information on Innovation City Ruhr is available at www.icruhr.de/index.php?id=3.

Further good practice examples of EFRD: www.efre.nrw.de/daten-fakten/gute-praxisbeispiele.

E. Protection of Natural Resources: EUR 52.1m

- Soil protection

Budget item # 10 020 883 11

EUR 3.6m (of which capital expenditures EUR 3.6m)

The State provides financial support for soil protection efforts at the municipal level, with a focus on risk assessment. The goal is to protect the environment, mitigate hazards for public health, support regional planning and zoning regulation and allow for remediation of abandoned landfills or industrial sites ("land recycling").

In parts of the industrial city of Duisburg, the soil has an extensive and high accumulation of heavy metals, due to dust precipitation from the local metal industry for decades. Especially lead and cadmium cause significant health issues. This affects mainly playgrounds, gardens and allotments. In 2015, the rehabilitation of three allotments has been completed. Uncontaminated soil was exchanged, raised bed gardens were created and playgrounds were renewed. Eatable vegetable can now grow on the uncontaminated soil.

- Protection of Nature

Budget item # 10 030 TG 82

EUR 24.2m (of which capital expenditures EUR 6.1m)

The central objective of conservation policy in North Rhine-Westphalia is to avoid loss of biodiversity and to increase population of endangered species. The great dangers for habitats and species are reflected in the so-called red lists and in the unfavourable conservation conditions.

Besides established activities like protection of old trees and preservation of cultural landscapes, NRW focuses on bringing disabled people to the nature by expansion of hiking paths through the project "Easy paths" ("Leichte Wege"). A similar approach is taken by tactile guided tours through the Rhineland Regional Associations' museums. Further information is available at www.lvr.de/media/wwwlvrde/kultur/kulturlandschaft/dokumente_193/15_2185_fachbereich_kulturpflege_komplett_internet.pdf.

Through land acquisitions for conservation purposes, highly valuable areas are protected from intensive economic exploitation in order to allow for a more environment-friendly development (e.g., heath or moorland, grassland, arable, and forest land in protection areas). These parcels of land can serve as "Stepping stone habitat areas", allowing for unimpaired wildlife and strengthening the network of areas with favourable conservation conditions. Good examples are the LIFE projects for environment protection (LIFE Naturschutzprojekte). They strive to save threatened species and habitats and take measures to save and develop those. The current projects are subsidized with 50% EU funds and co-financed by the State of NRW as well as own contributions. The acquisition of land is an important component to the project. For example, the Biological Station ("Biologische Station") at Wesel bought 1.5ha of oak forests with acid soil which also feature swamp soil and heathland in 2014. In this area, a near-natural oak forest is being developed. Another project is the mountain meadows in Winterberg. In 2014, the Biological Station of Winterberg acquired 2.6ha of land through project funds. On this piece of land there will be grassland (2.4ha) and alluvial forest (0.2 ha).

Flood protection and river restoration

Budget item # 10 050 TG 66

EUR 13.5m (of which capital expenditures EUR 11.3m)

Early and environment-friendly flood control is essential in the densely populated and highly industrialized State of NRW, especially for the river Rhine, but also for many other waters. The flood prevention concept of the State ([Hochwasserschutzkonzept](#)) offers solutions for a wide range of possible flood events on large or small waters. The State's approach features concepts of technical assistance and water retention as well as planning instruments for flood prevention purposes, e.g. designation of floodplains. Natural watercourses and their floodplains can cache sprawling water, thus reducing the wave crest. Ecological restoration of streams and rivers can restore this property and thus contribute to flood prevention.

- European Agricultural Fund for Rural Development

Budget item # 10 090 TG 60

EUR 10.8m (of which capital expenditures EUR 1.0m)

The European Agricultural Fund for Rural Development (EAFRD) offers a broad variety of support measures for agriculture, forestry and rural areas in general. In North Rhine-Westphalia, implementation is carried out through the "NRW program for Rural Areas 2014-2020". The program puts emphasis on funding programs that are dedicated to the European priority for restoration, conservation and enhancement of biodiversity, for cultivation of land with high nature value and for conservation of European landscapes. The State promotes efforts towards a more sustainable, GMO free farming practice, which contributes to livable rural communities.

The program strives to improve living conditions for endangered species in North Rhine-Westphalia, to reduce fertilizer and pesticide use and to protect soil, water and permanent pastures. Further objectives relate to preservation of the cultivated landscape, proper animal housing and expansion of organic farming in order to meet growing demand for organic food.

F. Sustainable Urban Development: EUR 54.9m

- Urban renewal

Budget item # 09 500 883 11

EUR 54.9m (of which capital expenditures EUR 54.9m)

Through the urban development program, the State of NRW promotes social cohesion, cultural diversity and the quality of life in cities across the state. The program strives to create and conserve "Homeland outside the front door". Other goals are the development of new forms of mobility, the renewal of urban infrastructure and the environment-friendly reconstruction of buildings and neighborhoods. The program "Stadtumbau West" (Urban Reconstruction in the West) focuses on the effects of a shrinking population and a stagnating economic development, in order to stipulate new initiatives for sustainable urban development. Issues of urban planning and housing, economic development and social as well as environmental policies are taken into account. Urban districts with a severe loss of functions or a high degree of abandoned or vacant property (residential, commercial, military or railway) are eligible for support under this program. In Gelsenkirchen-Schalke, two junk real estates were bought and torn down. A park has been developed where neighbours and schools from the community now started a gardening project. Further information and other good practice examples are available at www.stadtumbaunrw.de.

The program "Soziale Stadt" (Social City) tackles various challenges for local communities with regard to urban renewal, labor market development, economic structure and growth, housing, social and cultural infrastructure, integration and inclusion, schools, promotion of health, prevention of crime and public relations. Most comprehensive projects in this program start with specific measures to improve conditions of living and the social environment, such as renewal of play-

grounds, schoolyards and parks. A good example is the “Ellerbruchsiedlung” in Dorsten. In the large housing estate from the 1960s and 1970s over 200 owners, youth welfare and church organisations joined to revalue the living environment. The local neighbourhood office (“Stadtteilbüro”) helps to organise the initiatives and participants. More examples are available at www.soziale-stadt.nrw.de/index.php.

A number of comparably successful projects were awarded with the nationwide “Soziale Stadt 2014” Award. More information on the award winners is available at www.preis-soziale-stadt.de/fileadmin/user_upload/11_dokumente/Preis_Soziale_Stadt/Doku-PSS-2014.pdf.