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# Consistently implementing the Sustainable Development Goals

## Update of the strategy for a sustainable North Rhine-Westphalia

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**#NachhaltigesNRW**

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*This updated North Rhine-Westphalia sustainability strategy (NRW-Nachhaltigkeitsstrategie) was adopted in its present text version by the North Rhine-Westphalian state government on September 22, 2020.*



## Foreword by the Prime Minister

### Armin Laschet

Ladies and gentlemen,



Five years ago in New York, the world community adopted the Sustainable Development Goals - 17 goals which serve worldwide as both coordinates and compass for the long-term preservation and sustainable development of our basis of existence. With the new sustainability strategy presented here, our federal state wants to add its contribution.

The corona pandemic has once again made it clear to all of us that we are part of a global world, and that we can only tackle and solve its pressing problems together. National solo efforts and closed borders do not protect against viruses, and neither do they solve other problems. We are only strong together—this is particularly true for global challenges. With its sustainability strategy, North Rhine-Westphalia wants to make concrete contributions to sustainable development.

After all, as one of the most important industrial locations in Europe, as the most populous state in Germany and as the only German United Nations site, North Rhine-Westphalia bridges the divide between northern and southern federal states. It stands for the social and cultural togetherness of its citizens, who envision a high quality of life for their children and grandchildren. It stands for nature, ecosystems, and the climate, whose protection is our responsibility. And for the economy, which must continue securing our prosperity in the future.

Together, we are capable of achieving these goals. This requires everyone's contribution, in all areas of our lives: be it our economic activity, our consumer behavior, the handling of natural resources in our cities and regions, or our daily social interactions.

I would like to express my sincere gratitude to all those who have already made a valuable contribution to implementing the North Rhine-Westphalia sustainability strategy in recent years. And I wish much success to all those who campaign and act for a sustainable North Rhine-Westphalia now and in the future—in the common interest of all.



Armin Laschet  
Prime Minister of the State of North Rhine-Westphalia

## Foreword by the Minister

### Ursula Heinen-Esser

Ladies and gentlemen,



Sustainability is not an abstract term; rather, it is intertwined with people's everyday lives. Large sections of our society are now very much aware that our future depends, among other factors, on how sustainably we manage the resources of our planet.

In all ministries in North Rhine-Westphalia, the state government is working to carry sustainable action into the respective areas of responsibility; for a sustainable society requires a grand design as well as many small steps. In order to turn visions into reality, we need clear objectives and the determination of all those involved to ensure that words are followed by actions.

Every day, we all make decisions that determine our future. In weighing up the arguments, it will be important to pay even more attention to the consequences of our decisions – for our future coexistence, for the state of the environment, nature, and the climate, and for the development of our economic system. This applies to consumers in private households as well as to the public sector, businesses, and enterprises.

The consequences of the global financial and economic crisis of 2007/2008, the increased movement of refugees, the progressing climate change and, most recently, the corona pandemic have made one thing very clear: global developments and crises in other parts of the world have a very direct impact on life in North Rhine-Westphalia. Conversely, our living and consumption habits also have direct or indirect consequences for people in all parts of the world.

The state government's sustainability strategy is closely aligned with the 2030 Agenda for Sustainable Development adopted by the United Nations in 2015. It includes ecological, economical, and social aspects. The agenda's 17 global goals, also known as Sustainable Development Goals (SDGs), are aimed at politics, business, science, and global civil society alike. Based on this understanding of the concept of sustainability, we pursue concrete goals for a sustainable North Rhine-Westphalia worthy of future generations. After all, the 18 million citizens of our federal state are just as entitled to an intact environment as they are to a high quality of life and comprehensive social justice.

A clearly defined state framework that defines sustainability as a goal also means a solid foundation for economic success. North Rhine-Westphalia is an important location with strong businesses that play a leading role in global markets. It is the federal state with the strongest economy. To maintain this position, it will also be important to prepare for further possible crisis scenarios and to build resilient structures for the future. After all, the virus pandemic has clearly shown us: strategies and decisions that only produce short-term economic success can prove disadvantageous in the medium and long term. In contrast, decision-making criteria based on sustainability always include an impact and risk assessment in the long-term perspective. Thus, the North Rhine-Westphalia sustainability strategy offers the right orientation framework for possible new challenges as well.

With the new edition of the sustainability strategy, North Rhine-Westphalia is strengthening its already strong position in developing a sustainable future. In doing so, we operate within the framework of the German Sustainability Strategy (*Deutsche Nachhaltigkeitsstrategie*, DNS), from which we derive specific solutions for our federal state.

This document is the result of an extensive coordination process with other stakeholders. Proposals have been submitted not only by the municipal umbrella organizations but also by numerous initiatives and representatives of social interests. They were also able to present their contributions to the public at six regional forums as well as at the 7th NRW Sustainability Conference. For this, I would like to thank all those involved.

We all realize: only a coordinated approach by all public decision-makers and private actors, from the municipal level up to the community of European states, will enable us to make an ambitious contribution to the implementation of the Sustainable Development Goals. Ultimately, it is up to each and every one of us to make the right decisions for the best possible future of our federal state.



Ursula Heinen-Esser  
Minister for Environment, Agriculture,  
Conservation, and Consumer Protection of the State of North Rhine-Westphalia

## **A. Fundamental principles of sustainable development in North Rhine-Westphalia**

### **I. Our path towards a sustainable North Rhine-Westphalia**

The sustainability strategy for the state of North Rhine-Westphalia is intended to provide a long-term orientation for the economic, ecological, and social development of our federal state. We understand sustainability to mean that economic, ecological, and social development must combine in order to offer future generations an undiminished quality of life. The state government considers global responsibility, the limits of our planet, as well as the economic and social development perspectives to be the framework for action.

To this end, the state government of North Rhine-Westphalia promotes modern, technology-neutral, fair, and sustainable development. Thus, its actions are guided by the principle of sustainability. As the most populous federal state, which was also shaped the most by its industry, we want to show how the transformation towards sustainable development can be successfully managed by modernizing economic and industrial structures. The commitment, knowledge, and innovative spirit of the federal state's inhabitants form the basis for this transformation process.

We will only be able to meet the challenges of the future with an integrated consideration of ecology, economy, and social issues. To concentrate merely on individual/single dimensions would mean neglecting essential human needs. A high level of economic development goes hand in hand with social justice, participation, free development, and high expectations of environmental quality. Technical progress and openness to new ideas provide the basis for decoupling economic growth from resource consumption. In this way, both social well-being and the economical and efficient use of scarce resources can be ensured even for a globally growing population. Future generations should have the same opportunities for development as generations living today – in all dimensions of sustainability.

The sustainability strategy is designed to span various departments and topics. It relies heavily on personal responsibility, creativity, and market incentives. The state government pursues a technology-neutral approach, creating attractive framework conditions through investments in infrastructure, digitalization, and education that contribute to the Sustainable Development Goals. In this way, it enables business and society to develop the best solutions for the challenges of the future. This approach promises more success than bureaucratic micromanagement, especially in a dynamic world.

Digitalization plays a particularly important role in all dimensions of sustainable development. The federal state's "Strategy for a Digital North Rhine-Westphalia 2019: Enabling Participation—Opening up Opportunities" (*Strategie für das digitale Nordrhein-Westfalen 2019: Teilhabe ermöglichen – Chancen eröffnen*) forms the strategic superstructure in this area. Digitalization is a great opportunity: through innovation, it can help us become both the most dynamic and the most environmentally friendly industrial and business location in Europe. We need to set the course today by driving the development of digitalization and promoting intelligent solutions with state-of-the-art infrastructures, especially with people living together in urban areas. Social,



technological, and cultural changes must be seen as opportunities, and the challenges must be actively addressed. North Rhine-Westphalia must make consistent use of the possibilities offered by digitalization to protect resources and the climate, to modernize education, business, infrastructure, and administration, as well as to offer companies an innovative and business-friendly environment. In order to achieve a leading position in the digital age, we are significantly accelerating the expansion of digital infrastructure.

The state government is committed to the principles of fair and sustainable free trade in a globalized world. It is the key to a technological, economic, and social catching-up process in emerging nations – and also to growing environmental awareness. The state government supports the European Union and the Federal Government in implementing the relevant international agreements. North Rhine-Westphalia will remain a committed player in development policy. Within the scope of our possibilities, we want to help our partner countries develop stable social structures as well as a sustainable and strong economy. In this way, we also want to contribute to combating causes of flight.

Sustainable development needs many committed actors. They must demonstrate an enterprising, pioneering spirit, invest in technological and social innovation, and be guided in a pragmatic way by the effectiveness of policies. We encourage these committed actors from the state, civil society, science, and business to engage in critical discourse and cooperation.

With this sustainability strategy, the state government is taking up in its state policy the United Nations (UN) 2030 Agenda for Sustainable Development and the 17 Sustainable Development Goals (SDGs) contained therein, and presenting its contributions to the implementation of the 2030 Agenda. The contents, objectives, and measures of the strategy are now closely aligned with the system of SDGs and the German Sustainability Strategy of the Federal Government (see Part B). Both horizontal and vertical integration is achieved through an umbrella strategy spanning different departments and policies, and through the interlocking of the state and municipal levels as well as the state and federal, EU, and UN levels. In addition, the strategy focuses on the special situation of the federal state resulting from the high settlement density, high proportion of industry with many energy-intensive businesses, and high proportion of migrants.

In our vision for a sustainable future North Rhine-Westphalia, people are at the center of an economically, ecologically, and socially balanced, modern federal state:

*All people in North Rhine-Westphalia - in all parts of the state, both in urban agglomerations and in rural areas - have the same opportunity to receive the best education, to develop freely and to live well in a healthy and intact environment, regardless of their origin. They enjoy a high quality of life, social and internal security, and a high level of social cohesion.*

*North Rhine-Westphalia is a home that offers its inhabitants a sustainable, safe place to live, and work that does not endanger the health of employees.*

*North Rhine-Westphalia is permanently shaping its transformation in an open, democratic, and gender-equitable process on the basis of sustainable public finances that allow it to remain capable of action even in crisis situations. It does so through the*

*joint commitment of its citizens, the civil society, municipalities, science, business, politics, and administration.*

*North Rhine-Westphalia is a leading innovation and science driver as well as a world-class industrial location in terms of climate and environmental friendliness. It is internationally competitive and geared towards social and ecological principles.*

## **II. Specific sustainable development challenges for North Rhine-Westphalia**

North Rhine-Westphalia is the most populous region in Europe. Located in the geographical and economic center of the continent, our federal state is closely intertwined with other countries. North Rhine-Westphalia is characterized by highly industrialized urban centers with considerable traffic flows but also by suburban and rural areas with strong agriculture, food industry, and forestry. Settlement density is very high, as is competition for the scarce land for housing, business, agriculture, and nature. The economic structure is traditionally resource- and energy-intensive, and greenhouse gas emissions are relatively high. The federal state's infrastructure (including transport, energy, telecommunications, science, water, and health) is generally well developed but needs to be modernized in many areas. The average age of the population is increasing significantly in all parts of the state, with considerable consequences for the labor market and the social security systems. However, the demographic developments differ considerably in the individual parts of the federal state: some urban and a few rural areas are experiencing significant population growth (particularly in the Rhineland), while the population in most rural and some urban areas is shrinking. Immigration has been shaping the federal state for generations - the proportion of people with a migration background is significantly higher than in other German states.

Against this background, the following challenges are of particular importance for North Rhine-Westphalia:

- **Structural transformation of North Rhine-Westphalia as a business location through innovation and research**

As an industrial state, North Rhine-Westphalia is facing the special challenge of managing far-reaching transformation processes in industry and energy production in the coming decades, especially in the coal regions in the Ruhr metropolis and the Rhenish mining area. The support for new, innovative value creation and employment in industry, trade, services, and research must create an attractive, sustainable perspective for people and businesses. In order to secure the attractiveness and international competitiveness of North Rhine-Westphalia as a business location in the long term, key location factors must be ensured. These include a modern, interconnected transport infrastructure, an effective water management system, the accelerated expansion of digital infrastructure, sufficient and high-quality industrial and commercial premises, a reliable and competitive energy supply, recycling management systems that facilitate the transition to a circular economy, attractive tax conditions, a continuous reduction of unnecessary bureaucracy, highly trained specialists, and a pleasant living and working environment. Optimal conditions for investments and innovations are necessary in order to occupy new future

markets, to achieve cross-industry technological leadership, and thus also to implement the goals of ecological and social sustainability.

- **Making energy supply environmentally friendly, safe, and affordable**

North Rhine-Westphalia holds an important position in the energy market. Almost a third of the electricity required in Germany is generated in our federal state. The development of strongly fluctuating, decentralized renewable energies poses great challenges for the highly complex energy supply system geared to conventional large-scale power plants. Overall, the climate-friendly transformation of the energy system, which is at the heart of the energy transition, poses particular challenges for the historically developed energy and industrial structures in North Rhine-Westphalia. North Rhine-Westphalia has by far the highest energy consumption among all federal states, as well as the highest settlement density among the non-city states. Furthermore, as an industrial location, it is particularly dependent on a secure energy supply with competitive energy prices. Therefore, in order to strengthen North Rhine-Westphalia as an energy and business location in the long term, it is essential to drive forward the transformation process in a widely acceptable, technology-neutral way that would benefit the market and the system as a whole.

- **Compliance with the climate protection targets of the Paris Agreement**

North Rhine-Westphalia faces a particular challenge and a special responsibility in contributing to meeting the Paris climate protection targets. After all, it accounts for around one third of Germany's greenhouse gas emissions, its traffic volume is particularly high, and its numerous energy-intensive businesses - e.g. in the chemical and steel industries - provide many jobs. The target for 2020 set by the current NRW Climate Protection Act (*Klimaschutzgesetz NRW*), namely, reducing greenhouse gas emissions by 25 percent compared with 1990, was achieved ahead of schedule. Further collective efforts are needed to achieve the long-term goal of the Paris Agreement and the German Federal Government's Climate Action Plan 2050 (*Klimaschutzplan 2050*): largely reaching greenhouse gas neutrality by the middle of the century.

The state government accepts this challenge, promoting climate protection as an innovation-driven, technology-neutral modernization strategy. Particular climate protection challenges exist in the transport and building sectors:

Due to its location and structure, North Rhine-Westphalia has a particularly high volume of traffic, which is responsible for almost 12% of greenhouse gas emissions. In order to reduce greenhouse gases in the transportation sector, North Rhine-Westphalia is focusing on climate-friendly drive systems, in particular on electric mobility based on renewable energies.

Energy-oriented modernization of existing buildings and new energy-efficient housing, too, are important pillars for achieving climate protection targets. In the building sector in particular, energy-efficient technologies and renewable energies can make a significant contribution to reducing greenhouse gas emissions.

- **Making North Rhine-Westphalia climate-proof**

The consequences of climate change are already being felt in North Rhine-Westphalia today. There is a broad scientific consensus that weather extremes such as heat waves, droughts, periods of low water, heavy rainfall, floods, and storms will increase in frequency and intensity. These effects can be expected even if the 1.5-degree target from the Paris Climate Agreement is met. These changes in climatic boundary conditions require adaptation in many areas of the economy and daily life, which poses major challenges for those areas. In addition, there are possible competing uses for water resources (drinking water versus agricultural irrigation during periods of drought).

Both in the state's densely populated conurbations and in the densely built-up centers of smaller communities, structures must be adapted to mitigate the effects of heat waves or to drain heavy rainfalls in a controlled manner. Urban ventilation, emergency waterways, green zones and retention areas must be strategically integrated into existing settlement structures as well as into new plans in order to preserve a sustainable environment. The challenge here is to implement integrated and interdisciplinary planning approaches in local administrations.

The drought events of 2018 and 2019 have highlighted the vulnerability of agriculture, forestry, water management, and ecosystems to climate change. Among other consequences, changing rainfall patterns, the absence of winter frosts, warm springs, long heat waves, and heavy rainfall events cause yield losses in agriculture, encourage pest infestation in forests, and lead to longer periods of low water and falling groundwater levels, placing great demands on water management. The challenge is to further develop cultivation practices and crops as well as silvicultural and water management concepts in a manner adapted to climate change.

- **Accelerating digitalization and making it sustainable**

Digitalization is one of the megatrends of our time and can make important contributions to achieving the Sustainable Development Goals. Above all, we see it as an opportunity and an organizational task in which we put people front and center. Here, North Rhine-Westphalia is in a race to catch up: Much remains to be done in various fields, despite numerous existing digital strengths and lighthouse projects (for example, in the area of universities and research), as well as an increasingly dynamic startup sector along with strong small and medium-sized businesses. That is why we are determinately accelerating measures such as the expansion of the digital infrastructure and the digitalization of the administration, ensuring that society as a whole benefits from the digital opportunities and participation possibilities. We must also keep an eye on the energy and resource consumption for digital products and processes themselves in order to prevent rebound effects.





- **Preserving regional diversity in North Rhine-Westphalia, making urban centers and rural regions well-balanced and pleasant to live in**

Providing equal living standards, development opportunities, and prospects for people in urban and rural areas is a challenge for all non-city federal states. Our residents value their home state and the regional diversity of North Rhine-Westphalia. What we must do is to pinpoint the state's unique features and develop them further.

Spatial and cultural diversity must also be understood as an opportunity to create residential and working locations that are comfortable, safe, and sustainable - locations that make residents feel at home and shape their identity.

- **Preserving the natural foundations of life**

Protecting biodiversity, ensuring high-quality food and air, protecting against noise, and securing soil quality are particular challenges in the densely populated, highly industrialized, high-traffic areas of the federal state. As for the protection of water resources, it is of central importance everywhere in North Rhine-Westphalia.

Land-use change, areas claimed for settlement and transport, raw material extraction, and landscape fragmentation are major causes of biodiversity loss. Intensive land use with pesticides and fertilizers contributes to the endangerment of animal and plant species.

The long-term maintenance of the forests' capacity, vitality, and stability is another major challenge against the background of continuing weather extremes and growth conditions which are changing in the long term. Targeted preventive measures must ensure that the diverse forest functions are preserved.

More than one million people in North Rhine-Westphalia are permanently affected by considerable noise pollution. Although emissions of air pollutants such as particulate matter and nitrogen oxides from industry, transport, domestic heating, and agriculture are declining, and the pollution levels in the federal state are declining with them, some cities still exceed the limits set to protect human health.

As a result of intensive agriculture, the groundwater resources in North Rhine-Westphalia are contaminated with too many nutrients in many regions. In particular, small surface waters are shaped by wastewater discharges in many parts of the state. So-called micropollutants, which currently cannot be adequately retained in conventional sewage treatment plants, are often found in the water bodies. This can have consequences for securing water supplies as well as for biodiversity.

The state government will meet all these ecological challenges.

- **Ensuring resource-saving, effective, intelligent, and need-driven mobility including the necessary infrastructure throughout North Rhine-Westphalia**

Mobility is a crucial prerequisite for economic development, employment, prosperity, and participation. North Rhine-Westphalia is the most densely populated federal state in Germany with a high volume of traffic during rush hours, which regularly leads to congestion on the roads and in local traffic in the conurbations, as well as to stress for people and the environment. At the same time, North Rhine-Westphalia is an important transit state, so that the infrastructure is heavily used by freight traffic. This has clear effects on the roads, railways, and waterways. Large sums of money must be spent on maintaining the existing infrastructure alone (e.g. on the renovation of bridges). Due to regional differences in settlement structure, the development of sustainable passenger mobility must meet the needs of both urban centers and rural regions. Modern, effective infrastructures and services with new, intelligent, environmentally friendly, and networked mobility concepts are required for the state's economy to thrive in the international competition between locations while meeting the inhabitants' individual mobility needs.

- **Maintaining health and well-being in the face of demographic change**

Ensuring good health care for all people in North Rhine-Westphalia, regardless of their place of residence, income, and age, is a crucial task. Care structures are of particular importance, as is preventive healthcare. The demands placed on an aging society are manifold. For example, hospital structures must be able to cope with the increase in age-related diseases, a higher proportion of people with dementia, and increasing resistance of hospital germs to antibiotics. Digitalization opens up new possibilities, including for the private practice sector. We need the highest possible quality of care, and we also need good, future-proof conditions for healthcare workers. It is becoming increasingly difficult to find a sufficient number of qualified doctors and nurses.

- **Promoting social and community cohesion**

North Rhine-Westphalia's society is shaped by the diversity of its inhabitants, their different origins, their respective ages, their sexual orientation, their gender identity, religious affiliation, impairments, and other individual characteristics. In addition, globalization and digitalization are changing the way people interact on a daily basis, with traditional ties breaking down. This is why social cohesion consisting of reliable social relations, a sense of connection with the community, lived solidarity with the weak and needy, and an advocacy of our liberal democratic basic values are of particular importance.

Poverty and social exclusion must be fought and avoided from the outset and into old age in order to support integration and participation. Equal opportunities must be enabled regardless of origin, gender, and income.

- **Improving career opportunities for women**

North Rhine-Westphalia has a considerable potential of well-trained, motivated women willing to take on responsibility. Businesses and other employers need to harness this potential to maintain competitiveness in view of the continuing

high demand for skilled workers. Despite a continuous increase in labor force participation, the female employment rate in the federal state is currently almost four percentage points below the nationwide level.

The comparison with other federal states shows: In North Rhine-Westphalia, the opportunities for development are especially promising in the future-oriented STEM professions (science, technology, engineering, and mathematics). In 2018, the proportion of women employed in these sectors in North Rhine-Westphalia was only 13.7%, even below the country-wide average (15.4%). Another challenge is to increase the proportion of women in management positions. In larger companies, only one in five leadership positions is occupied by a woman.

Economic structures and corporate cultures, regionally anchored norms and ideas, and the practical possibilities for reconciling work and family life shape the concrete form of women's employment. To further the interests of women who want to make the best of their professional skills means to further the economic success of businesses. This is the premise behind the initiatives of the state government to promote professional equality between women and men in North Rhine-Westphalia.

- **Integration of refugees**

The integration of refugees and immigrants has a prominent role to play. Good integration on the basis of a legally secure residence perspective can only succeed if new immigrants recognize the legal rules and basic values of society. At the same time, all people must be enabled to participate in society, and the pluralism of North Rhine-Westphalia as a federal state of immigration in general must be valued. This is why the state government has adopted the "2030 North Rhine-Westphalia Participation and Integration Strategy" (*Nordrhein-Westfälische Teilhabe- und Integrationsstrategie 2030*), developed in close cooperation with the state government's Advisory Council for Participation and Integration (*Beirat der Landesregierung für Teilhabe und Integration*). It is meant to serve as a compass for the state government but also for locals involved in working with migrants (be it full-time or as volunteers), as well as the population as a whole. The main developmental needs for the integration of new immigrants are the cooperation of the actors and the interlocking of the various measures, easier access to the offers for all new immigrants, as well as a more differentiated approach and more tailored access to specific target groups among the new immigrants. Since integration always takes place locally, it is important to strengthen the municipalities, supporting inter- and intra-municipal cooperation as well as the development and implementation of a holistic municipal case management. Cross-divisional management is of central importance just after the immigration, and especially during biographical transitions and changes in legal status. In the medium term, integration measures should be accessible to all new immigrants living in North Rhine-Westphalian municipalities. In the case of (remaining) obstacles under residence law (e.g. in the case of the so-called tolerated persons), equivalent substitute offers or additional offers are to be created.

- **Ensuring equal educational opportunities for all and unlocking educational potential**

Structural change and digitalization in business, administration, industry, and education can only be shaped if people in North Rhine-Westphalia acquire the necessary skills and are given targeted support. The diversity of the federal state's regions and population is both an opportunity and a challenge for the development towards a knowledge-based society. Therefore, educational activities - not only within the framework of SDG 4, but also as support for the implementation of the other SDGs - are of central importance. The state government, the educational institutions, and their sponsors have a joint responsibility to create the best possible framework conditions for implementing these goals: from early childhood education in day-care centers, via primary and secondary schools as well as vocational and academic education, and all the way to continuing education as a contribution to lifelong learning.

The digital transformation, the qualification of skilled workers, and the opportunities for lifelong learning in a changing labor market offer enormous individual opportunities, but they also require personal efforts and the support of the state government. Education must not depend on social or ethnic origin; it is crucial to make full use of the potential of all people, providing them with the best possible education and successful professional biographies.

- **Ensuring sustainable public finances**

Budgetary deficits and the resulting increase in debt outstanding normally reduce a state's opportunities for development and the scope for future generations to shape their own lives. Regardless of the current phase of negative or low interest rates, the interest rate risk potentially increases as debt rises, which can further limit the scope for action. Therefore, a sound long-term budgetary policy to complete all the state's regular tasks without incurring new debt is essential in order to create intergenerational justice and to secure room for maneuver for the future.

At the same time, adequate risk precaution is necessary to ensure sustainable public finances. Both the risks incurred in previous legislative periods and those expected in the future put a strain on the state budget in the form of contingent liabilities. Active risk precaution reduces their future budgetary costs. Therefore, risk precaution should be part of a forward-looking and intergenerationally just budgetary and financial policy, if and insofar as there is scope for it.

Finally, future-oriented investments are urgently needed in North Rhine-Westphalia as a state with opportunities for advancement, especially in the areas of education and family, internal security, innovations, infrastructure, digitalization, energy, and health.

Therefore, even in times of less pronounced increases or even declines in tax revenues, it is important to consistently pursue the "consolidate, modernize, and invest" triad with a measured middle-of-the-road approach, making the necessary structural investments while ensuring sustainable public finances.

As a rule, this sustainable financial policy is essential for North Rhine-Westphalia's ability to respond, to the extent necessary in times of crisis, to



natural disasters or extraordinary emergency situations that are beyond the control of the state and significantly affect its financial situation.

That is why we continue our sound budgetary policy even in exceptional situations, while at the same time using the possibilities offered by the debt brake to react appropriately to emergency situations such as the COVID crisis and to create early on the conditions for a post-crisis rebound of tax revenues and employment as well as a reduction of stress within the social security system. In the long term, this is more economical than a prolonged and deep recession, enabling a reliable and continuous reduction of debt after the crisis enshrined in the law. The budgets of the future must be able to cope with the burden from the crisis period.

We distinguish transparently between crisis-related, inevitable consequences and a separate sustainable and intergenerationally fair budget based on the principles that led to the budgetary turnaround.

### **III. Framework conditions—the 2030 UN Agenda for Sustainable Development, European Sustainable Development Policy, and German Sustainability Strategy**

1. The 2030 Agenda for Sustainable Development adopted by the United Nations in 2015, including the 17 Sustainable Development Goals, is the starting point for worldwide sustainability efforts and also a reference point for current sustainability activities in Europe and Germany, as well as in North Rhine-Westphalia and its municipalities. In September 2019, a UN summit took stock of the Agenda's implementation for the first time, and called for increased efforts at all levels.

2. For the federal states of Germany, including North Rhine-Westphalia, it is also important how the European Union (EU) implements the SDGs in its internal and external actions. EU policies and programs set the policy framework for states in many areas. The EU's basic position on sustainable development affects, among other things, the design of the EU's multi-annual financial framework, the EU funds (ERDF, ESF, EAFRD), and policy areas such as agriculture, environment, research, and transport.

There is no current sustainability strategy at EU level. However, in recent years, various EU institutions as well as the German Federal Government and the Bundesrat<sup>1</sup> have repeatedly advocated an EU strategy for the implementation of SDGs and the sustainability principle in the EU Treaty.<sup>2</sup> In a reflection paper of January 2019, the European Commission presented conceptual preparations for such a strategy. Commission President von der Leyen announced that the Commission would in future systematically take SDGs into account in its work, and also proposed the "European Green Deal" as a central project of the Commission. These points were also taken up by the German EU Council Presidency in the second half of 2020.

3. In January 2017, the German Federal Government adopted a comprehensively

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<sup>1</sup> Most recently in April 2019, Bundesrat document 63/19 (resolution).

<sup>2</sup> See Article 3(2), sentence 2 of the EU Treaty.

revised German Sustainability Strategy, which is strongly oriented towards the SDGs, also setting 2030 as the time horizon. An update was made in 2018, including the system of targets and indicators. This update resulted in a need to adapt the NRW strategy accordingly.

The NRW government is involved in developing the federal sustainability strategy, in particular in order to incorporate NRW-specific challenges and approaches. The next update of the federal strategy is planned for the end of 2020. One of the four regional dialog conferences on the further development of the federal strategy took place in February 2020 in the Federal City of Bonn.

Not only does the state government emphasize an optimal interlocking of strategies at the federal and NRW level, the state of North Rhine-Westphalia was also one of the drivers of the generally intensified cooperation between the federal and state governments in the implementation of the SDGs. In June 2019, this cooperation resulted in the declaration "Together for sustainable development—with responsibility for a good future in Germany, Europe, and the world" (*Gemeinsam für eine nachhaltige Entwicklung – in Verantwortung für eine gute Zukunft in Deutschland, Europa und der Welt*), issued by the Federal Chancellor together with the federal states' heads of government.

The heads of government agreed, among other things, to orientate political action at federal and state level towards the principles of sustainable development as laid down in the 2018 version of the German Sustainability Strategy.<sup>3</sup> These principles are therefore also applied in the implementation and further development of the NRW sustainability strategy. The principles are divided into the following sections:

- 1) Consistently applying sustainable development as a guiding principle in all areas and in all decisions
- 2) Assuming global responsibility
- 3) Preserving the natural foundations of life
- 4) Strengthening sustainable economic activity
- 5) Maintaining and improving social cohesion in an open society
- 6) Using education, science, and innovation as drivers of sustainable development

The full text of the principles of sustainable development is set out in the Annex to the strategy.

In addition to the cooperation with the Federal Government, there is also a close exchange between NRW actors and the German Council for Sustainable Development (*Rat für Nachhaltige Entwicklung*, RNE), which advises the Federal Government on sustainability issues.

Sustainability issues are also being continuously productively discussed with the other federal states, almost all of which have adopted sustainability strategies by now.<sup>4</sup>

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<sup>3</sup> Resolution of the Prime Minister Conference (MPK) with the Federal Chancellor of June 2019, [www.bundesregierung.de/breg-de/themen/nachhaltigkeitspolitik/nachhaltige-entwicklung/bund-laender-zusammenarbeit-427746](http://www.bundesregierung.de/breg-de/themen/nachhaltigkeitspolitik/nachhaltige-entwicklung/bund-laender-zusammenarbeit-427746).

<sup>4</sup> See [www.bundesregierung.de/breg-de/themen/nachhaltigkeitspolitik/nachhaltige-entwicklung/laender-und-kommunen-480388](http://www.bundesregierung.de/breg-de/themen/nachhaltigkeitspolitik/nachhaltige-entwicklung/laender-und-kommunen-480388).

## **B. Contributions from North Rhine-Westphalia to achieving the Sustainable Development Goals**

This Part B, the main chapter of the sustainability strategy, presents the contributions from North Rhine-Westphalia to achieving the Sustainable Development Goals (SDGs). The structure follows the SDGs. The contributions to achieving the SDGs also represent the answers to the special challenges of sustainable development for the federal state of North Rhine-Westphalia identified in Part A II.

### **SDG 1. End poverty in all its forms everywhere**

*NRW short form: Poverty reduction*

#### **Objective: Reducing poverty**

The 2016 NRW Social Report shows that the favorable economic development of recent years has had a positive effect on the participation of citizens in the labor market, reducing the number of people affected by unemployment. However, this development is not as pronounced as in other federal states. In particular, children, pensioners, people with a migration background, single parents, families with many children, and employees with low qualifications and low income are at high risk of poverty in North Rhine-Westphalia.

North Rhine-Westphalia is home to many prosperous regions but also numerous large cities (29 out of 77 such cities in Germany), including densely populated conurbations with considerable structural problems (the Ruhr area, the Bergisch tri-city area, the Aachen urban region). An above-average proportion of people with migration backgrounds and/or low qualifications live here. At the same time, the demand for simple employment opportunities requiring only a low qualification continues to fall. The situation is further aggravated by the fact that high social costs dampen the investment activity of municipalities. North Rhine-Westphalia faces the challenge of counteracting increasingly entrenched poverty and social exclusion at the federal state and municipal levels.

#### **Support program against child poverty**

“Together in the neighborhood – empowering children—ensuring the future” (*Zusammen im Quartier – Kinder stärken – Zukunft sichern*) is a current (2018-2020) call for applications launched by the Ministry of Labor, Health, and Social Affairs (*Ministerium für Arbeit, Gesundheit und Soziales, MAGS*) to support programs against child poverty. It focuses on low-income children and young people living in disadvantaged neighborhoods as well as their families. Their chances of participation should be improved, as they are particularly affected by poverty and exclusion. The call consists of components intended to support qualified attachment figures in the neighborhood, measures for growing up healthy, and activities for the implementation of municipal social planning processes. Local authorities, voluntary welfare organizations, and neighborhood actors can apply for funds, the overall budget being eight million euros annually from federal state and ESF funds.

“Finally, a HOME!” (*Endlich ein ZUHAUSE!*) – State initiative against homelessness in North Rhine-Westphalia

The new state initiative “Finally, a HOME!” consolidates and redirects resources in order to combat homelessness in North Rhine-Westphalia. In concrete terms, this means that the state parliament has increased the budget for combating homelessness by 3 million euros to 4.850 million euros in 2019. From 2020 onwards, these funds were increased again by 2.25 million euros to 7.10 million euros. Regions with very large numbers of homeless people will receive special support in their efforts to combat homelessness. The measures of the federal state initiative “Finally, a HOME!” initiated in June 2019 are geared to the special living conditions and needs of the following three target groups:

- People without a home of their own who change sleeping places or live on the street,
- People in temporary accommodation or temporary homes, whether regulatory or run by independent sponsors,
- People who are threatened by homelessness.

The federal state initiative pursues three interdependent objectives: preventing housing losses, creating housing for people without their own homes, and improving the living conditions of people who are homeless, in temporary accommodation, or at risk of losing their homes.

Action program “Assistance in case of housing emergencies” (*Hilfen in Wohnungsnotfällen*)

The action program, which has existed since 1996, is an important component of the new state initiative “Finally, a HOME!” So far, North Rhine-Westphalia is the only federal state to finance projects against homelessness as well as annual homelessness statistics (one million euros of state funds are available annually). Since 2016, the focus has been on prevention and housing provision. In 2018, the action program was extended with an additional budget of 750,000 euros to improve medical care for homeless people and 100,000 euros for cold season assistance to prevent those who spend the night in the streets from freezing to death.

#### Detailed example: “Preventive assistance for people in housing emergencies”

Anyone threatened with losing their home due to a difficult life situation will find competent contacts and helpful support in the Oberbergischer Kreis district. The “Preventive assistance for people in housing emergencies in the Oberbergischer Kreis district” project is an innovative counseling system developed three years ago to provide direct and unbureaucratic help. The pilot project proved to be successful; now, three years later, it is entering regular financing.

With this project, the Oberbergischer Kreis district is breaking new ground in the handling of housing emergencies. The processing of housing emergencies was transferred to the housing assistance organization Wohnhilfen Oberberg run by the social welfare organization Diakonie Michaelshoven, which now receives the eviction suits as well. The employees immediately contact those affected and help them find sustainable solutions to secure their existing home or to find another solution. If necessary, they arrange for further assistance.

The project idea was born in 2016. Agreement was quickly reached with the



Department for Social Affairs and Health at the Oberbergischer Kreis district, which appreciated the prevention idea. The concept was quickly developed and tested in practice; financing until the end of June 2019 amounting to 337,000 euros was secured from the Ministry of Labor, Health, and Social Affairs action program “Assistance in case of housing emergencies.” Since July 2019, the Rhineland Regional Association and the Oberbergischer Kreis district have each been bearing half of the costs for the continued operation of the program.

Prevention is incorporated into the integrated system of assistance, with offers of outreach work, specialist counseling, external-care-based assisted living, and resident help at the locations of Radevormwald, Wipperfürth, Gummersbach, and Waldbröl.



## **SDG 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture**

### *NRW short form: Sustainable food and agriculture*

The agricultural and food industry, including supply, processing, and trade, provides employment for around 400,000 people in North Rhine-Westphalia, making it one of the most important economic sectors and one of the largest employers in our federal state. Along with Bavaria and Lower Saxony, North Rhine-Westphalia is one of the three largest agricultural locations in Germany. The state government strives for a diverse, effective, and competitive agricultural industry that is anchored in the farming community, constituted mainly by independent family businesses, and characterized by attention to resource conservation, animal welfare, and environmental protection. To this end, the state government has launched numerous initiatives and activities. In particular, the specific support of agricultural enterprises is increasingly becoming the focus of attention. The improvement of the framework conditions for guidance will be pursued, from trade fairs, reports, communication, and dialog offers to counseling for individual companies. At the same time, a sustainable livestock strategy is to be developed.

To achieve these objectives, the state government champions a stable, well-financed and simplified Common Agricultural Policy (CAP) in the new EU funding period, focusing on supplying consumers at reasonable prices, ensuring reliable supplies, stabilizing markets, ensuring comprehensive land use, and securing income. In addition, with the national strategic plan in mind, NRW aims to improve the incentive system for environment, nature, and climate protection as well as for better animal welfare in agriculture.

### **Objective: Producing sustainably in our cultural landscapes**

Within the framework of sustainable agriculture, the focus is on reducing the environmental impact. The prerequisite for sustainable agriculture is reducing the negative impact on the environmental media by minimizing material discharges into the soil, water, and air. The input of reactive nitrogen (e.g. nitrate, ammonia) into the environment is one of the most serious environmental problems, alongside the loss of biodiversity and climate change. In North Rhine-Westphalia, more than 50% of groundwater bodies are polluted with nitrate, and ammonia emissions from agriculture are well above the targets agreed upon at the EU level.

Nitrogen discharges can lead to massive impairment of sensitive biotopes and to loss of biodiversity. Against this background, the nitrogen surplus is suitable as a meaningful indicator of the environmental impact of agriculture.

Through its holistic approach as well as synergy effects and reduced production intensity, organic farming makes a particular contribution to nature conservation as well as the protection of species, soil, water, and the climate. The production rules are legally regulated by the EU Organic Regulation. The special characteristics of organic farming include the non-use of mineral nitrogen fertilizers and chemical synthetic pesticides, limitations on livestock concentrations, closed material cycles insofar as possible, diversified crop rotations, absence of genetically modified organisms, and higher demands on animal-friendly husbandry methods. In addition to the rules for

agricultural production and further processing, the EU Organic Regulation contains detailed provisions on the control and labeling of products. The indicator reflects the number of hectares subject to the statutory control procedure. The target value in North Rhine-Westphalia follows the national strategy.

Beyond organic farming, farmers in North Rhine-Westphalia take many further voluntary measures to meet society's expectations of sustainable agriculture. Agri-environmental and voluntary contractual nature conservation measures (*Vertragsnaturschutz*) aimed at all farmers in North Rhine-Westphalia, as well as organic farming, are supported as part of a special focus of the European Agricultural Fund for Rural Development (EAFRD) and financed with EU, federal, and state funds. The aim of EAFRD support is to further strengthen the transition to a sustainable agricultural sector and the dynamic development of our rural areas.

For this reason, North Rhine-Westphalia has initiated the development of a process to define sustainable agriculture as part of the conference of agriculture ministers of federal states. In addition, a set of indicators for assessing the status of sustainable development in agriculture at company level is being developed as part of "The Sustainability Code for Agriculture" project (*Der Nachhaltigkeitskodex der Landwirtschaft*). This is intended to support the companies' efforts to achieve greater sustainability.



## SDG 3. Ensure healthy lives and promote well-being for all at all ages

### NRW short form: Health and well-being

Ensuring healthy lives for all requires both good health care and comprehensive prevention.

#### Objective: Promoting health and strengthening prevention

As the most populous federal state in Germany with a large number of relevant players, each with two regional authorities (Rhineland and Westphalia), North Rhine-Westphalia faces a special challenge in brokering agreement and implementing health promotion and prevention measures.

The NRW Prevention Concept (*Präventionskonzept NRW*) was adopted by the Federal State Health Conference in 2005 and revised in 2009. This has created a central tool for implementing the statewide health objectives. Under the umbrella of this prevention concept, priority topics were agreed upon, working structures were established, and the many different actors from the health care system at the municipal and federal state level were brought together for networking. As a result, numerous projects for sustainable health improvements in North Rhine-Westphalia have been implemented within the framework of five state initiatives. In November 2017, the state prevention concept was updated as part of the “State Initiative for Prevention and Health Promotion” (*Landesinitiative Prävention und Gesundheitsförderung*). The Federal State Health Conference has thus both drawn structural conclusions from the adoption of the 2015 Federal Prevention Act (*Bundespräventionsgesetz*) and preserved the successful structures of joint action in North Rhine-Westphalia.

In order to reduce premature mortality, social inequality is of considerable importance: it strongly affects the health and life expectancy of the population. Social differences are clearly evident in individual health behavior and risk factors such as smoking, lack of exercise, and excess weight. The number of premature deaths (under the age of 65) is an important indicator of the overall health of the population. These deaths are considered to be mostly preventable.

Therefore, health promotion and prevention focus particularly on people in difficult social situations. At the same time, reducing premature mortality requires the continuous development of evidence-based cancer screening and high-quality medical care.

The figures below illustrate the stated objective of reducing the number of premature deaths (under the age of 65) to 100 deaths per 100,000 inhabitants for women and to 190 deaths per 100,000 inhabitants for men by 2030. In the currently available reporting year (2017), premature mortality among women is at 165 deaths per 100,000 inhabitants. A stagnation can be observed in the 10-year period since 2008. In men, premature mortality is significantly higher, at 267 deaths per 100,000 inhabitants, and also stagnating.



Furthermore, a reduction the proportion of people who smoke occasionally or regularly is pursued. With the project “Living without smoke” (*Leben ohne Qualm*, LoQ), the NRW state government aims to motivate children and young people—especially those between 10 and 13 years of age (initiation age)—to take a critical approach to tobacco consumption through a diverse bundle of measures. The project is part of the state campaign “Addiction always has a history” (*Sucht hat immer eine Geschichte*). The campaign’s guiding principle is the federal state’s cause-oriented addiction and drug policy, which aims to prevent the abuse of addictive substances and the development of addiction. The campaign started back in 1991, and its quality has been continuously improved ever since.

The increase in the obese or overweight population is to be stopped as well. The development of excess weight and obesity, one of the most frequently discussed health problems, is associated with many avoidable risk factors such as lack of exercise and a problematic diet. In addition to the risk of cardiovascular diseases, type 2 diabetes, restrictions of the musculoskeletal system, and secondary diseases of the metabolic syndrome, obesity is also often associated with mental illness (e.g. depression).

Furthermore, the rate of early retirement due to mental illness is to be reduced. Job performance requirements are increasing, progressive digitalization is changing workplaces, permanent accessibility is becoming possible, and the boundaries between work and leisure time are becoming blurred. The proportion of employees who spend their working life with one and the same employer at one location is steadily decreasing. Relocations are the consequence, and with them a change of social environment and circle of friends. This can be perceived as enrichment, but also as stress. In private life, many people feel an increasing pressure to fill their free time with a variety of activities. This is often reported on social media, leading to the publicly shared evaluations of these activities. The shaping of social relations is thus undergoing a transformation as well.

Mental health is an essential component for ensuring healthy lives and promoting well-being for all and at all ages. The need for support can vary greatly, from specific help and relief in the professional and social environment to offers by the health care system. Consequently, the state government has stipulated in the coalition agreement that it is committed to further developing psychotherapeutic care in North Rhine-Westphalia in line with demand.

In this context, the already commenced implementation of the NRW State Psychiatry Plan (*Landespsychiatrieplan*) and the monitoring of relevant processes at federal level are important steps, as is the development of a new hospital plan for North Rhine-Westphalia, which also takes into account psychiatric hospital structures.

On the website of the NRW State Health Center (*Landeszentrum Gesundheit Nordrhein-Westfalen*, LZG.NRW), current data on the above-mentioned indicators can be found under “health reporting.”

At the same time, NRW pursues the aim of intensifying interdepartmental cooperation in order to implement the World Health Organization’s (WHO) guiding principle, “Health in all policies,” more effectively than in the past.





In addition, a large number of projects have been and are being initiated in North Rhine-Westphalia under the motto “Environmental protection is health protection” (*Umweltschutz ist Gesundheitsschutz*), aiming to shield people from harmful environmental influences and to improve the quality of life. The focus is on integrated approaches and a stronger link between environment, health, and social issues.

The connections between environmental influences and health impairments are sufficiently proven. There is also evidence of a socio-spatial inequality in the distribution of environmental burdens and the resulting health impacts. With the aim of creating a sustainable North Rhine-Westphalia, it is necessary to reconcile the high industrial and traffic density in the federal state with the people’s claim to a high quality of life and the need to maintain and promote the quality of the economic location. The increasing density in conurbations poses a particular challenge. A tension exists between the needs for affordable housing, efficient and mixed land use, and a healthy urban climate, necessitating the development of solutions for urban quality of life while maintaining the achieved environmental standards.

### Objective: Improving air quality

Thus, a further objective of the NRW state government within the framework of the sustainability strategy is to improve air quality. The harmful effect of air pollution has been known for a long time. The European Commission has therefore issued air quality directives for the protection of human health which apply throughout the EU and for whose implementation in Germany the federal states are responsible. Every reduction in particulate matter and nitrogen dioxide in the air means a health gain for everyone. Only relatively small proportions of the nitrogen oxides in North Rhine-Westphalia come from natural sources and domestic heating, about half are released by industrial combustion processes, and about one third by traffic. The largest emissions of particulate matter in North Rhine-Westphalia are caused by the industry, although traffic, agriculture, and domestic heating are also important sources of human-caused particulate matter pollution. Especially in inner-city street canyons, high air pollution can occur in areas of high traffic density. Emission limits at the source are of key importance for improving air quality. For particularly polluted areas, further reduction measures are defined as part of clean air plans: [www.umwelt.nrw.de/umwelt/umwelt-und-gesundheit/luft/luftreinhalteplanung/](http://www.umwelt.nrw.de/umwelt/umwelt-und-gesundheit/luft/luftreinhalteplanung/)

This area interrelates with SDG 10 (reduce inequality) and 11 (sustainable cities and communities) as well as SDG 15 (protect terrestrial ecosystems).

### Objective: Reducing noise pollution

Noise pollution is to be reduced as well. Noise is a widespread stress factor and a possible cause of sleep disorders and cardiovascular diseases. In North Rhine-Westphalia, high levels of noise pollution represent a significant environmental and health problem. More than one million people in the state are permanently affected by considerable noise pollution. Many of those affected live along noisy roads. Therefore, the NRW state government aims to significantly reduce the total noise pollution in residential areas by 2030, taking into account the findings of noise impact research.

In order to permanently improve health, quality of life, and location quality in North Rhine-Westphalia, a comprehensive noise reduction strategy is being implemented, in



particular in order to reduce noise in conurbations. North Rhine-Westphalia will therefore lobby for federal funding for noise protection on municipal roads.

There are interrelations with SDG 10 (reduce inequality) and 11 (sustainable cities and communities).



## **SDG 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all**

### *NRW short form: High-quality education*

High-quality education in general and education for sustainable development (ESD) in particular are central prerequisites for shaping the future of North Rhine-Westphalia in a sustainable manner. High-quality education includes the expansion of economic education, the utilization of digitalization in all educational sectors, and the strengthening of the STEM field. The compatibility of family and career as well as the division of gainful employment and parenting tasks between the partners are further overriding goals in this group of topics.

### **Objective: Continuously improving education and qualification**

The aim of the state government is to give everyone a chance to build a successful educational and professional biography. Every person matters, and the manifold talents and gifts of the population need to be strengthened and supported. Socially disadvantaged children and young people need our special attention.

The state government is responsible for creating the best possible framework conditions for lifelong learning by continuously improving education and qualifications: from early childhood education in day-care facilities, via primary and secondary schools as well as vocational and academic education, to extracurricular youth education and continued education.

School and vocational education must also be permanently supplemented by a system of lifelong learning, since the traditional educational paths—school, training, higher education, and work—are increasingly being challenged by the need for continued personal and vocational education.

### **Detailed example: Integration through education—heritage language teaching**

The Ministry of Schools and Education supports the promotion of natural multilingualism, since children achieve significantly better results in learning German when also strengthening and training their individual heritage languages.

Since 2019, a total of 936 teaching positions have been made available for heritage language teaching. The offer of heritage language teaching is taken up by around 100,000 pupils and covers a range of 23 languages.

The federal state promotes school support measures to bring the proportion of children and young people with a migration background who successfully finish upper secondary school (*gymnasiale Oberstufe*) in line with the proportion of those without such a background. In addition to the explicit promotion of the German language, this is also achieved by pupils continuing to receive individual German language support if needed in the case of early integration into mainstream education. Pronounced formal German language skills are the basis for successful learning in all subjects and grades, and ultimately for higher school-leaving qualifications.

[www.schulministerium.nrw.de/docs/Schulsystem/Integration/](http://www.schulministerium.nrw.de/docs/Schulsystem/Integration/)

### Objective: Expanding education for sustainable development

In view of the complex challenges of the 21st century, it is also important to enable the citizens of North Rhine-Westphalia to assess the impact of current and future decisions on future generations, on the local life, and on other regions of the world. ESD as a conceptual approach to education enables people to develop the skills necessary for social transformation.

Education and especially ESD are formulated not only in SDG 4, but also in many education-related goals and indicators of other SDGs. ESD competencies such as systemic and networked thinking also enable citizens to deal with possible interrelations and conflicting goals between and within SDGs.

In order to implement ESD systematically in all areas of education, the state strategy “Education for sustainable development—future learning NRW (2016-2020)” (*Bildung für nachhaltige Entwicklung – Zukunft Lernen NRW (2016-2020)*) was created in 2016, and will be developed further from 2021 on. As part of the update, ongoing activities and initiatives in the education sectors will be continued, deepened, and increasingly oriented towards the SDGs as well as the upcoming ESD World Action Program “Education for Sustainable Development: Towards achieving the SDGs (ESD for 2030).” The learning area of global development as part of ESD promotes an understanding of international contexts and the diverse, complex challenges of our world. Tried and tested effective multiplier programs, such as the One World Promoter Program (*Eine-Welt-Promotor\*innen-Programm*), will be continued and further developed by the federal state.

All educational institutions in North Rhine-Westphalia are also called upon to support learners in the acquisition of ESD skills within the framework of their education and upbringing mandate in the framework of projects, day-care centers, (vocational) schools, out-of-school places of learning, youth facilities, universities, etc. As one of the guiding educational principles for children aged 0 to 10 in NRW, ESD is an integral part of early childhood and primary education. In addition, the ESD guideline for the school sector was published in 2019; it will serve as a reference document for future core curricula as well as in the training and continued education of teachers. It also provides guidance for teachers in implementing ESD in teaching and school development. The future core curricula will also include the development of responsible consumer behavior and reflected, self-determined consumer habits on the basis of the framework specification “School-based consumer education in primary and lower secondary schools in North Rhine-Westphalia” (*Verbraucherbildung in Schule – in der Primarstufe und Sekundarstufe I in Nordrhein-Westfalen*). ESD is also a focal point of youth work as part of the federal state’s child and youth policy. The federal state’s Child and Youth Support Plan (*Kinder- und Jugendförderplan*) supports projects run by independent and public youth work organizations that enable young people to learn about and get involved in sustainability issues, reflecting and applying this knowledge in their everyday lives.

In addition, the ESD Agency NRW was established in 2016 as a central specialist and coordination office for ESD in the NRW Academy for Nature and Environmental

Protection (*Natur- und Umweltschutz-Akademie NRW*). It is based on a cooperation between the Ministry for Environment, Agriculture, Conservation, and Consumer Protection (*Ministerium für Umwelt, Landwirtschaft, Natur- und Verbraucherschutz, MULNV*), the Ministry of Schools and Education, the Minister for Federal and European Affairs and International Affairs, and the NRW State Office for Nature, Environmental and Consumer Protection (*Landesamt für Natur, Umwelt- und Verbraucherschutz NRW*). The mission of the NRW ESD Agency is to promote the implementation and transfer process of ESD in North Rhine-Westphalia as a whole and to support cooperation with the state government as well as with civil society actors, municipalities, science, and industry.

#### Detailed example: Expanding education for sustainable development

More than 600 schools constantly participate in the “School of the Future” (*Schule der Zukunft*) state program coordinated by the NRW ESD Agency and jointly financed by the Ministry for Environment, Agriculture, Conservation, and Consumer Protection and the Ministry of Schools and Education. Its goal is to anchor ESD in school learning and in the school program in cooperation with extracurricular education actors. The state program is currently supported by 23 environmental education institutions, whose project-related ESD education and networking work as so-called ESD regional centers is, in turn, financed through the program. The aim of this program, which has been in existence since 2016, is the successive establishment of a “NRW ESD State Network” supported by regionally significant environmental education institutions.

Since 2018, the ESD Agency has also been offering a “NRW ESD Certification” (*BNE-Zertifizierung NRW*) for quality development of out-of-school institutions, especially in the field of environmental education and global learning. In addition to this certification of institutions, the ESD Agency has been testing a certificate course format for the further qualification of ESD multipliers in non-formal child, youth, and adult education in North Rhine-Westphalia since 2019.

[www.bne.nrw.de](http://www.bne.nrw.de)

#### Objective: Continuously improving the compatibility of family and work as well as education and qualification

The aim of the state government is to provide all children with the best educational opportunities from an early age. Mothers and fathers are given the opportunity to better reconcile work and family life through high-quality childcare that meets their needs. Against this background, the reform of the legal and financial basis for day care is intended to further develop the quality of early childhood education and care in North Rhine-Westphalia.



Both in-school and out-of-school places of learning and education must offer young people opportunities to test their abilities and limits and provide sufficient freedom for self-determined activities. There, skills for the maintenance and further development of a democratic society can be learned and tested as part of voluntary and self-motivated participation, e.g. in clubs and associations, children's and youth groups, all-day programs, youth education institutions, and also church organizations.

When designing a modern, democratic, child- and youth-oriented education, it is therefore of particular importance to the state government that children and young people are not excluded from participating in these places of learning and education due to financial, structural, bureaucratic, social, or cultural obstacles.

### **Objective: Increasing equality in the distribution of parenting and gainful employment activities**

Here, increasing equality means that parents make decisions on sharing parenting activities and gainful work as equal partners, according to their needs. In addition, the report on the future of families in 2030 (*Zukunftsreport Familie 2030*)<sup>5</sup> underscores that a partnership-based division of tasks improves the economic situation of families, reduces the risk of poverty, and contributes to economic growth.

Nevertheless, many parents today are still unable to take equal care of their families and careers in a way they would like. Significantly more than half of fathers with underage children in North Rhine-Westphalia would like to see their weekly working hours reduced, but only a small proportion can realize this wish. For this reason, the state government is committed to ensuring that fathers and mothers can meet their parenting, care-taking, and educational responsibilities together, while at the same time achieving their professional goals. It wants to encourage men in particular to take on more family work than they have done so far.

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<sup>5</sup> Prognos AG, 2016.

## **SDG 5. Achieve gender equality and empower all women and girls**

### *NRW short form: Gender equality*

#### **Objective: Promoting equality in society and on the labor market**

Legal equality between women and men has been achieved in the Federal Republic of Germany and in North Rhine-Westphalia. Younger women in NRW today have a higher average level of general and vocational education than men of the same age. For most women, their professional activity and the desire for economic independence are part of their self-image, and their participation in the labor market is constantly increasing. In almost all professional and social areas, women have demonstrated their talents and skills, and taken on responsibility.

Nevertheless, in reality, women and men are not always equal. Even today, role stereotypes still discourage young women (and young men) from choosing a gender-untypical profession. The scope and quality of family support infrastructure as well as working conditions and cultures at companies typically influence “female” and “male” career paths and can make it difficult for women to shape their lives and careers in a partnership. Women are considerably less likely to be represented in senior leadership positions and therefore have less influence on economic and social governance and decision-making processes. Not only in the private sector, but also in the civil service, women are underrepresented in the higher salary brackets and in leadership positions. Their own livelihood more frequently depends on their partner or, especially in the case of single parents, on social security systems. All of this is also reflected in a clear gender-specific pay gap of 22% (the so-called “unadjusted” pay gap) in North Rhine-Westphalia.

The state government faces up to its responsibility and promotes the professional opportunities for women and gender equality with its own initiatives. The following measures are some of the examples:

In order to better develop the specialist and leadership potential of women in small and medium-sized businesses, the state government supports 16 competence centers for women and work (*Kompetenzzentren Frau und Beruf*) throughout the state. These centers advise businesses on a “life-phase-oriented personnel policy” and make female role models more visible in the regions. In consultation with the regional business community, they carry out supplementary measures for prospective female academics, women returning to work, migrant women, and women with disabilities, in order to improve their career opportunities. In addition, selected startup projects are supported in regions of the competence centers.

In order to enable pupils to gain a deeper insight into professions that are untypical of their gender beyond the annual “Girls’ Day” and “Boys’ Day” (when girls learn about stereotypically “male” and boys about stereotypically “female” professions), the state government has initiated the establishment of “Girls & Boys Academies” – initially in pilot communities – with the support of the North Rhine-Westphalia regional directorate of the Federal Employment Agency, among others. Pupils in grades 8 to 13 are to spend 60 hours over a school year becoming acquainted with occupations in the areas of mathematics, computer science, natural sciences, and technology (STEM occupations) or health and social occupations outside school times. Depending on the

municipal concept, the offer includes practical workshops and project days in companies, inter-company training centers, technical colleges, and universities.

As an employer, the civil service in North Rhine-Westphalia has a special function as a model of equality policy, not least because of its commitment to the constitutional mandate to promote the actual implementation of equality between women and men and to work towards the elimination of existing disadvantages (Article 3 (2), sentence 2 of the German Constitution). This applies in particular to the task of increasing the participation of women in management positions. The Act on Equal Opportunities for Women and Men for the State of North Rhine-Westphalia (*Gesetz zur Gleichstellung von Frauen und Männern für das Land Nordrhein-Westfalen*, for short *Landesgleichstellungsgesetz*, LGG) and the Civil Service Act of the State of North Rhine-Westphalia (*Landesbeamtengesetz des Landes Nordrhein-Westfalen*, LBG) form the main legal framework for the support of women in the civil service of the state administration.

With the return to the original version of the preferential treatment provision in § 19 (6) of the State Civil Service Act (LBG) and § 7 LGG, legal certainty in the promotion of women was restored in 2017 as a first step. The long-term goal of the state government is a legally secure and comprehensive overall concept for the promotion of women and family/work compatibility in the civil service. Currently, the focus is on a critical examination of the assessment system. Staff assessments are a central element of personnel development and career advancement in the civil service. With its efforts to ensure that assessment procedures are fair and gender-equitable, the state government wants to make a further contribution to equal opportunities in the civil service—between men and women, and also between employees who work full-time on site and those who have reduced their working hours and/or recourse to remote or mobile work.



## **SDG 6. Ensure availability and sustainable management of water and sanitation for all**

*NRW short form: Clean water*

### **Objective: Maintaining and securing sustainable and ecological water management**

The varied cultural landscape of North Rhine-Westphalia is characterized by rural areas with intensive agriculture on the one hand and urban agglomerations on the Rhine and Ruhr with highly productive industrial sites as well as mining regions on the other. These diverse land uses shape water bodies and the water balance in different ways, placing special demands on sustainable water management.

To this end, all water uses must be considered; for example, agriculture, urban land use and sealing, and the entire blue/green infrastructure. The basic requirements for this are regulated in the EU Water Framework Directive (Directive 2000/60/EC; EU WFD). A good ecological and chemical state is to be achieved for water bodies by 2027 at the latest, as is a good chemical and quantitative state for groundwater.

Today, many but not all of the requirements of the EU Water Framework Directive have already been met. Many water bodies have not yet achieved a good ecological state, and the good quantitative indicators for groundwater are not yet being met in some groundwater bodies, either. There are also still deficits with regard to chemical water quality.

Groundwater bodies that fail to meet the objectives are predominantly polluted with nutrients and pesticides. Surface waters also contain other pollutants, such as heavy metals like mercury, pesticides, or organic compounds like PAHs (polycyclic aromatic hydrocarbons), as well as nutrients like phosphorus and nitrogen compounds.

In line with the objectives of the EU WFD, the NRW sustainability strategy therefore pursues two concrete objectives with regard to the nutrients (phosphorus and nitrate) as a contribution to SDG 6. Firstly, by 2030, all water body monitoring stations should meet or fall below the typical reference values for phosphorus in flowing waters. Secondly, the 50mg/l nitrate threshold value in groundwater should be met.

The well-developed agriculture in North Rhine-Westphalia has significant effects on water bodies and groundwater through intensive fertilization. In many parts of North Rhine-Westphalia, surface waters and groundwater are still far from a good condition due to a high level of nutrient application entering the water cycle. In addition, the discharge of water containing pollutants from mining or industry as well as municipal wastewater can contribute to the failure to meet the targets. The nutrient and pollutant inputs into the waters in North Rhine-Westphalia also have an impact on the oceans via the long-distance transport through the rivers (see SDG 14).

Decisive contributions to meeting the nutrient targets will be made with the implementation of the Federal Fertilizer Ordinance (*Düngeverordnung*), which came into force in May 2020 in its amended version, as well as the NRW State Fertilizer Ordinance (*Landesdüngverordnung NRW*). It is currently not possible to foresee which additional regulations and measures will have to be taken after the adoption of a new Federal Fertilizer Ordinance in order to achieve the EU WFD objectives for groundwater and surface water or the SDGs.

In any case, the tried and tested models of cooperation for drinking water protection are to be continued and extended beyond the water protection areas. In a dialog with farmers, such cooperation projects not only ensure the conversion to water-conserving agriculture, but can also contribute to the establishment of sustainable land management (interrelations with SDG 2).

Subsidies can also be used to optimize management options and make nutrient distribution sustainable, thus reducing the loss of nutrients into water bodies and groundwater.

Further measures include modeling and research projects being advanced or established. They can ensure better nutrient and pollutant management and the visualization of hotspot areas, thus contributing to achieving SDG 6.

However, further efforts are needed not only in the agricultural sector. For example, there are still deficits in wastewater treatment that could contribute to the target not being met. Where previous efforts have not been sufficient, the technical upgrading or rehabilitation of wastewater treatment plants and rainwater treatment facilities must be examined and implemented for relevant wastewater discharges, particularly with regard to the contamination with nutrients or other (micro-)pollutants.

### Detailed example: Grey water management infrastructures

An efficient water supply and disposal system contributes decisively to the quality of life and prosperity of the economy in North Rhine-Westphalia. Here, the federal state is benefiting from the right course that was set at the beginning of the 20th century. Nevertheless, there is still a need for significant optimization in order to achieve the goals and, with a view to the future, efforts must be made to maintain the high level of water management in North Rhine-Westphalia for our grandchildren as well. This poses a particular challenge in times of coal phase-out, the climate change with droughts, heavy rainfall, and flooding, and with accumulated material pollution, for example of groundwater. It also poses special challenges in times of urbanization trends combined with declining population figures in rural areas pose special challenges. We have to ensure the resilience of the water management infrastructures under future framework conditions as well (interrelations with SDG 9) and to develop the cities and municipalities safely and sustainably (interrelations with SDG 11.)

North Rhine-Westphalia has already set out to make water management sustainable, building block by building block. Examples of this are: The flood protection concept, the “Water in the City of Tomorrow” (*Wasser in der Stadt von morgen*) program / the new Ruhr Conference project “Climate-Resilient Region with International Radiance” (*Klimaresiliente Region mit internationaler Strahlkraft*), the extensive program of



measures for the implementation of the Water Framework Directive, the creation of water supply concepts for the long-term safeguarding of the water supply, the wastewater disposal concepts, and a large number of research projects.

In order to achieve SGD 6 in the future, we must pay attention not only to technological solutions, but also to social and economic policies. What do we mean by “sustainable water management and a future-proof water infrastructure”, and do we all mean the same thing? How can the fixed costs of water management remain affordable even in sparsely populated regions?

[www.wasser-in-der-stadt.de](http://www.wasser-in-der-stadt.de)

[www.umwelt.nrw.de/umwelt/umwelt-und-wasser/abwasser/](http://www.umwelt.nrw.de/umwelt/umwelt-und-wasser/abwasser/)

[www.lanuv.nrw.de/umwelt/wasser/](http://www.lanuv.nrw.de/umwelt/wasser/)



## **SDG 7. Ensure access to affordable, reliable, sustainable and modern energy for all**

### *NRW short form: Sustainable energy*

#### **Objectives: Expanding sustainable energy supply and using energy resources economically and efficiently**

A secure, affordable, and sustainable energy supply is crucial for the success of North Rhine-Westphalia. It is the basis for our citizens' work, prosperity, and quality of life.

The energy supply is undergoing a fundamental transformation. The Paris climate protection goals require the world to become largely greenhouse-gas-neutral by the second half of the century. This necessitates a sustainable supply of renewable energies (RE) in the electricity, heat, and mobility sectors.

To ensure that the intended phase-out of coal-fired power generation and the associated structural change are successful and widely accepted, the German Federal Government has set up the "Growth, Structural Change and Employment" commission (*Wachstum, Strukturwandel und Beschäftigung*) in 2018. It published its conclusive report in January 2019, recommending i.a. the gradual reduction of coal-fired power generation in Germany and its termination by 2038 at the latest. The state government welcomes the commission's decision and will work to ensure its full implementation.

Furthermore, measures at EU level, such as the reform of the EU emissions trading scheme and the Clean Energy Package, have set the course for developing the energy supply further and rendering it climate-friendly.

For the densely populated state of North Rhine-Westphalia with its energy and industry sectors, these decisions mean considerable challenges. The state government is facing up to these challenges and is determined to play an active role in shaping the transformation process that has been initiated. This is the motivation behind the development of the North Rhine-Westphalia energy supply strategy following a broad policy dialog with the central players in the energy industry as well as associations and trade unions.

With its energy supply strategy, which was presented to the state parliament on July 10, 2019, North Rhine-Westphalia is setting energy policy priorities and identifying key strategic fields of action, from which concrete measures and requirements are derived. The aim of the state government is to ensure a continued balance of secure, affordable, and sustainable energy supply given changed national and international conditions and challenges. To this end, existing strengths and locational advantages are to be used in an optimal way to strengthen North Rhine-Westphalia as an energy and business location.

The further expansion of renewable energies and their integration in the electricity, heating, and transportation sectors is of outstanding importance for the sustainable energy supply in North Rhine-Westphalia. In its energy supply strategy, the state government emphasizes the high importance of renewable energies for future energy supply, confirming its intention to strive for a strong further expansion. Since the potential of biomass and hydropower has been largely exhausted, this expansion will focus primarily on photovoltaics (PV) and wind power. The state government considers that the installed capacity of these two technologies can be more than doubled

between 2018 and 2030—from 5.4 gigawatts (GW) to 10.5 GW for onshore wind and from 4.6 GW to 11.5 GW for photovoltaics. This potential doubled yield from wind energy and PV systems—around 30 terawatt hours (TWh)—would be enough to satisfy the current combined gross electricity consumption of Schleswig-Holstein and Thuringia (15 TWh each). Due to the special characteristics of North Rhine-Westphalia (high proportion of energy-intensive industry, high population density), positive developments in the expansion of renewable energies cannot be adequately reflected by relative indicators. For this reason, the expansion of renewable energies is measured in absolute figures. With this RE expansion, North Rhine-Westphalia will make a substantial contribution to the federal target of 65% electricity from renewable energies by 2030. In addition, within the framework of the nationwide expansion targets of more than 80%, an appropriately ambitious expansion path will be pursued until 2050. Due to the dense settlement structure in North Rhine-Westphalia, it is important that the acceptance of the expansion of renewable energies is ensured, especially in the case of wind energy.

The aim is to make the generation and use of renewable energies accessible to society as a whole by using and expanding existing supplier-independent information and consultation structures, as well as conducting topical motivation campaigns in North Rhine-Westphalia to highlight usage and savings potential as well as investment opportunities. The expansion of renewable energies offers companies and citizens (as prosumers, that is, consumers who are also producers) a wide range of opportunities to actively participate in the energy market, implement new business models, and advance sustainable, innovative energy production in North Rhine-Westphalia. With their supplier-independent information and consultation services on all energy issues, the NRW Consumer Advice Center (*Verbraucherzentrale NRW*) and EnergieAgentur.NRW energy agency are involved in this process as important partners for the federal state, helping to reduce information deficits and support the expansion of renewable energies.

In addition to the further expansion of renewable energies, there is great potential for emissions savings through increased energy and resource efficiency.

Both the economic costs and the costs of transforming the energy system could be reduced in this way, since fewer fuels, generating plants, and energy networks would be needed. Energy efficiency is thus one of the supporting pillars of the energy transition as well as a key driver for modern, cost- and resource-saving production processes. The efficient use of energy creates the conditions for technological openness in the building sector, lessens the dependence on imports, reduces land consumption, and protects resources. Overall, efficiency thus increases acceptance of the energy transition.

The existing provider-independent information and consultation structures as well as motivation campaigns in North Rhine-Westphalia help fill knowledge and information gaps, acquainting all social actors with the efficiency potential of renewable energies as well as investment and participation opportunities. An increase in acceptance can be achieved by systematically involving all citizens in the design of the transformation process and by strengthening their responsibility as consumers and producers of efficient, sustainable energy.

Through efficiency measures, the state government intends i.a. to contribute to increasing final energy productivity in the long term by 1.5 to 1.8% per year by 2050,



while at the same time gradually reducing primary energy consumption. In its energy supply strategy, the state government addresses the issue of energy efficiency in a variety of ways, identifying both concrete measures to be promoted at state level and proposals for improving the regulatory framework at federal level.

To ensure access to an affordable energy supply, the NRW state government will continue its work on preventing energy poverty. According to the monitoring report of the Federal Network Agency (*Bundesnetzagentur*), there were 89,210 power cuts in North Rhine-Westphalia in 2018, which is above the average in a nationwide comparison. It is therefore all the more important to offer affected households preventive assistance, so that energy barriers are averted or removed in a timely manner, and energy poverty does not arise in the first place. Since 2012, the state government has been supporting the “NRW combats energy poverty” project (*NRW bekämpft Energiearmut*) run by the NRW Consumer Advice Center in cooperation with participating energy supply companies in order to provide low-income households in North Rhine-Westphalia with free legal and budget advice.

### Objective: Supplying energy by means of high-efficiency CHP

As a key technology, combined heat and power generation (CHP) is an efficient and climate-friendly source of energy. The simultaneous extraction of heat means that the input energy can be used particularly efficiently. CHP plants also contribute to the system integration of renewable energies in the electricity sector by specifically compensating for their fluctuating feed-in to the electricity grid. Thus, high-efficiency CHP technology makes important overall contributions to maintaining the security of supply. The substitution of gas for coal in highly efficient and climate-friendly CHP plants will allow for further important CO<sub>2</sub> savings. In addition, the gradual replacement of fossil fuels, e.g. by regeneratively produced gases including hydrogen, will contribute to rendering CHP even more innovative and thus climate-neutral in future. The many advantages of CHP thus make it an important component of the energy transition. The state government will therefore continue to support the expansion of CHP and the associated local as well as district heat in North Rhine-Westphalia, aiming to increase the net CHP electricity generation in the federal state to 30 TWh per year by 2030.

## **SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all**

*NRW short form: Sustainable management and work, including sustainable finances*

Economic development is the source of prosperity and an important basis for a high quality of life in North Rhine-Westphalia. It enables the modernization of technologies and structures, and leads to higher wages, better working conditions, and a higher level of employment. In turn, high employment enables people to secure their own livelihoods. A high level of economic development goes hand in hand with free development and higher expectations of environmental quality. At the same time, we face the challenge of further reducing environmental and climate impacts as well as resource consumption. That is why the efficient and economical use of resources is an important component of sustainable economic growth. There is still much potential in the approach of resource efficiency, i.e. in optimizing products and processes in such a way that less energy and resources are required per production unit. In addition, many businesses also contribute to protecting the climate, resources, and the environment—for example, by focusing on a circular economy as well as products and services of the environmental sector. As a cross-sectional industry, the environmental sector in NRW is a motor for the environmental orientation of businesses. As a result, they often also save costs and thus increase their overall competitiveness. In addition, growth ensures the sustainability of social security and public debt, thus creating intergenerational justice. Sustained stable growth presupposes the maintenance and expansion of the capital stock through investment—in roads, schools, education, and training, as well as in research and development.

Globally, strengthening free and fair trade facilitates the exchange of goods and services as well as the international division of labor. Free trade agreements based on our high standards of human rights, health protection, food, and environmental security can provide globalization with fair rules. However, trade liberalization alone is not enough to reduce poverty and improve living and working conditions in the countries involved. Depending on the contracting partner, trade agreements must therefore also be accompanied by development policy measures. Here, we are committed to making high sustainability standards the basis of relations worldwide. In addition, free and fair trade gives people worldwide access to cheap goods and technologies. Better trade opportunities offer developing and emerging countries a path to economic and social improvement, to employment and income, poverty reduction, and the financing of public services such as broad access to comprehensive education. In addition, experience shows that as living and educational standards rise, awareness of and commitment to an intact environment often grow as well. As a strong exporter, North Rhine-Westphalia profits from more intensive trade.



### Objective: Using resources economically and efficiently

North Rhine-Westphalia can look back on more than two decades of concentrated, active efforts to increase resource efficiency in businesses. A consistent funding framework is available to the manufacturing industry for this purpose, consisting of the funding of resource efficiency consultations, innovative, resource-efficient investments, and research and development projects (R&D projects) in the fields of resource, material, and energy efficiency. Another option is the NRW Bank's efficiency loan (*Effizienzcredit*).

This competence pays off and is reflected in the figures. Raw material productivity, i.e. the ratio of gross domestic product to raw material consumption, is showing a clear positive trend. While raw material consumption in North Rhine-Westphalia fell by 5.9% to 368 million tonnes between 1994 and 2016, raw material productivity increased by 34.8% in the same period.

A circular economy offers an even more extensive approach. Its aim is to close the material cycles in order to keep the input resources in use for as long as possible, significantly contributing to both climate protection and resource conservation (for further details, see SDG 12).

### Objective: Consolidating state finances—create intergenerational justice

The necessary financial leeway for the tasks of tomorrow can only be achieved if the wide range of measures required by the NRW state government to achieve its set goals is sustainably financed. For the first time since 1973, the state government has presented drafts of debt-free budgets for 2018, 2019, and 2020. The clear commitment of this government to not take on any new debts for the regular state budget during the entire legislative period applies even in times when tax revenues are not rising as strongly as before. With a reliable budgetary policy that is clearly oriented towards the triad "consolidate, modernize, invest," North Rhine-Westphalia is becoming a state with opportunities for advancement. The long-term sustainability of public finances is essential for all other sustainability efforts and meets intergenerational needs. The aim is therefore to pursue a policy of precaution, debt repayment, and sustainable investment, thus continuing the initiated budgetary turnaround.

Here, too, the state government keeps its word: With the 2018 budget, it has initiated a budgetary turnaround. It has repaid debts amounting to 542 million euros and at the same time made a total of 1,865 million euros available for risk precaution. In addition, in the financial years 2017 and 2018, it has allocated 600 million euros to the pension fund over and above the mandatory amount, thus further strengthening financial precaution. This path continues with the 2019 and 2020 budgets. Even with massive investments, especially in the areas of education, family, internal security, innovation, infrastructure, digitalization, energy policy, and health, no new debt is being planned. By foregoing new debts, the state government is creating intergenerational justice and scope for action for the future of North Rhine-Westphalia.

At the same time, it thus creates and improves the preconditions for being able to respond, to the extent necessary, to natural disasters or extraordinary emergency situations that are beyond the control of the state and significantly affect its financial situation. That is why we continue our sustainable budget policy even in these times,

while at the same time using the possibilities offered by the debt brake to respond appropriately to emergency situations such as the Corona crisis.

### **Objective: Economic provisions for the future**

The long period of weak economic development has been accompanied by comparatively low investment, including in research and development (R&D). From 2003 to 2016, North Rhine-Westphalia was in one of the three bottom positions in the investment ratios ranking. While businesses and the public sector have invested between 15 and 17% of their economic power, this figure was between 19 and 21% nationwide. As a result, assets are becoming increasingly outdated.

Investments and innovations are the key to successful long-term economic development. Therefore, the race to catch up must start here. The NRW economic and technology policy continues work on all local conditions. These include, in particular, transport connections, cross-border market access, simpler regulations and administrative procedures, and skilled workers, as well as urban, scenic, and cultural attractiveness and quality of life for highly qualified, internationally oriented employees and managers. We rely on an optimal broadband infrastructure, universities, and R&D facilities as well as an inspiring environment for innovation—for new, unusual solutions, which also contribute to achieving the Sustainable Development Goals. The federal state is committed to this, for example, in its industrial policy guideline.

Digitalization opens up new opportunities for more growth, prosperity, participation, and resource and environmental protection. With the digital strategy, the NRW state government describes the path to be taken in the coming years. New technologies are to secure jobs and value creation; they include future-oriented topics such as artificial intelligence, autonomous driving, cybersecurity, and blockchain technology. Digitalization plays a key role in managing the economic transformation as well. It also helps achieve the goals of environmental sustainability, for example, by supporting more efficient processes that save energy and resources, and by enabling new sustainable business models. The NRW state government is also striving to make digitalization itself environmentally friendly, for instance, through approaches such as green IT in public procurement, or by supporting an increasing orientation of information and communication technologies towards the principles of the circular economy.

### **Objective: Increasing economic performance in an environmentally and socially responsible manner**

In recent years, the economy in North Rhine-Westphalia has not developed as strongly as in other federal states—both overall and per capita. While the German economy per capita grew by 1.8% per annum from 2010 to 2017, North Rhine-Westphalia's economic growth averaged 1.1%, barely more than half of that. Only in recent years has the gap narrowed to 0.4 percentage points in 2017 and 0.3 percentage points in 2018. Although there are signs of a noticeable economic slowdown in 2019, with a correspondingly dampening effect on economic growth, growth in North Rhine-Westphalia is not slowing down as much as nationwide. The state government is therefore focusing on digitalization as well as private and public investment to ensure that the North Rhine-Westphalian economy grows more strongly again—at least as strongly as the country overall. In addition, the environmental sector in North Rhine-Westphalia, for one, is proving to be not only a driver for nature and resource protection



through environmentally friendly products and services (see in-depth example) but also an impetus for sustainable economic growth. In 2018, the NRW environmental sector had a workforce of around 387,000 employees—2.7% more than in the preceding year. From 2010 to 2018, the number of employees grew by 1.8% per year on a long-term average, while gross value added grew by as much as 3.7% per year (2010 to 2017).

The federal state is creating good conditions for investment in the industrial and service sectors by pushing ahead with internet network expansion. It is creating a framework for investments in gigabit-capable digital infrastructures amounting to five billion euros by 2025. Schools and industrial parks are to be connected by 2022. With the unleashing packages (*Entfesselungspakete*), the state government is streamlining processes in approval procedures and planning law. The industry service portal *Gewerbe-Service-Portal.NRW* encourages startup founders and enables them to register their business in an uncomplicated and digital-only manner. In this, North Rhine-Westphalia is a nationwide pioneer. *Gewerbe-Service-Portal.NRW* is to be expanded into a central service portal, *Wirtschafts-Service-Portal.NRW*, and thus to become even more effective (see in-depth example).

Founder stipends support all those who want to set up their own business with 1,000 euros per month in the startup phase, so that they can concentrate fully on developing their business models. At the same time, the federal state is investing 150 million euros in excellence startup centers at the universities of Aachen, Bochum, Dortmund, Cologne, Münster, and Paderborn. This level of financing is unique in Germany. Green startups also receive special support from the “KUER.NRW Startup Competition” (*Gründungswettbewerb KUER.NRW*) for the future-oriented sectors of climate, environment, energy efficiency, and resource conservation (German: *KUER*.)

With the structural transformation in the Rhenish mining area, a model region for sustainable energy security, resource security, and climate-neutral industry, as well as mobility and housing of the future, is emerging (see in-depth example). The establishment of a national research production facility for battery cells also strengthens North Rhine-Westphalia’s position as a top location for future technologies and their implementation.

### Objective: Increasing employment levels, especially for women

In 2018, employment in North Rhine-Westphalia was growing slightly faster than the national average for the first time in ten years. Although the unemployment rate in the federal state is still higher than nationwide—in particular as a result of years of weaker growth and structural change—it is still very high. However, the current unemployment rate of 6.5% is the lowest since 1981 (the nationwide rate is 5%).

By now, securing skilled workers has become one of the greatest challenges in North Rhine-Westphalia.

Meeting the demand for skilled labor, recognizing and activating existing potential on the labor market, maintaining the competitiveness of companies even as digitalization continues, creating jobs with a secure future, reducing long-term unemployment, and supporting the integration of the population (including refugees) in vocational training and work—these are the state government’s central tasks for the future. In addition, the potential of women is an important factor that must be a focus.

The implementation of these tasks requires constructive cooperation with all relevant actors. Employers receive important impulses through various initiatives of the state government, such as the regional competence centers for women and work or the “Part-time vocational training—accompanying entry—opening perspectives” program (*Teilzeitberufsausbildung – Einstieg begleiten – Perspektiven öffnen*, TEP). Furthermore, they are informed about the possibilities of a family-aware working environment, especially in small and medium-sized businesses (SMBs). This also includes consulting employees and employers in order to explain the possibilities of converting “mini-jobs” into employment subject to social insurance contributions.

Besides education, work is the basic prerequisite for successful integration. The employment rate (the proportion of people aged 15 to under 65 in employment) is an important indicator of integration in the labor market. In 2017, the employment rate of the population with a migration background<sup>6</sup> was 62.7%, which is significantly lower than among people without such a background (75.9%). Compared to 2015, the employment rate of people both with and without a migration background has increased slightly. In absolute terms, the number of employed persons with a migration background rose by 23.1% (from 1.8 to 2.22 million) between 2015 and 2017.

#### Detailed example:

##### Structural change in the Rhenish mining area

The early phase-out of lignite-based power generation poses major challenges for the people in the Rhenish mining area. The necessary structural change, however, also holds a once-in-a-century opportunity for a new development dynamic and sustainable future prospects for the region. The state of North Rhine-Westphalia supports the region in shaping structural transformation. The aim is to create added value and employment by defining new sustainable business models in the Rhenish mining area. The funding available is intended to provide targeted impetus for this structural change. Based on the region’s existing strengths, there are promising starting points in the following future-oriented areas: energy and industry (model region for security of supply in an energy system based on renewable energies), resources and agribusiness (model region for closed material cycles as a basis for sustainable resource use and highly efficient recycling cascades), innovation and education (university and science landscape as a source of impetus, future-oriented training and continued education, startup and transfer culture), space and infrastructure (attractiveness of the area for company settlements and skilled workers). The Rhenish mining area is the first region in the world to stop coal-based power generation for reasons of climate protection. This constellation puts it in a pioneering role in creating

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<sup>6</sup> The terms “migration background” and “migration history” are used synonymously in the following according to the definition of the NRW Participation and Integration Act (*NRW-Teilhabe- und Integrationsgesetz*) of 2012.

socially non-harmful structural transformation while safeguarding and creating future-proof jobs. An international building and technology exhibition will present the various measures in the future-oriented fields as a showcase for the structural transformation in the Rhenish mining area.

[www.rheinisches-revier.de](http://www.rheinisches-revier.de)

### Wirtschafts-Service-Portal.NRW (WSP.NRW) as a central service platform for business in North Rhine-Westphalia

The planned “Act on the Digitalization of Business-related Administrative Services” (*Gesetz zur Digitalisierung wirtschaftsbezogener Verwaltungsleistungen*) is intended to create the legal basis for expanding the existing Gewerbe-Service-Portal.NRW into a central service portal for the economy. WSP.NRW will provide as many administrative services for business as possible in a single-medium electronic application process, focusing on corporate management and development. The goal is to enable the provision of reusable, user-friendly digital solutions for administrative services through reference implementations. Within the framework of the Online Access Act (*Onlinezugangsgesetz, OZG*), 79 of the 575 OZG service bundles with over 5,000 individual administrative services for businesses are to be digitized in the future. This will relieve the public authorities in NRW of the burden of setting up their own digital infrastructures. Close cooperation with other federal states is planned as well. From a sustainability perspective, this leads to an economical use of administrative resources. Businesses also save considerable resources, which are thus freed up for entrepreneurial use.

<https://service.wirtschaft.nrw/en>

### Environmental sector

As Germany’s largest and most innovative provider of products and services in the environmental sector, North Rhine-Westphalia possesses a range of technology and solution competencies that are already being applied in industry today.

This has been shown in detail in the “Green Economy Reports North Rhine-Westphalia” (*Umweltwirtschaftsberichte für Nordrhein-Westfalen*) for the eight submarkets of the environmental sector: environmentally friendly agriculture; environmentally friendly energy conversion, transport, and storage; energy efficiency and energy conservation; environmentally friendly mobility; water management; mitigation and restoration technologies; sustainable lumber and forestry industry; materials, material efficiency, and resource management.

The broad spectrum of environmental markets offers particular opportunities for a sustainable economy: integrated applications and applications bridging sub-markets offer starting points for many ideas and developments, in addition to well-established process chains. Here, innovations can initiate leaps in development, driving the application industries by replacing established technologies, making processes more efficient and sustainable, or establishing new patterns of action and consumption at the societal level.

[www.umweltwirtschaft.nrw.de](http://www.umweltwirtschaft.nrw.de)



## Sustainability Bonds

Between 2015 and 2019, North Rhine-Westphalia has issued a total of six Sustainability Bonds with an issuance size of almost 11 billion euros between them. The tenors of these bonds are between 7 and 20 years. North Rhine-Westphalia is one of the largest issuers in this segment and was awarded industry prizes in both 2017 and 2019.

With the Sustainability Bonds, the federal state is targeting investors who strive to invest in sustainable projects. The investors' money is allocated to the federal state's sustainable projects in the fields of education and sustainability research, inclusion and social coherence, public transport and local mobility, climate protection and energy transition, protection of natural resources, sustainable urban development, and modernisation of educational and public health facilities. The sustainability quality of these bonds has been confirmed before issuance by external expert opinions furnished by ISS ESG, which gave them good marks. After the issuance, the Wuppertal Institute for Climate, Environment and Energy uses a so-called impact analysis to calculate not only the ecological effects of the bond such as CO<sub>2</sub> savings but also its social effects such as additional academic degrees or jobs created.

<https://www.nachhaltigkeit.nrw.de/projekte/nachhaltigkeitsanleihe/sustainability-bonds-overview/>

## Sustainable investments in pension fund

North Rhine-Westphalia has extended its investment guidelines for the management of its pension fund (*Pensionsfonds des Landes Nordrhein-Westfalen*). Since June 1, 2017, investment decisions also reflect on the sustainability quality of assets as part of the management of risk and return. The requirements for sustainable investments include both general ESG criteria (environment, social, governance) and specific criteria for excluding certain business practices which are ethically or environmentally controversial. Together with the states of Baden-Württemberg, Brandenburg, and Hesse, the state of North Rhine-Westphalia has commissioned STOXX Limited to develop sustainable stock indices. With the implementation of the new concept, these federal states will only invest in stocks of companies that are among the best rated in the areas of environment, social impact, and corporate management, on the basis of numerous indicators. In particular, international norms and standards for environmental protection are applied, as are ethical and social criteria formulated by the UN. Business areas and practices that are contrary to social or ethical principles are excluded.

[www.nachhaltigkeit.nrw.de/fileadmin/download/Allgemeine\\_Anlagerichtlinien\\_Pensionsfonds\\_des\\_Landes\\_Nordrhein-Westfalen\\_18.\\_Juli\\_2019.pdf](http://www.nachhaltigkeit.nrw.de/fileadmin/download/Allgemeine_Anlagerichtlinien_Pensionsfonds_des_Landes_Nordrhein-Westfalen_18._Juli_2019.pdf)



## **SDG 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation**

*NRW short form: Robust infrastructure, industry, and innovation*

Investments in research and a sustainable infrastructure are the basis for ecological, economic, social, and technological progress. As the sector with the highest volumes of investment and research, industry makes a significant contribution to this.

### **Infrastructure**

Future-proof infrastructure includes optimized transport routes, information and communication technology, schools and universities, facilities for energy generation and transmission, water supply and disposal, waste management, and hospitals. It enables social well-being and economic growth. The planning, construction, expansion, and maintenance of infrastructures must take into account aspects such as climate protection and adaptation, energy conservation, noise protection, air pollution control, and the protection of natural resources. In addition to the existing instruments and regulations, digitalization offers new approaches such as building information modeling (BIM), which can consider these aspects while accelerating the processes (see SDG 13).

In terms of the digital infrastructure for connecting households, public institutions, and businesses with gigabit-capable broadband and mobile communications, North Rhine-Westphalia is in the middle of an enormous catch-up process in both urban and rural areas. To this end, the state government has developed the Gigabit Master Plan (*Gigabit-Masterplan*) as part of its digital strategy to accelerate the expansion of broadband networks. A good digital infrastructure is by no means sufficient, but it is an indispensable part of a basis for a sustainable innovation and energy policy.

A safe, economic, climate- and environmentally compatible infrastructure in the industrial and energy sectors is and will remain an indispensable foundation of modern industrial policy. The energy transition must therefore be reliably shaped in accordance with the energy policy triangle of objectives—security of supply, competitiveness, climate and environmental compatibility—in order to ensure long-term planning and investment security for industrial companies.

Efficient transport infrastructures and interconnections between the various modes of transport are also fundamental to satisfying people's mobility needs. In many cases, parts of the infrastructure have been neglected, which is why they urgently need to be upgraded and adapted to current and future transport needs.

### **Industry**

North Rhine-Westphalia must remain an innovative industrial location and at the same time make its contribution to the European and German climate protection goals. To this end, the existing local conditions and strengths of our federal state with its important energy and industrial sectors must be used and expanded. The Ruhr area has been undergoing structural change for some time now, and the Rhenish mining area is also set to develop into a unique European model region for energy supply and resource security. The NRW energy supply strategy shows a way into the future in order to provide the actors in the energy and industrial sectors with planning and investment security.

The state government clearly expresses its commitment to North Rhine-Westphalia as an industrial location in the industrial policy guidelines adopted by the state cabinet. The guidelines outline the necessary fields of action for a modern industrial policy in order to create optimal framework conditions for the further development of North Rhine-Westphalia as an industrial location in cooperation with trade associations, chambers of commerce, and businesses (including employer and employee representatives).

At the same time, the state government of North Rhine-Westphalia is committed to the Paris Climate Protection Agreement and the global SDGs. This results in a variety of challenges, especially for industry. Optimized policies will support the necessary innovation and financing processes. By striking a balance between ecology and economy, new development opportunities are to be opened up for North Rhine-Westphalia, permanently strengthening the international competitiveness of our federal state as a state-of-the-art climate- and environmentally friendly industrial location.

## Objective: Shaping the future with new solutions

### Research and innovation

The past few years have been characterized by a multitude of digital innovations and the resulting opportunities for transformation towards a more sustainable economy and society. In order to make the best possible use of this potential for North Rhine-Westphalia, the entire innovation chain must be brought up to an internationally competitive level, from basic and applied research to rapid transfer. An optimal R&D infrastructure is particularly important in this respect. Science and industry are thus empowered to develop innovations from a holistic perspective within the framework of innovation alliances, and to test their practical suitability along the value-added chain. Initiatives such as “it’s OWL—Intelligent Technical Systems OstWestfalenLippe” (*it’s OWL – Intelligente Technische Systeme OstWestfalenLippe*) stand for the successful transfer of scientific findings into marketable products.

The innovation policy of North Rhine-Westphalia is the engine of economic, social, and ecological progress. Our strategy will therefore focus on innovations that can contribute to sustainable development in all three areas. In this way, it is geared towards the major social challenges of our time as central fields of action.

With their excellent research results, universities and non-university research institutions can make an important contribution to meeting these challenges. The founding of many new universities of applied sciences during the past decade and the increasing orientation towards the transfer from science to business are improving the performance of the application-oriented research landscape in North Rhine-Westphalia. Against this background, the NRW state government has set the ambitious goal of increasing expenditure on research and development from the current level of approximately 2% to at least 3.5% of gross domestic product annually by 2030. The aim is for two-thirds of the investments to be financed by the private sector, the gap to other federal states being particularly large in this area.

### Detailed example: NRW digital strategy

In our strategy for a digital North Rhine-Westphalia, we describe how we can make our federal state even more innovative and attractive for startups and new digital business ideas by reducing bureaucratic hurdles, creating a strong investor network, and increasing the number of specialists with a digital background. The combination of young creative startups in the digital economy with the federal state's strong industrial and SMB base can unleash the innovative power necessary for the digital transformation of the economy. In particular, we want to strengthen lifelong learning as a central thread for education in the digital age. Intelligent mobility can enable more freedom and participation, and the digitalization of the healthcare system can contribute to more self-determination and a higher quality of life. We also see digitalization as an important driver for rendering the energy system more sustainable, ecological, and climate-friendly.

It is important for digitalization to span and connect multiple topics. In the digital strategy, we describe how we are promoting e-government, information security, data protection, consumer protection, the legislation and regulation of the digital economy, and open government. Innovation and digitalization create opportunities to save time, resources, and costs, to develop new economic and business models, and at the same time to enable more participation. In this sense, we see digitalization as a citizen-centered objective.

[www.digitalstrategie.nrw](http://www.digitalstrategie.nrw)



## SDG 10. Reduce inequality within and among countries

### NRW short form: Reducing inequalities

Living together in one world means taking responsibility for each other, learning from each other, supporting each other, and working together to find solutions to the great challenges of our time. Therefore, North Rhine-Westphalia relies on sustainable cooperation in which our international partners actively involve their initiatives and their own topics. In the future, classical development projects are to be increasingly replaced by much more sustainable cooperation in areas such as (vocational) education, science, business, and climate protection. The exchange takes place in both directions. For example, the state government supports the biennial German-African Economic Forum, which aims to bring together African and German businesses, opening up new market opportunities for both sides. This approach also underlies the implementation of SDG 17.

### Objective: Reducing inequality within Germany

### Objective: Building a culture of participation and welcome

With 5.1 million people with a migration background, North Rhine-Westphalia stands for cosmopolitanism and diversity like no other federal state. NRW is home not only to those who were born here but also to those who migrated here. Today, the state has a well-developed integration infrastructure which has undergone another significant expansion in recent years. In the 2030 participation and integration strategy (*Teilhabe- und Integrationsstrategie 2030*), all departments of the state government as well as the independent Advisory Council of the State Government for Participation and Integration have defined the central needs and strategic issues for the next ten years. The strategy focuses on three target dimensions:

- 1) Initial integration of new immigrants. These are integration policy measures and objectives which relate to the target group of new immigrants and cover a maximum period of three years from the date of entry into Germany.
- 2) Sustainable integration into regular systems. In order to reduce barriers to entry and participation for people with a migration background, the necessary change or adaptation requirements for the regular systems themselves are identified.
- 3) Shaping the migration society. The third target dimension no longer relates primarily to people with a migration background and institutions but rather to North Rhine-Westphalia and its society as a whole.

Before the end of this legislative period, the essential course will be set and initial measures taken to achieve these goals. In doing so, we expressly pursue an inclusive understanding of home which should enable the participation of all people. Trust and openness on all sides are a self-evident prerequisite for participation and integration. Sustainable integration on the basis of a legally secure residence perspective can only succeed if new immigrants also recognize the legal rules and basic values of society. At the same time, all people must be enabled to participate, and the plurality of North Rhine-Westphalia as a federal state of immigration must be valued.

## Objective: Educational success of people with a migration background

SDG 10 aims to further improve the participation opportunities of people with a migration background, to open up of state institutions and structures, and, perhaps most importantly, to strengthen social cohesion. The main focus is on adapting, expanding, and connecting existing structures, along with more target group-specific approaches and offers. Schools in North Rhine-Westphalia, for example, are successfully facing up to the task of providing migrated children and young people with the necessary language skills and school knowledge to develop successful educational biographies. The new indicator of the sustainability strategy reflects how our school system is making progress in the integration of pupils with a migration background.<sup>7</sup>

As already stated under SDG1, children, pensioners, people with a migration background, single parents, families with many children, and employees with low qualifications and low income have participated benefited less from North Rhine-Westphalia's positive economic development. Improving the opportunities of these groups, who are still at high risk of poverty, is an important task within the framework of the NRW sustainability strategy. In particular, we refer to the comments on SDG 1 and SDG 8.

## Objective: Reducing (gender-specific) poverty risks in old age

A pension mirrors the preceding working life: its amount depends primarily on the insurance period and the insured income. The triggers for old-age poverty are therefore usually already present in working life: in most cases, a low pension is preceded by an employment biography characterized by unemployment, part-time work, and/or precarious employment at low wages. This generally applies equally to men and women.

However, even if the risk factors for poverty are the same for men and women, women are statistically more often affected by part-time work, interrupted employment biographies, and low wages. It is still mostly women who stop or reduce their employment for family reasons (caring for relatives, bringing up children). To compensate, the statutory pension insurance recognizes periods of caretaking and child-raising. However, many women choose to take a longer break when they have children. In addition, they often work only part-time or in a mini-job afterwards. Statistically, women with a migration background have a particularly low labor force participation. Accordingly, women also have a higher risk of being poor in old age: In 2018, the poverty risk rate for women aged 65 and over was 16.0%, compared to 12.1% for men.

The most important approach to tackling poverty in old age is therefore to create the basis for a successful working life. In particular, this includes good education and training, decent wages, a labor market with many opportunities, reconciliation of family and working life, and the reduction of precarious employment. As a result, poverty in old age will be reduced permanently and sustainably for both women and men.

However, current and future changes in the labor market pose a particular challenge: the forms of work are being diversified; the classic lifelong employment relationship is becoming rarer; many people change several times between dependent employment and self-employment. In addition, due to the consequences of the structural transformation, the state of North Rhine-Westphalia faces a particularly difficult labor market situation. In order to

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<sup>7</sup> The terms "migration background" and "migration history" are used synonymously in the following according to the definition of the NRW Participation and Integration Act (*NRW-Teilhabe- und Integrationsgesetz*) of 2012.

prevent more and more people from falling through the meshes of the social net of benefits, an answer to these developments must be found.

But despite all efforts, there will always be people who will need the special attention of society in old age and in case of reduced earning capacity because they are not able to make up the pension gap caused by the falling pension level by means of additional provisions. Special measures are therefore needed for these groups.

**Objective: Overcoming discrimination against lesbian, gay, bisexual, transgender, transsexual, and intersex people (LGBTI\*)**

Like no other federal state, North Rhine-Westphalia stands for the appreciation of diversity. Accordingly, it is the political and social goal of the state government to resolutely oppose discrimination against LGBTI\* persons as well as homophobic and trans\*phobic violence.

LGBTI\* policy in its many facets is a cross-departmental task in the state government of North Rhine-Westphalia. The departments responsible for the respective areas of expertise, including their budget responsibility, work independently in very different areas to improve quality of life and eliminate discrimination and violence against LGBTI\* persons. In doing so, the cross-departmental approach also takes into account the aspect of multidimensional discrimination. The state government of North Rhine-Westphalia is rightly proud of the state-funded, wide-ranging infrastructure in the field of LGBTI\* self-help, anti-discrimination, and anti-violence work. Nevertheless: Especially against the background of an increasingly publicly propagated group-focused enmity, which primarily emanates from right-wing populists and is directed against LGBTI\* people as well, focal points of anti-discrimination and anti-violence work not only continue to have a high priority, but must also be further developed with regard to the new social dimensions of homophobia and trans\*phobia in order to have a lasting effect.

One indicator of violence against LGBTI\* persons is the statistical recording of homophobically and trans\*phobically motivated crimes by the Criminal Investigation Reporting Service (*kriminalpolizeilicher Meldedienst, KPMD*) in the framework of its "Politically Motivated Crime" list (*Politisch motivierte Kriminalität, PMK*). Here, the hate crime group includes the subtopic of sexual orientation.

In the area of LGBTI\* policy for violence prevention, the NRW Ministry for Children, Family, Refugees, and Integration (*Ministerium für Kinder, Familie, Flüchtlinge und Integration NRW, MKFFI*) has deliberately focused on increasing the report rate for violence and also on supporting the victims of homophobic and trans\*phobic violence. At the beginning of 2019, the MKFFI-sponsored State Coordination of Anti-violence Work for Lesbians, Gays, and Trans\* in North Rhine-Westphalia (*Landeskoordination der Anti-Gewalt-Arbeit für Lesben, Schwule und Trans\* in Nordrhein-Westfalen*), in cooperation with the MKFFI and with the support of the NRW State Office of Criminal Investigation (*Landeskriminalamt*), launched a state-wide publicity campaign to increase the willingness to report incidents under the motto "I'M REPORTING THAT!" (*ICH ZEIGE DAS AN!*). The aim of this initiative, which is unique in Germany to date, is to encourage the affected LGBTI\* persons as well as potential victims of homophobic and trans\*phobic violence to file criminal charges. The Anti-Violence Work Unit (*Fachstelle der Anti-Gewalt Arbeit*), which also advises LGBTI\* persons on filing charges, already recorded an increase in consultation requests in this area as early as mid-July 2019. The campaign has also met with interest and positive response from police authorities in other federal states.



## **SDG 11. Make cities and human settlements inclusive, safe, resilient and sustainable**

### *NRW short form: Sustainable cities and municipalities*

The sustainable design of cities and residential areas is a prerequisite for the future viability of our society and its living environment. It is the basis for an environmentally sound and healthy residential development for future generations.

In a large federal state such as North Rhine-Westphalia with its strong industrial heritage, the challenges for this sustainable design are complex: Growing and shrinking regions are sometimes close to each other. The increasing competition for land requires an intelligent use of the finite land resources as well as an economical and sustainable land policy. The large agglomerations have to struggle particularly with the consequences of climate change and with climate adaptation. Environmental burdens for the inhabitants and tasks for coping with migration and integration differ regionally and locally, requiring differentiated solutions—also with regard to the equivalence of living conditions in urban and rural areas. North Rhine-Westphalia has a number of polluted areas—partly due to the historically close coexistence of industrial and residential areas—which present great challenges for urban development. Conflicts (e.g. between livestock farming and residential area development) can also occur in rural areas and have to be resolved. Environmentally friendly and conflict-free residential development is crucial: this is the only way to create spaces and structures for future-oriented development.

A particular challenge at present is creating access to affordable housing while maintaining healthy living conditions and high-quality green, recreational, and communication spaces close to the residential areas. This requires a sustainable and socially oriented urban development and land policy, especially in prosperous cities, where a rapid provision of building land is needed.

### **Objective: Reducing land use**

As a framework for sustainable management of land as a (non-renewable) resource, the stipulations on statewide residential development contained in the current State Development Plan (*Landesentwicklungsplan*, LEP) aim to focus future residential area growth on city and town districts with a good supply of services for citizens and to secure attractive areas for business, especially in well-connected locations. This also includes enabling mobility within the framework of intelligent and demand-oriented land use, and further increasing the use of sustainable means of transport.

For efficient land use, the planning of residential areas and industrial parks should be coordinated with aspects like infrastructure planning. Overall, this not only ensures that public funds are used responsibly, but also contributes to a climate-friendly and energy-efficient residential structure, as traffic and thus CO<sub>2</sub> emissions are reduced.

In addition, the State Development Plan provides for a demand-oriented and at the same time land-conserving settlement development. This framework specification for a demand-oriented designation of building land for residential and commercial use is designed under consideration of the heterogeneous conditions in North Rhine-Westphalia, such as different population developments, different economic structures, and the natural environment. In addition, further principles of the LEP support the possible reuse of brownfield land and internal development potential, thus also contributing to the considerate use of free areas.

In this way, the NRW State Development Plan follows the guiding principle of sustainable area development enshrined in the Federal Regional Planning Law (*Raumordnungsgesetz*),

contributing to achieving the German Sustainability Strategy target of reducing land consumption to less than 30 hectares per day by 2030.

As part of the State Development Plan revision, it was agreed to develop an interdepartmental package of measures (under the leadership of the Ministry of the Environment) which pursues various approaches.

Furthermore, the reduction of land use is thematically linked to climate change adaptation, North Rhine-Westphalia's climate protection goals, green infrastructure, and sustainable mobility.

### Objective: Securing mobility—protecting the environment

Mobility is a basis for social participation and for active living. The opportunities and challenges for enabling it are different in urban and rural areas.

Local public transport is an important component of sustainable mobility (in addition to bicycle and pedestrian traffic). Public transport is attractive if it is flexible and interconnected. To achieve this, we need to increase the frequency of services in the conurbations, expand services in the off-peak hours, and connect rural areas to the rail network through line reactivations and express bus lines. The prerequisite for this is an expansion of the infrastructure and increased investment in the robustness of the network.

The state of North Rhine-Westphalia increases the funds spent on public transport every year to provide better services.

Digitalization is another tool for a more attractive public transport system and thus for sustainable transport. To this end, the Ministry of Transport (*Ministerium für Verkehr*, VM) together with special-purpose associations, transport associations, and businesses, has launched the North Rhine-Westphalia Public Transport Digitalization Campaign. The around 30 concrete measures agreed upon are intended to render public transport more attractive by making it easier to use—with better information, easier booking and payment, and the integration of further mobility offers.

### Objective: Strengthening the commitment to sustainability at municipal level

Future-proof, sustainable cities and settlements coordinate ecological, economic, and social concerns across sectors. The quality of life, living environment, and design should create a hometown that creates identity with the participation of the people living there and political actors as well as the administration, businesses, science, and associations. A resource-saving infrastructure, the safeguarding and further development of town and city centers, and the systematic inclusion of the opportunities offered by digitalization are further components of sustainable development.

The release of building areas and unsealing open up possibilities for the reorganization and compact development of settlement areas, which increases the security of supply, improves the quality of life, and reduces infrastructure costs. At the same time, soils in outdoor areas requiring protection and soil functions important for climate and ecology are preserved. To meet the challenges of such an integrated view of municipal sustainability, decisions on agenda processes and/or sustainability strategies can provide orientation at municipal level. Comprehensive municipal sustainability management can contribute to the implementation of these decisions. The state government intends to (further) strengthen its commitment to sustainability at the municipal level as well.



## Home and quality of life in urban and rural areas

The state government supports cities in the tasks they perform within the framework of their local self-government, for example, with the annual urban development support program (funding from the federal and state governments), whose main areas of action are focused on problems of urban renewal. Another means of support are instruments for the reuse of derelict land for land recycling and consistent support for urban green spaces, whose promotion is important in the context of urban design, environmental, climate, and health protection, adaptation to climate change, and for the economic and social stabilization of neighborhoods.

Regional coordination and intermunicipal concepts can have a supporting effect. The land reserves available to the municipalities, and in some cases also intermunicipal land reserves, include usable gaps between buildings as well as larger brownfield sites (e.g. from conversion or in post-coal mining areas) and a potential for redensification in interior areas. In the future, the state government will provide increased support to the municipalities in meeting these challenges.

It is already possible for municipalities to obtain 80% of the funding for the registration of brownfield sites in their area from the Ministry of the Environment through the Contaminated Sites and Soil Protection Funding Directive (*Altlasten- und Bodenschutz-Förderrichtlinie*). Such applications for funding are sometimes submitted in combination with applications for the review and update of contaminated land registers. The remediation of industrially pre-contaminated brownfields by means of land recycling is an important task for the future. The Association for Land Recycling and Remediation of Contaminated Sites (*Verband für Flächenrecycling und Altlastensanierung, AAV*) is an experienced institution in the field of land recycling which is ready to provide assistance. At present, there exists a special support program for municipalities to rapidly and effectively remediate brownfield sites for the construction of permanent housing.

To support the municipalities in providing building land for affordable housing, the state government has bundled the support instruments for mobilizing building land in the “Building.Land.Life” initiative (*Bau.Land.Leben*). In this way, North Rhine-Westphalia is also systematically paying special and concrete attention to the targeted development of affordable building land in the catchment area of local rail passenger transport.

## Making construction and modernization sustainable

Within the framework of public housing promotion, the state government supports the construction and maintenance of housing that meets the needs and financial possibilities of broad sections of the population in the long term. The focus is on small-scale, barrier-free, energy-optimized housing integrated into established settlement structures, with the preservation and qualification of green spaces, with flexible floor plans, and at affordable rents. Here, too, measures for densification such as brownfield site remediation and the addition of stories are being stimulated with particularly attractive funding offers. The same applies to the implementation of above-average energy standards. With fundamentally simplified and improved modernization support, existing dwellings can be adapted to contemporary living standards without the housing costs rising disproportionately after modernization. The efficiency of this support offering can be seen within the modernization offensive “Better Living—At Home in the Neighborhood” (*Besser Wohnen – Zu Hause im Quartier*), in which whole residential areas with several thousand apartments are being comprehensively prepared for the future throughout the federal state.

For example, the state government is bundling the energy-related refurbishment of neighborhoods with funds from the housing promotion and urban development budgets. In

urban development funding, public amenities are retrofitted or newly created in an energy-efficient manner. In addition, neighborhood-related measures for climate adaptation are promoted, increasing biodiversity through the creation or qualification of existing green spaces, the planting of climate-adapted trees and shrubs, and the integration of water bodies into the design of public spaces. The creation of green roofs, the unsealing of courtyard surfaces, and the development of neighborhoods with footpaths and bike lanes also contribute to the reduction of CO<sub>2</sub> emissions.

In addition, regular municipal and professional exchange on energy-related neighborhood renewal is promoted to achieve the greatest possible synergies and learning effects.

Sustainable urban development also means designing the public space in cities and settlements in such a way that anxiety and danger zones are avoided. This applies especially to important road connections, entrances to buildings, and accesses to public transport stops.

Public planning and construction are also subject to constantly changing influences and requirements. They must constructively adapt to the needs of sustainability, environmental and climate protection, digitalization, and demographic change. Against this background, the previous building policy objectives of the state of North Rhine-Westphalia are to be adapted, developed, and updated to meet current challenges. The objectives constitute binding instructions for all departments and apply to all federal state institutions functioning as tenants, users, and operators—for instance, universities, state enterprises, special funds, and university hospitals.



## **SDG 12. Ensure sustainable consumption and production patterns**

### *NRW short form: Sustainable consumption and production patterns*

In North Rhine-Westphalia, considerably more resources are consumed overall than are available in the federal state itself. According to the 2016 NRW Environmental Report (*Umweltbericht NRW*), if the entire world population were to produce and consume at the same level as the businesses and population of North Rhine-Westphalia, approximately 3.3 Earths would be required. More sustainable consumption and production patterns are therefore essential for achieving sustainability objectives. Economic growth needs to be decoupled from primary resource use, accompanied by a transformation to a sustainable, resource-conserving circular approach to production and consumption but also an increase in public acceptance of a societal transformation process towards sustainable consumption. After all, citizens have a direct influence on the supply structures through their consumption decisions. Sustainable production thus goes hand in hand with sustainable, circular, and resource-conserving consumption and usage habits among consumers.

The public sector, too, is affected as a consumer of goods and services. The state government is working continuously to further expand the implementation of sustainable public procurement as an important instrument for implementing the sustainability strategy. Thus, sustainable public procurement has both independent and overarching significance.

### **Objective: Promoting sustainable consumption and sustainable lifestyles**

Household consumption is responsible for a large part of resource use. Our decisions on how we eat, dress, and live, what means of transport we use, or how we organize our leisure time and holidays, have an impact on the environment but also on social aspects such as working conditions in other regions of the world along the value chain. Therefore, it is an important task of the federal state government to strengthen and empower consumers as market players.

A crucial focal point of public and scientific attention is our food system, including the significance of food losses (see in-depth example).

In North Rhine-Westphalia, the food processing industry is an important building block for more sustainable patterns in food consumption and production. With around 1,000 companies and over 100,000 employees, this sector of the NRW economy has one of the highest turnovers in Germany: around 41 billion euros annually. A more sustainable food economy includes fair and environmentally compatible raw material procurement as well as resource-saving and socially responsible production, but also the avoidance of food losses. Together with environmentally friendly agriculture, regionally produced and marketed food can make a significant contribution to a sustainable food economy, i.a. by creating and maintaining jobs in the region—and also by keeping transport distances short.

To increase demand for sustainably produced products, they and the respective sustainability standards must achieve recognizability and trustworthiness. Certification by independent bodies is an important instrument in this respect.

In the area of sustainably produced food, there are many notable accepted certifications for various product groups. Organic food, where the rules of production, processing, labeling, and control are laid down in detail by EU legislation and also apply to imports, has a special status. The market for organically produced food is growing steadily, having now reached a turnover of around 11 billion euros in Germany, and a ca. 5% share of the food market. The share of expenditure on organically produced food (with the EU organic label) in total food expenditure in North Rhine-Westphalia is to be substantially increased by 2030.



In the populous state of North Rhine-Westphalia, the final energy usage of private households is another important area of consumption. Here, too, it is important to strengthen and empower consumers as market players, increasing acceptance of the social transformation process towards more sustainable consumption. New scopes for consumer decisions and new business models are emerging in the energy market, especially in the course of digital transformation and the expansion of renewable energies. A fundamental movement trend from pure energy consumption to independent, resource-friendly energy generation and distribution can be observed. More and more consumers are actively participating in the energy market as prosumers (consumers who are also producers), contributing to a sustainable energy supply. With the funding of the EU project “Energy2020” by the NRW Consumer Advice Center, the state of NRW is working towards its objective of reducing the final energy consumption of private households by educating consumers about the energy-saving potential in their own homes using digital and analogue consulting formats, topic-specific information, and targeted motivation campaigns, as well as by increasing their willingness to invest in innovative, digital, and renewable energy technologies.

### Detailed example: Food losses

Reducing food losses is one of the key challenges for our food system, both in terms of how we can achieve greater food justice in the face of a growing world population and in terms of achieving climate protection goals. Food losses occur at every stage of the value chain, from agriculture to the final consumer, at home or in the catering sector. Therefore, the 2030 Agenda formulates the goal of halving global per capita food waste at retail and consumer level by 2030 and reducing food losses along the production and supply chain, including post-harvest losses.

North Rhine-Westphalia has thus set itself the goal of reducing food waste and promoting greater appreciation for local food. Consulting and coaching approaches come first and foremost, especially in the area of out-of-home catering. The necessary measures also include opening up access to new target groups, research and cause analysis, the exchange with those involved and their networking, and educational and publicity measures to raise consumer awareness. With the “New Appreciation for Food” (*Neue Wertschätzung für Lebensmittel*) round-table, the NRW Consumer Protection Ministry has been regularly inviting representatives from agriculture, retail, the food industry, science, and consumer and welfare associations for dialog since 2010.

[www.umwelt.nrw.de/verbraucherschutz/konsum-und-wertschaetzung-von-lebensmitteln/](http://www.umwelt.nrw.de/verbraucherschutz/konsum-und-wertschaetzung-von-lebensmitteln/)

Since 2018, the NRW Ministry of Consumer Affairs, together with the EU (ERDF), has also been supporting the “AddedValueConsumption” project (*MehrWertKonsum*) based at the NRW Consumer Advice Center. The basic idea is to show consumers the improved quality of life and other benefits associated with more sustainable consumption. The focus is on the appreciation of food and limited resources. A central field of action of the project is low-waste and climate-friendly communal catering in schools, day-care centers, and youth hostels. By avoiding food waste and planning meals in a climate-friendly way, institutions and their catering service providers can save costs and put more sustainability on the plate. At the same time, the school canteen can be a practical place of learning about the value of food and future-oriented nutrition.

[www.mehrwert.nrw/mehrwertkonsum/gemeinschaftsverpflegung](http://www.mehrwert.nrw/mehrwertkonsum/gemeinschaftsverpflegung)

The NRW Ministry of the Environment is also participating in the dialog process within the framework of the National Strategy for Reducing Food Waste (*Nationale Strategie zur Reduzierung der Lebensmittelverschwendung*) launched by the Federal Government in



Changes in usage and consumption habits are accompanied by the need for a more sustainable range of products and services.

### Objective: Steadily increasing the share of sustainable production

For businesses, sustainable production means designing products and processes in an energy- and resource-efficient manner, avoiding the use and emission of pollutants, and encouraging fair working conditions—both within their own company and along the supply and value chains. A new, even more far-reaching challenge is the transformation of the economy to a circular operation. Here, products and services are designed to remain durable, repairable, reusable, and recyclable. In this way, the resources used can increasingly be managed in a cycle, reducing the demand for primary resources and also the emission of greenhouse gases.

Many businesses in North Rhine-Westphalia are already taking up the challenge of producing more sustainably. Various auditing and certification schemes such as EMAS or CSR reporting offer companies orientation while also enabling them to transparently communicate their successes to the outside world.

Corporate Social Responsibility (CSR) or the social responsibility of businesses is an entrepreneurial strategy in which benefits for the business and for society are not contradictory but complement and promote each other. In North Rhine-Westphalia, the CSR Competence Centers (*CSR-Kompetenzzentren*) are central components for CSR implementation. Their task is to raise awareness of the opportunities offered by responsible corporate management among small and medium businesses. The centers impart practical knowledge to further anchor the guiding principle of economic, ecological, and social corporate responsibility in the long term, while also rendering digitalization sustainable. The creation of a new statewide center for business and digital responsibility, supported by the European Regional Development Fund (ERDF), is planned for 2020. It will focus on the question of what support businesses need for their digital transformation towards Corporate Digital Responsibility (CDR). In Ostwestfalen-Lippe, there will be a further CDR center which will focus on CSR 4.0, considering regional aspects.

The participation in voluntary environmental management systems such as EMAS (Eco-Management and Audit Scheme) or the international environmental management standard ISO 14001 is an important indicator for sustainable businesses. These schemes help companies and organizations of all sizes and in all industries to continuously improve their environmental performance while optimizing the use of resources and saving costs. North Rhine-Westphalia supports the participation of businesses in environmental management systems, granting registered companies various relaxations in the enforcement of environmental law, e.g. through fee reductions in approval procedures under pollution control law, water law, and waste law. The latest amendment to the Environmental Audit Act (*Umweltauditgesetz*) is intended to enable EMAS-certified organizations and businesses to integrate sustainability aspects into their environmental management system to an even greater extent than before.

North Rhine-Westphalia also supports the entry into environmental management systems through the municipal ECOPROFIT (*ÖKOPROFIT*) program. This offer makes it easier for small and medium-sized businesses in particular to become more efficient, reducing operating costs and environmental pollution. Since the start of funding in 2000, a total of 193 ECOPROFIT projects have been successfully completed in North Rhine-Westphalia. 2,185 companies and institutions have been awarded the ECOPROFIT certificate.

### Detailed example: Circular economy

Environmental management and certification systems can improve the environmental and sustainability performance of businesses based on existing products and processes. The circular economy approach goes one step further, considering the products and services themselves. It focuses on the entire value chain, designing products across businesses and industries to be durable, repairable, reusable, or usable for longer periods of time. They are also to be made recyclable or repurposable as easily and completely as possible at the end of their product life. Thus, usefulness is extended and product sharing is supported; sometimes, the product is gradually dematerialized via the product-as-a-service concept or virtualization. This holistic approach is challenging since, beyond the individual company view, it must bring together actors who have had little to do with each other in the past, such as waste management engineers and product designers. North Rhine-Westphalia is emphatically promoting the transition to a circular economy and will continue to further increase the momentum in the future with various support and advisory services.

With the Efficiency Agency NRW (*Effizienz-Agentur NRW*), North Rhine-Westphalia has a pioneer: For more than 20 years, it has been advising businesses on how to put product design and operating processes to the test in order to save material, energy, and thus costs. Ecodesign is also playing an increasingly important role.

In addition, different actors in different regions of North Rhine-Westphalia are taking up the approach of a circular economy and working on the implementation of specific approaches:

- In the Rhenish mining area, the “Circular Construction Economy” initiative (*Kreislaufwirtschaft Bauen*) focuses on the construction industry;
- in the Emscher-Lippe region, the “Prosperkolleg” center for circular value creation aims to raise awareness of a resource-conserving economy across all sectors, especially in SMBs, and offers businesses assistance in implementation, especially by means of digital tools;
- in Ostwestfalen, the “CirQuality” network introduces the question of resource-efficient production into the local industry 4.0 networks and their activities;
- in the Lower Rhine and Bergisches Land regions, the focus is also on healthy and resource-saving construction.

The state government supports these networks and their activities and thus the transition to a resource-lighter cycle-oriented economy.

<https://www.ressourceneffizienz.de/ressourceneffizienz/startpage-en>

### Objective: Expanding sustainable public procurement

The public sector in North Rhine-Westphalia has considerable buyer power in public procurement, which it should use to implement and establish stronger sustainable consumption and production patterns. Public procurement must take into account ecological, social, and innovative criteria to work toward sustainability. To this end, public procurers must be trained and qualified. Sustainable public procurement can provide incentives for the development of sustainable products and thus strengthen sustainable consumption overall. The procurement behavior of the public sector thus assumes a model character (see also the section on sustainable public procurement under C. II 3).

In 2021, the first data on sustainable procurement based on the amended public procurement statistics ordinance (*Vergabestatistikverordnung*) will be available. Then, a target and an indicator for sustainable public procurement will be set as well.

## SDG 13. Take urgent action to combat climate change and its impacts

NRW short form: *Climate protection and climate adaptation*

### Objective: Reducing greenhouse gases

Climate protection is a high priority in and for North Rhine-Westphalia. In view of the energy-intensive industry based here and the high proportion of coal-based power generation, it is also a major challenge. North Rhine-Westphalia is responsible for about one third of Germany's greenhouse gas emissions. The state government accepts this challenge and is active in all sectors of climate protection.

In its coalition agreement, the state government of North Rhine-Westphalia has committed itself to the Paris Climate Protection Agreement and shares the goal of achieving a largely greenhouse-gas-neutral economy by the middle of the century enshrined therein. The topic of climate protection is therefore an essential part of the political agenda in North Rhine-Westphalia.

In addition to the ecological necessity of climate protection, the state government also focuses on its economic opportunities, considering climate protection a driver for innovation and for modernizing North Rhine-Westphalia as a business location. It aims to show that successful climate protection and a strong business location need not be opposites.

On the contrary: Climate protection offers many opportunities for businesses providing modern, energy-efficient technologies, applications, and processes. The demand for innovative products and services for effective climate protection is growing worldwide. Businesses from North Rhine-Westphalia should be able to play an important role in the markets of the future and thus create long-term prospects for attractive jobs in the region (cf. in-depth example on the environmental sector in SDG 8).

Climate protection measures should therefore not only reduce greenhouse gas emissions but also strengthen the competitiveness of businesses and the municipalities' capacity for action.

The state climate targets are laid down in the North Rhine-Westphalian Climate Protection Act. They are the reduction of greenhouse gas emissions by 25% by 2020 and by at least 80% by 2050, compared to 1990 levels.

North Rhine-Westphalia has already made good progress, even reaching its climate protection targets for 2020 as early as 2017: According to current data from the North Rhine-Westphalia State Office of Nature Conservation, Environment, and Consumer Protection (*Landesamt für Naturschutz, Umwelt und Verbraucherschutz, LANUV*), around 275 million tonnes of CO<sub>2</sub> were emitted in 2017. This corresponds to the legally prescribed reduction of 25% for 2020 compared to the 1990 baseline. In its preliminary calculations, LANUV expects the trend to continue in 2018 with a reduction of about 28% compared to 1990. In order to continue this positive trend and also achieve the medium- and long-term climate protection goals, it will be necessary to exactly implement the decisions of the Commission for Growth, Structural Change, and Employment (*Kommission für Wachstum, Strukturwandel und Beschäftigung*).

However, further and greater efforts are needed at the same time to achieve the long-term objectives. Apart from the energy sector, the crucial fields of action are the heating market, mobility, and the interlinking of all areas (sector coupling). The federal state government, in particular the NRW Ministry of Economics, has already initiated a whole series of measures to achieve the climate protection targets:

## IN4climate.NRW

To support the energy-intensive industry on its way to greenhouse gas neutrality, the state government has launched the IN4climate.NRW initiative. As part of this project, experts from industry, science, and public administration are working together on the question of how production processes and value chains can be made climate-neutral in the long term, and what industry can contribute to the development of climate-friendly products. IN4climate.NRW is a dialog format that is unique in Germany to date. It aims to create insights in a structured way, making an important contribution to North Rhine-Westphalia as a climate-neutral and competitive industrial location.

## Low-emission mobility

The state government is also addressing the issue of mobility and transport with great emphasis, aiming to reduce greenhouse gas emissions in the transport sector. Electromobility is an important element in this; it offers climate protection advantages, in particular, when operated with green electricity. The “progres.nrw—low-emission mobility” funding program (*progres.nrw – Emissionsarme Mobilität*) is intended to support and accelerate the market ramp-up of electromobility. The package of measures aims to create convenient charging facilities for all target groups, to push the conversion of vehicle fleets to low-emission drives, and to enable inner-city alternatives to the car.

## Climate-neutral state administration

The state government has set itself the goal of making the state administration climate-neutral by the year 2030, thus leading by example for achieving North Rhine-Westphalia’s climate protection goals.

With the implementation of the Climate-Neutral NRW State Administration project (*Klimaneutrale Landesverwaltung NRW*), the state government addresses 539 authorities, state institutions, state companies, special funds, and organs of the judiciary. The public universities are invited to join the state administration on the road to climate neutrality.

In this context, important goals are the achievement of a climate-neutral building stock, primarily through the implementation of an energy-efficient NRW building standard and the increased use of renewable energies, as well as the conversion of the state car fleet to climate-friendly drives such as electric, plug-in hybrid, and fuel cell drives.

## Climate impact adaptation

In addition to climate protection, adaptation to the consequences of climate change is also a key challenge when it comes to achieving the climate goals of the Paris Agreement. It is not enough to react directly to the consequences of extreme weather events. Rather, the symptoms of climate change must be addressed preventively—with the help of adaptation measures geared to the expected changes.

In addition to its Climate Protection Act, which includes climate adaptation as one of the three fixed climate targets, North Rhine-Westphalia has adopted an adaptation strategy in the form of the 2015 Climate Action Plan (adaptation part). It describes the expected consequences of climate change in 16 fields of action (human health, water management and flood control, soil, biodiversity and nature conservation, agriculture and fishing, forest management, transport and transport infrastructure, energy sector, finance and insurance sector, industry and commerce, tourism, building and living, state and regional planning, urban development and municipal planning, disaster management, and information, education, networks), listing concrete countermeasures.



Since climate adaptation is an overarching task, it is not only the state government that is called upon to integrate adaptation to climate change into its decisions and activities but also the district governments, the municipal and regional levels, as well as businesses, associations, academia and teaching, and all residents.

The state of North Rhine-Westphalia already has numerous funding projects and offers of information, advice, education, and networking to support adaptation to climate change. These are aimed particularly at municipalities, but also at citizens and businesses. In addition, LANUV provides basic data on climate adaptation for all affected actors with its specialized information systems on climate change.

On behalf of the Ministry of the Environment, LANUV is developing a climate impact and adaptation monitoring for North Rhine-Westphalia (*Klimafolgen- und Anpassungsmonitoring für Nordrhein-Westfalen*, KFAM NRW). Indicators reflecting the consequences of climate change on the one hand and adaptation activities on the other are developed for all fields of climate adaptation action. From this resulting set, further sustainability indicators for the area of climate adaptation will be identified as well.

## Objective: Strengthening local climate protection and climate adaptation

### Climate protection and climate adaptation at municipal level

The municipalities are central players and important partners both for achieving North Rhine-Westphalia's climate protection goals and for adapting to climate change. In many municipal fields of action, the local authorities influence developments in climate protection directly and indirectly: As building owners, for example, they are responsible for areas with high greenhouse gas reduction potential such as schools, indoor swimming pools, and administrative buildings, as well as street lighting. In addition, municipalities are the responsible planning authorities for the location of energy generation plants, and often also suppliers of electricity and heat via municipal utility companies.

Municipal decisions also have a major impact on the vulnerability of a municipality and its citizens as well as local businesses to the consequences of climate change. The design of public spaces, urban drainage, and urban land-use planning have a direct impact on the damage potential and adaptation opportunities of a municipality. In addition, measures in the health and education sectors also have a decisive influence, contributing to preventing the consequences of climate change.

In order to support municipalities in the formulation of climate adaptation concepts and/or in the development and implementation of adaptation measures, specific advisory services and educational offers are provided for municipal actors. The development of climate protection and/or adaptation concepts by municipalities can thus be interpreted as an indicator of their awareness of and commitment to these issues.

With funding programs such as the "MunicipalClimateProtection.NRW" competition (*KommunalerKlimaschutz.NRW*), the state government is also supporting the municipalities from 2016 to 2020 within the framework of the European Regional Development Fund (ERDF) in the implementation of measures to reduce greenhouse gas emissions and to adapt to the consequences of climate change.

### Climate protection in the regions

The ambitious goals of climate protection and climate adaptation can only be achieved through contributions from all climate-relevant sectors. Businesses, science, and municipalities are therefore called upon to make their contribution along with the federal state authorities. The NRW government supports these efforts with advice, funding, and



networking. One example is the “Climate protection in the NRW regions” project (*Klimaschutz in den Regionen NRW*), which aims to intensify climate protection and climate impact adaptation throughout the federal state by means of targeted awareness raising, advice, and networking by so-called climate networkers. The project supports more than 40 municipality, business, and citizen networks of different types, providing specialist input by technical and other experts, moderation services, and best practice examples.

### Objective: Making existing buildings climate-neutral in the long term

Nationwide, buildings account for around 30% of greenhouse gas emissions and almost 40% of primary energy consumption. Therefore, the building sector plays a central role in achieving climate protection and energy efficiency targets.

A large proportion of emissions in the building sector is caused by the combustion of fossil fuels such as natural gas and oil in order to provide space heating and hot water. In addition to these direct emissions, which accounted for 11.6% of greenhouse gas emissions in North Rhine-Westphalia in 2017 (households and small-scale consumption sector), further emissions are produced by public utility companies as part of the electricity and heat supply of the building sector; these are referred to as indirect emissions.

Within the framework of the long-term goal of a nearly climate-neutral building stock by 2050, the state government is striving to reduce direct greenhouse gas emissions from buildings in North Rhine-Westphalia by 66 to 67% by 2030 compared to 1990. Achieving this goal requires the construction of efficient new buildings, higher renovation rates, and greater use of renewable energies. The existing environmental and waste heat potential must be fully exploited. Indirect greenhouse gas emissions are recorded and evaluated by means of indicators such as final energy consumption of private households and the share of electricity from renewable energy sources in gross electricity consumption.

The state government sees the modernization of older housing stock as a major lever for reducing emissions. About two thirds of the residential buildings were built before the first Heat Insulation Ordinance (*Wärmeschutzverordnung*) issued in 1979. They cause a significant proportion of greenhouse gas emissions in the building sector and often have a high energy saving potential. Increases in efficiency, such as thermal insulation, window renovation, and the integration into heating technology of renewable energies such as solar heat or environmental heat, can significantly reduce energy consumption and greenhouse gas emissions.

For the federal state government, target group-specific, provider-independent information and advisory services, suitable financing instruments and funding offers, sufficiently qualified experts, and economic framework conditions are of central importance in order to achieve and maintain higher rates of renovation. In addition, greenhouse gas emissions from the non-emission-trading areas of buildings and transportation require a reasonable price to provide effective incentives for reduction.

In the case of grid-bound heat supply (local and district heating), a high proportion of renewable energies is necessary to promote the decarbonization of the heating networks and to achieve the goal of an almost climate-neutral building stock for the affected population at reasonable cost while maintaining social acceptance. The state government will therefore provide targeted support for the expansion of innovative heating networks with lower temperatures, decentralized energy feed-in, and storage facilities for demand-based supply.

Energy-efficient construction, technology neutrality, and competition as to the type of heat supply help combine a high climate protection effect of buildings with low construction and operating costs. Decentralized energy generation and the use of renewable energies help



to keep grid expansion costs low as well. Gas networks can also be fed with green gas in the future. Hydrogen or synthetic gas can thus be another technology option contributing to the climate-friendly energy supply of existing buildings. Energy storage systems decouple the time of production from the time of consumption, thus offsetting the fluctuations of renewable energies and increasing their use.

In North Rhine-Westphalia, just under half the population lives on only about 14% of the state's area. In densely populated cities and neighborhoods in particular, the challenges of climate change are concentrated in a very confined space. The state government therefore supports urban energy solutions characterized by an integrated and intelligent interplay of the electricity, heating, cooling, and mobility sectors. Thus, both a sustainable energy supply and climate protection goals can be economically achieved in the cities (see also SDG 11). Digitalization plays a key role in exploiting the energy efficiency potential and flexibility of buildings while creating the prerequisites for implementing cross-system energy management and promoting sector coupling.

In addition, new digital tools enable improvements to the sustainability of buildings. For example, Building Information Modeling (BIM) allows buildings to be optimized for economical, energy- and resource-saving construction and operation during the design phase. The building materials used can be recorded in greater detail so that material cycles can be analyzed and optimized. The aim is to consider the entire life cycle: from the first preliminary planning to the demolition of the building and the disposal and recycling of building materials. During deconstruction and conversion, the potential of reuse, extended use, and recycling should be exploited to a greater extent in order to minimize, among other things, the loss of energy captured in the building materials (so-called gray energy.)



## **SDG 14. Conserve and sustainably use the oceans, seas, and marine resources for sustainable development**

### *NRW short form: Marine conservation*

Ecologically intact, efficient marine and coastal ecosystems are of enormous importance for the preservation of biodiversity, food security in the world, sustainable economic development, and the global climate balance. Indeed, the latter is largely determined by the water masses of the world's seas and oceans.

While North Rhine-Westphalia has no coasts and thus no direct land contact with seas and oceans, the pollution of marine waters often originates on land. Regions further away from the coast can also contribute to marine pollution. For instance, the greenhouse gases emitted as a result of climate change lead to the warming of the oceans, changes in ocean currents and rising sea levels; moreover, the higher CO<sub>2</sub> content of the atmosphere also causes increasing acidification of the oceans with negative effects on flora and fauna. Measures to reduce greenhouse gas emissions (see SDG 7 and 13) thus also contribute to marine conservation.

In addition, since the oceans are connected to the inland via rivers, the indirect contact with and impact on maritime ecosystems through the major watercourses of North Rhine-Westphalia (in particular the Rhine, Weser, and Ems) are taken into account. The most important effect of these is the input of nitrogen and phosphorus into the oceans via flowing waters. These nutrients contribute significantly to marine eutrophication, which leads, among other things, to algal blooms, loss of biodiversity, and a changed species composition in the oceans. Reducing nutrient inputs into the environment through sustainable agriculture will contribute significantly to relieving the strain on marine ecosystems (see SDG 2). However, a further reduction in nutrient inputs from municipal sewage treatment plants and rainwater discharges may also be necessary in order to relieve the oceans.

Apart from nutrients, the discharge of other pollutants into the oceans via running waters must also be reduced (see also SDG 6). This is clearly illustrated by the example of active pharmaceutical ingredients. While necessary for medical care, drugs have significant side effects in the environment and can harm plants and animals. Active medical ingredients are biologically highly active and often very stable, long-lasting substances. For example, hormone preparations can affect the reproduction of fish, psychotherapeutic agents can lead to behavioral changes in fish, and antibiotics can inhibit the natural growth of algae. Every year, medicinal products for human use and their degradation products enter the sewage treatment plants with the wastewater from the households. At present, however, not all active substances can be retained in the sewage treatment process with conventional treatment technology; thus, they reach the watercourses, and ultimately the oceans, via the sewage treatment plant outlet. The state government is pursuing a holistic approach to reducing the input of micropollutants such as drug residues. Firstly, the proper disposal of medicines in residual waste bins, at pollutant collection points, or in pharmacies is an important contribution to the protection of our water bodies and oceans. Secondly, we must consider and, if necessary, implement the expansion of municipal sewage treatment plants.

The state government promotes both the development of more advanced purification processes and the expansion of municipal sewage treatment plants. In addition, it provides awareness raising and information on the topic of medicines in the water cycle versus proper disposal.

Our consumption habits, too, have an impact on maritime ecosystems and their resources.

For example, consumers can avoid or reduce the use and output of pollutants or plastic waste, or counteract overfishing, if they pay attention to products that have a low ecological footprint and come from sustainable production when buying food and consumer goods (see SDG 12). Here, the global value and supply chains must be taken into account.



## **SDG 15. Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss**

*NRW short form: Protection of the environment and biodiversity*

The conservation of biodiversity is one of the greatest environmental challenges of the 21st century. The Global Assessment Report of the World Biodiversity Council (IPBES) published in May 2019 highlights the scale of the challenges from a global perspective. It provides a comprehensive update on the status and trends in biodiversity and ecosystem services. Human intervention has now significantly changed nature almost around the globe. The vast majority of indicators that provide information on the state of ecosystems and biodiversity suggest rapid deterioration. Human activities mean that more species are threatened with extinction today than ever before. In North Rhine-Westphalia, about 45% of the species examined are listed in the NRW Red List under a threatened category; about 7% are critically endangered.

Forests are closer to nature compared to other land use systems, and thus of particular importance for a wide range of ecosystem services and for sustainable land use, including biodiversity conservation and climate protection. Forest management faces major challenges in the face of current large-scale forest damage resulting from storms, droughts, and insect pest infestations in the context of long-term climate change. The adaptation of forests and of forest management to climate change is crucial for the preservation of their diverse services.

North Rhine-Westphalia is home to great biological diversity with over 43,000 different animal, fungal, and plant species. The enormous challenge is to halt the decline in biodiversity in the coming years and to reverse the negative trend of recent decades. High nutrient inputs (eutrophication) —for example, from traffic, industry, domestic heating, and fertilization—are one of the central causes of biodiversity loss.

The state government has set itself the following goals:

**Objectives: Preserving species—protecting habitats  
and maintaining and securing sustainable forest management**

The specific biodiversity and sustainable forest management objectives and the indicators used have not changed compared to the 2016 sustainability strategy.

However, based on the update to the Federal Strategy, we have also added the

**Objective: Protecting ecosystems, preserving ecosystem services, and preserving habitats**  
with the specific objective of reducing the eutrophication of ecosystems.

Achieving the goals of SDG 15 and the NRW goals derived from it requires increased, additional action at all levels. The current form of land use overstrains the planet. The goals of SDG 15 can only be achieved through transformative change.

Land use must be shaped in such a way that aspects of biodiversity protection are integrated more strongly than in the past. The NRW Biodiversity Strategy (*Biodiversitätsstrategie NRW*) summarizes objectives and measures for the protection and promotion of biological diversity (see detailed example). One of the main goals is the creation of a functioning biotope network, which is the basis and prerequisite for many species to adapt to new conditions as part of climate change by avoidance and migratory movement. The State Nature Conservation Act (*Landesnatorschutzgesetz*) stipulates a biotope network area share of 15%. The State Development Plan (LEP) also calls for the establishment of a statewide system of interlinked biotopes, including for climate-sensitive species and habitats in particular. The regional plans in the administrative districts must further specify the LEP requirements on climate adaptation. In the administrative district of Detmold, the technical contribution of nature conservation and landscape management (§ 8 State Nature Protection Law, LNatSchG) received the first exemplary specification and qualification with regard to the aspects of a biotope network for target species, and in particular for climate-sensitive species and habitats. In future, the bases for statewide and regional biotope network planning will be developed in the other administrative districts following the contribution of the Detmold model. Currently, a technical paper on nature conservation and landscape management in the administrative district of Arnsberg is being prepared. It will take into account a biotope network for climate-sensitive species and habitats. The technical papers for the administrative districts of Münster, Düsseldorf, Cologne, and the Ruhr region (*Regionalverband Ruhr, RVR*) are already available.

The objectives and principles of the statewide plans are also relevant to forests in North Rhine-Westphalia. The guidelines for the conservation and development of North Rhine-Westphalian forests are set out in concrete terms in the NRW State Forest Act (*Landesforstgesetz, LFoG*): “Sustainable and orderly forest management must be used to maintain, increase, and develop site-appropriate, ecologically intact, high-performance forest stands.” In addition, the adaptation strategy for forests and forest management describes the main effects of climate change and important fields of action. One central element of the strategy is a climate-dynamic forest information system, designed to be used across measures. The NRW silvicultural concept, the state-wide forest site map, and the Forestinfo.NRW (*Waldinfo.NRW*) internet portal were developed as new instruments for forest management in the context of climate change. In addition, long-term developments are examined within the framework of environmental forest monitoring.

The aim is to increase the stability and adaptability of forests by developing site-appropriate and structured mixed stands of predominantly native tree species using suitable reproductive material. The proportion of mixed forest stands is to be increased to over 80%. It is assumed that an increase in the proportion of site-adapted and semi-natural mixed stands with higher deciduous shares will mean greater stability, adaptability, and risk diversification of forests in times of climate change.

The proportion of certified forest area is an indicator of the extent to which the principles of sustainable forest management are implemented in North Rhine-Westphalia. For this reason, the state government has set itself the goal of increasing the certified forest area as a proportion of total forest area.

The new NRW Forestry and Wood Cluster Initiative (*Clusterinitiative Forst und Holz NRW*) is intended to promote modern use of wood, particularly in timber construction.



The NRW Ministry of the Environment is committed to reducing nutrient inputs. This entails measures in agriculture (see SDG 2), for example through the amended State Fertilizer Ordinance. Another important concern is the ambitious implementation of best available techniques for emission reduction in industrial plants and in the energy sector.

Measures to protect nature and the ecosystem services it provides also support the attainment of other sustainability objectives. There is a direct link, for example, to the protection of water bodies (SDG 6 and 14) and the climate (SDG 13). Ecosystem services also contribute indirectly—especially from an international perspective—to the fight against poverty and hunger (SDG 1 and 2), they promote health and well-being (SDG 3), and make cities and municipalities more sustainable and pleasant to live in (SDG 11).

#### Detailed example: Biodiversity strategy

Since 2015, North Rhine-Westphalia has its own state-wide strategy for nature and species protection. The NRW Biodiversity Strategy defines clear objectives and measures for land, forest, and water management. It also features biodiversity monitoring and assessment of nature awareness in the populations. North Rhine-Westphalia is thus making its contribution to the National Strategy on Biological Diversity (*Nationale Strategie zur biologischen Vielfalt*), which has been in existence since 2007, and to European and international biodiversity goals (laid down in the EU Biodiversity Strategy and by the Convention on Biological Diversity, CBD, respectively). The NRW Biodiversity Strategy pursues an interdisciplinary approach, and its contents are to be integrated into other expert planning. In order to halt the loss of biological diversity, trustful cooperation with all social actors in North Rhine-Westphalia is essential.

[www.umwelt.nrw.de/naturschutz/natur/biologische-vielfalt-und-biodiversitaetsstrategie-nrw/](http://www.umwelt.nrw.de/naturschutz/natur/biologische-vielfalt-und-biodiversitaetsstrategie-nrw/)

#### Detailed example: Forest Climate Adaptation Strategy

Forest ecosystems and forestry are particularly affected by the impacts of climate change due to their exceptionally long development periods. Due to the expected changes in temperature and precipitation as well as more frequent extreme events, there are new baseline conditions for the different tree species and forest management. The state government has drawn up a climate adaptation strategy for North Rhine-Westphalian forests. It is intended to increase the stability and adaptability of native forests, supporting forestry in adapting to climate change. The strategy comprises 18 fields of action in four thematic areas and outlines 49 implementation measures. Particularly important implementation projects included the creation of a new NRW silvicultural concept based on site-specific forest development types, the development of a state-wide forest map based on the methodology of the Forest Soil Map of the Geological Service, and the establishment of the Forestinfo.NRW internet portal for basic public forest information.

[www.umwelt.nrw.de/naturschutz/wald/wald-und-klima/](http://www.umwelt.nrw.de/naturschutz/wald/wald-und-klima/)

[www.waldinfo.nrw.de/](http://www.waldinfo.nrw.de/)



## **SDG 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels**

*NRW short form: Peace, justice, and strong institutions*

Peaceful, non-violent, and inclusive coexistence, structures and procedures based on the rule of law, and good governance at all levels are important prerequisites for sustainable development—internationally, in Germany, and in North Rhine-Westphalia. The German Constitution and the Constitution of the State of North Rhine-Westphalia create a good legal and political framework for the implementation of SDG 16 for all people living in Germany, in particular by guaranteeing basic and human rights, rule of law, access to the courts, separation of powers, federalism, and local self-administration. North Rhine-Westphalia also advocates these pillars as well as good governance in its international relations (e.g. in the dialog on the rule of law and in the deployment of police officers, judges, public prosecutors, and prison officers on missions abroad).

Two important topics will be examined in more detail below: internal security and civic engagement.

### **Objective: Increasing personal safety**

Reducing the number of committed offenses is very important for significantly improving the population's feeling of safety.

To this end, the state government has made considerable efforts to recruit additional personnel for the police service and to increase the number of police officers in the state of North Rhine-Westphalia in recent years. Therefore, the number of recruitment authorizations for candidate inspectors (*Kommissaranwärterinnen/Kommissaranwärter*) was increased to 2,300 directly after assuming government responsibility. From the 2019 recruitment year onwards, the number was increased once again, with 2,500 recruitment authorizations now available. This level is to be maintained until 2022, so that the number of police officers will gradually increase over the next few years (probably until 2024), from the current level of around 40,000 to over 41,000.

In addition, the district police authorities will be provided with 500 posts per year until 2022, amounting to a total of 2,500 government employee positions, in order to relieve the burden on existing police officers. The resulting relief from administrative activities will allow police officers to concentrate on their core tasks. The police force in North Rhine-Westphalia will therefore be significantly strengthened in terms of personnel, materially improving the conditions for the prevention of crime.

These and other measures have already led to a decline in the number of criminal offenses since 2015, and there is a good chance of achieving the target of limiting offenses to a maximum of 7,000 per 100,000 inhabitants per year by 2030.

The case figures for overall crime, in particular domestic and other burglaries, are already at a historically low level in North Rhine-Westphalia. There are also signs of continuing reduction for the current year.

In 2018, 1,282,441 offenses were recorded in North Rhine-Westphalia. Compared to 2017, the number decreased by 90,923 cases (-6.6%). Continuing the recent positive trend, it was the year with the fewest crimes since 1991. It is heartening that this downward trend particularly concerns offenses that have a significant impact on the population's sense of

safety. In 2018, for example, there were reductions in domestic burglaries (-9,153) as well as in violent crime (-1,354) and street crime (-29,456).

The rate of solved crimes is also developing positively, constituting 53.7% in 2018, the highest rate in more than 50 years (since 1960).

The total number of offenses had fallen to 7,160 per 100,000 inhabitants by 2018.

### Objective: Mobilizing civic engagement for a sustainable and open society

Civic engagement, an expression of a living democracy, makes a separate and essential contribution to overcoming socio-political challenges, which is especially crucial during change processes. Therefore, it is also important for achieving many SDGs (e.g. poverty reduction and environmental protection).

80% of public involvement takes place at local level. The data of the German Volunteer Survey (*Deutscher Freiwilligensurvey*) show that approximately six million people, or 41% of the population aged 14 and over in North Rhine-Westphalia, did voluntary work in 2014 (the most recent year evaluated).

The state government aims to improve the framework conditions for civic engagement. In spring 2018, it resolved to develop an engagement strategy for the state of North Rhine-Westphalia. New volunteers, including from groups under-represented so far, are to be engaged and mobilized to jointly shape a society characterized by solidarity and diversity, in which everyone can participate. The aim is to provide an enabling framework for those volunteering locally, for the municipalities, businesses, universities, and the many independent sponsors in North Rhine-Westphalia to establish and expand local civic involvement, and to remove obstacles. The engagement strategy is being developed in a participatory process together with a large number of stakeholders. The process should lead to concrete recommendations for action in 2020.

To honor the diverse voluntary engagement, the state government and the North Rhine-Westphalia Foundation for Cultural and Historical Heritage Management and Nature Protection (*Nordrhein-Westfalen-Stiftung Naturschutz, Heimat- und Kulturpflege*) have been awarding the NRW Engagement Prize since 2015. The prize is also intended to raise awareness of the great importance of civic engagement.

This and many other measures should lead to an increase in the level of volunteering. The next volunteer survey based on the figures from 2019 will reveal the trends.

Today, North Rhine-Westphalia offers the best conditions among the federal states for voluntary engagement in development work, both nationally and abroad. Around 3,000 groups and non-governmental organizations are involved in development cooperation and development education work in our federal state.



## **SDG 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development**

*NRW short form: Partnerships for achieving the goals*

### **Objective: Contributing to global sustainable development**

North Rhine-Westphalia maintains numerous partnerships with countries and regions around the world, basing them i.a. on the shared goals of sustainable development. In addition, the state government has for many years supported engagement in, with, and for the countries of the Global South through various support programs at home and abroad, since many small projects can make a major contribution to more justice and less poverty in the world. For this reason, North Rhine-Westphalia has set itself the goal of providing long-term support for this successful work and continuing the corresponding state programs at an appropriate level.

Broad civil society and civic involvement is crucial for successfully implementing the sustainability goals. In North Rhine-Westphalia, this engagement is supported by a unique landscape of committed citizens and a large number of different actors, associations, and organizations such as the One World Network NRW (*Eine Welt Netz NRW*). Numerous civil society partners are doing work in the countries of the Global South. The Environment and Development Foundation of North Rhine-Westphalia (*Stiftung Umwelt und Entwicklung Nordrhein-Westfalen*, SUE) established by the federal state is also committed to strengthening civic commitment to sustainable development. It provides important environmental and development policy impulses, contributing significantly to implementing the United Nations' 2030 Agenda. In addition, committed municipalities play a pioneering role by maintaining numerous municipal partnerships and relations with countries of the South.

### **Objective: Transferring knowledge across borders**

North Rhine-Westphalia relies on strategic partnerships that provide scope for exchange in both directions. For example, administrative exchange with our partner country Ghana offers employees from the administrative and judicial sectors of both countries the opportunity to learn from each other and to jointly develop new ideas for further cooperation.

North Rhine-Westphalia also supports the German federal government in its efforts to increase the number of students and researchers from developing and especially from the least developed countries. By 2020, an increase of 10% compared to 2015 is to be achieved. This can help developing countries in the medium term to find the experts they need at home in order to tackle the urgent problems of the future and achieve sustainable development.

### **Objective: Improving trade opportunities for poor developing countries**

In its international efforts, the state government also emphasizes cooperation with the countries of the Global South beyond classic development projects, e.g. through trade relations. The aim is to achieve fair and rule-based world trade under the umbrella of the World Trade Organization. North Rhine-Westphalia expressly welcomes entrepreneurial commitment, supporting projects and platforms that promote economic exchange. At the same time, the state government is committed to reducing trade barriers worldwide and strengthening free trade so that products from the countries of the Global South have a fair chance on international markets (see SDG 8). The value of imports from so-called least developed countries as a proportion of total imports to North Rhine-Westphalia is to be increased by 100%.

## Overview of the system of goals and indicators of the sustainability strategy

In accordance with the mandate of the conference of secretaries of states of 2018, the catalog of objectives and indicators was revised. The NRW government based that review on the SDGs and the goals and indicators of the German Sustainability Strategy, as updated in 2018, in order to achieve the greatest possible impact through coordinated action and, overall, to attain a substantial German contribution to implementing the SDGs.

In general, the 17 SDGs were taken up in as far as they address the responsibilities and tasks of North Rhine-Westphalia and as far as data are available. Only SDG 14 (oceans, seas, and marine resources) is not covered, as the federal state has no powers or direct involvement in this area.

The indicators selected to measure quantitative targets often do not cover an entire topic or objective but only touch on individual aspects of one or several topics. Therefore, indicators can only point to certain trends; an overall assessment of the development concerning a topic or objective must go beyond the indicators presented here.





During the future development of the system of objectives and indicators, the following topics are to be given particular attention:

- Planetary boundaries (see planned essay by the Potsdam Institute for Climate Impact Research (*Potsdam-Institut für Klimafolgenforschung*) for the NRW Environmental Report 2020)
- Other welfare indicators (e.g. Regional Welfare Index (*Regionaler Wohlfahrtsindex*), Better Life Index of the Organization for Economic Cooperation and Development, OECD)
- Other indicators of economic development
- Climate adaptation
- Mobility (possibly including an indicator based on the federal indicator of population-weighted average travel time by public transport to the middle order center/high order center)
- Sustainable administration




The NRW government will also continue to participate in the discussion of objectives and indicators at the federal level (e.g. on the ongoing audit mandates on education for sustainable development/BNE and land use/soil protection). Moreover, it will work to ensure that new targets and indicators on energy prices and energy supply security are introduced at the federal level.

On the website [www.nachhaltigkeitsindikatoren.nrw.de](http://www.nachhaltigkeitsindikatoren.nrw.de), the NRW State Office for Information and Technology (*Landesbetrieb Information und Technik NRW*, IT.NRW) provides regularly updated data on the NRW sustainability indicators. There will also be a summary indicator report by IT.NRW.





## Objectives and indicators





Nr.	NRW sustainability objective (strategic goal)	Indicator	NRW contribution (concrete goal, incl. data base)	Ministry in charge
 <b>SDG 1. End poverty in all its forms everywhere</b>				
1.1.a	Reducing poverty	Material deprivation	Reduce the share of materially deprived people and keep it significantly below the EU-28 level by 2030	MAGS
1.1.b		Severe material deprivation	Reduce the share of severely materially deprived people by 2030 and keep it significantly below the EU-28 level	MAGS
 <b>SDG 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture</b>				
2.1.a	Producing sustainably in our cultural landscapes	Nitrogen surplus in agriculture	Reduce the average nitrogen balance surplus to 60 kg N/ha by 2030	MULNV
2.1.b		Organic farming	Increase of the share of organic farming area to 20% of agricultural land by 2030	MULNV
 <b>SDG 3. Ensure healthy lives and promote well-being for all at all ages</b>				
3.1.a	Promoting health and strengthening prevention	Premature mortality (women)	Reduce to 100 per 100,000 residents by 2030	MAGS
3.1.b		Premature mortality (men)	Reduce to 190 per 100,000 residents by 2030	MAGS
3.1.c		Percentage of smokers	Reduce the percentage of occasional or regular smokers	MAGS
3.1.d		Prevalence of obesity and excess weight	Reduce the percentage of obese or overweight adults and/or students	MAGS
3.1.e		Rate of early retirements due to mental illness	Reduce the rate of early retirements due to mental illness	MAGS
3.2	Improving air quality	Particulate Matter (PM10) and nitrogen oxide (NO2) concentration	Reliably comply with the limit values of the EU regulations, including on roads in urban agglomerations	MULNV
3.3	Reducing noise pollution	Noise pollution	Significantly reduce noise pollution in residential areas by 2030. Research findings on the effects of noise are to be taken into account.	MULNV (VM, MHKGB)
 <b>SDG 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</b>				
4.1.a	Continuously improving education and qualification	Early school leavers (18- to 24-year-olds without a school leaving certificate)	Continually reduce the percentage of 18- to 24-year-olds who are not attending any school, university, or vocational training, and do not have a secondary school diploma (higher education entrance qualification or completed professional education), by 2030	MSB
4.1.b		30- to 34-year-olds with a tertiary or post-secondary non-tertiary level of education	Increase share to 42% by 2020	MKW
4.2.a	Expanding education for sustainable development	Number of out-of-school and further education institutions certified according to "NRW ESD certificate" requirements	Increase the number of certified out-of-school institutions offering education for sustainable development by 2030	MULNV
4.2.b		Share of designated schools which consider SDGs in curriculum planning and school development ("SDG-schools"). The following are included: - Future Schools (levels 1 + 2 + 3) - Fair trade schools - Eifel National Park schools (levels 1 + 2) - Consumer schools (gold level) - UNESCO associated schools (levels: interested, contributing, and designated schools) - Nature Park Schools Schools will not be double-counted	Increase the share of schools considering SDGs in curriculum planning and school development ("SDG schools")	MSB/ MULNV





Nr.	NRW sustainability objective (strategic goal)	Indicator	NRW contribution (concrete goal, incl. data base)	Ministry in charge
4.2.c		Number of schools certified with a MINT (=STEM) certificate in the field of scientific, technical, engineering, and mathematical education for their teaching and school development. The following certificates are taken into account: - MINT EC school (schools with upper secondary level II - Gymnasium and Gesamtschule) - MINT SCHULE NRW (secondary level I schools, all school types except Gymnasium) - MINT-friendly school (all school types)	Increase the proportion of schools that are committed to innovation, technological development, technical and scientific education, and orientation towards the future as part of their teaching and school development. The certified STEM schools in North Rhine-Westphalia make a special contribution to this in both curricular and extracurricular areas	MSB
4.3.a	Continuously improving the compatibility of family and work as well as education and qualification	Full-time day care for children from age 1 until school entry	Offer full-time day care for an appropriate number of children from age 1 until school entry in relation to all children of the age range	MKFFI
4.3.b		All-day supervision for primary school children (6- to 10-year-old children)	Increase share of primary school children in all-day supervision to 80% of all primary school children by 2025	MSB/ MKFFI
4.4	Increasing equality in the distribution of parenting and gainful employment activities	Share of fathers receiving parental allowance	Increase the share of fathers making use of parental leave by 2030	MKFFI
	<b>SDG 5. Achieve gender equality and empower all women and girls</b>			
5.1.a	Promoting equality in society and on the labor market	Gender pay gap	Reduce the pay gap between women and men	MHKBG/ MAGS
5.1.b		Women in management positions in companies and top-level state authorities	Increase the share of women in management positions in companies and top-level state authorities; <i>currently, data is available until 2016; IT.NRW, MAGS + MHKGB discuss further availability</i>	MHKBG/ MWIDE/ MAGS
	<b>SDG 6. Ensure availability and sustainable management of water and sanitation for all</b>			
6.1.a	Maintaining and securing sustainable and ecological water management	Phosphorus in flowing waters	Meet or fall below the benchmark values for specific types of water bodies at all monitoring points by 2030	MULNV
6.1.b		Nitrate in groundwater—proportion of monitoring points at which the threshold of 50 mg/l is exceeded	Comply with the threshold value of 50 mg/l of nitrate in groundwater	MULNV
	<b>SDG 7. Ensure access to affordable, reliable, sustainable and modern energy for all</b>			
7.1.a	Using energy resources economically and efficiently	Final energy productivity (GDP/final energy consumption ratio)	Increase final energy productivity by 1.5% to 1.8% per year	MWIDE
7.1.b		Primary energy consumption	<i>A specific and quantified target goal with a deadline (if possible, by 2030) will be derived from the scenario calculations as part of the climate audit in 2020, and included in the sustainability strategy</i>	MWIDE (MHKGB)
7.2.a	Expanding sustainable energy supply	Share of renewable energies in gross final energy consumption	Significantly increase the share of renewable energies in gross final energy consumption in NRW, thus making a significant contribution to the federal goal of 65% by 2030. Pursue an appropriately ambitious expansion trajectory as part of the federal goals of over 80% by 2050	MWIDE (MHKGB)
7.2.b		Installed capacity of onshore wind power and photovoltaics (as well as other renewable energies)	Pursue a strong growth of installed capacity of onshore wind power and photovoltaics by 2030. The state government considers a growth of over 100% compared to the 2018 baseline (onshore wind from 5.4 GW to 10.5 GW, photovoltaics from 4.8 GW to 11.5 GW) to be possible. There have been growth fluctuations over the last few years, so that a linear development cannot be assumed	MWIDE (MHKGB)
7.3	Supplying energy by means of high-efficiency CHP	CHP net electricity generation in NRW (in absolute terms as well as in relation to the federal level)	Tap the CHP and heat potential as extensively as possible, and increase the CHP net electricity generation in NRW to 30 TWh per year by 2030.	MWIDE



Nr.	NRW sustainability objective (strategic goal)	Indicator	NRW contribution (concrete goal, incl. data base)	Ministry in charge
 <b>SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</b>				
8.1	Using resources economically and efficiently	Raw material productivity (GDP/raw material input ratio)	Reproduce the federal trend of 2000–2010 in NRW until 2030	MWIDE/ MULNV
8.2.a	Consolidating state finances—creating intergenerational justice	Net lending/net borrowing of the federal government	Continue the budget turnaround initiated in 2018	FM
8.2.b		Government debt ratio	Continuously reduce the government debt ratio as part of a policy of financial security, debt repayment, and sustainable investment.	FM
8.3	Economic provisions for the future	Gross fixed capital formation in relation to GDP	Appropriate development of the ratio	MWIDE
8.4.a	Increasing economic performance in an environmentally and socially responsible manner	Gross domestic product per capita	Ensure a steady and appropriate economic growth	MWIDE
8.4.b		Employees in the environmental sector	Substantially increase the number of employees in the environmental sector to 460,000 by 2030	MULNV
8.5.a	Increasing employment levels, especially for women	Employment rate, total (15-year-olds to statutory retirement age)	Increase the employment rate in the age range from 15 year to statutory retirement age, especially for women	MAGS/ MHKGB
8.5.b		Employment rate, older people (55-year-olds to retirement age)	Increase the employment rate in older population (from 55-year-olds to statutory retirement age), especially for older women	MAGS/ MHKGB
8.5.c		Employment rate, people with a migration background	Bring the employment rate of people with a migration background closer to the average employment rate of the general population	MAGS/ MKFFI/ MHKGB
 <b>SDG 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</b>				
9.1	Shaping the future with new solutions	Private and public expenditure on research and development	At least 3.5% of GDP per year by 2030	MWIDE/ MKW
 <b>SDG 10. Reduce inequality within and among countries</b>				
10.1.a	Improving the educational success of people with a migration background	Share of students with a migration background in the final grades of secondary level I schools who proceed to enter upper secondary school at a Gymnasium	Bring the share closer to that of students without a migration background in the final grades of secondary level I schools who proceed to enter upper secondary school at a Gymnasium	MSB/ MKFFI
10.1.b	Hintergrund	<i>Background indicator: Highest school certificate of people with a migration background</i>	<i>Bring the ratios closer to respective ratios for people without a migration background</i>	<i>MSB/ MKFFI</i>
10.1.c		Highest professional qualification of people with a migration background	Bring the ratios closer to respective ratios for people without a migration background	MAGS/ MKFFI
10.2	Reducing inequality within Germany	Gini coefficient of income distribution	Have a Gini coefficient of equivalized disposable income significantly below the average EU level until 2030	MAGS
10.3	Reducing (gender-specific) poverty risks in old age	At-risk-of-poverty rate (differentiated by gender)	Reduce the (gender-specific) poverty risks in old age	MAGS/ MHKGB
10.4	Building a culture of participation and welcome	At-risk-of-poverty rate for people with a migration background	Reduce the at-risk-of-poverty rate for people with a migration background	MAGS/ MKFFI
10.5	Overcoming discrimination against LGBTI*	Crime statistics of offenses in the "sexual orientation" subtopic (Criminal Investigation Reporting Service's Politically Motivated Crime list, "hate crime" heading)	Ensure social and legal equality of same-sex lifestyles and gender diversity (LGBTI*)	MKFFI/ IM
 <b>SDG 11. Make cities and human settlements inclusive, safe, resilient and sustainable</b>				
11.1	Reducing land use	Expansion of settlement and transport area	Contribute appropriately to the federal goal for reducing new land consumption to less than 30 ha per day by 2030	MWIDE/ MULNV/ MHKGB/ VM
11.2	Securing mobility—protecting the environment	Financial resources provided by NRW for public transportation	Increase the financial resources provided by NRW for public transportation purposes	VM/MHKGB
11.3	Strengthening the commitment to sustainability at municipal level	Municipalities with agenda resolutions and/or resolutions on a sustainability strategy	Increase commitment to sustainability at a municipal level	MULNV/MHKGB

Nr.	NRW sustainability objective (strategic goal)	Indicator	NRW contribution (concrete goal, incl. data base)	Ministry in charge
 <b>SDG 12. Ensure sustainable consumption and production patterns</b>				
12.1.a	Promoting sustainable consumption and sustainable lifestyles	Share of expenditure for organic food (with EU organic label)	Substantially increase the share of expenditure for organic food (with EU organic label) in relation to the total expenditure for food	MULNV
12.1.b		Final energy consumption of private households (without mobility)	Reduce the final energy consumption of private households (without mobility) by 2030	MWIDE/ MULNV/ MHKGB
12.2	Continuously increasing the proportion of sustainable production	EMAS and ISO 14001 environmental management systems	Increase the number of locations (EMAS and ISO 14001)	MULNV
12.3	Expanding sustainable public procurement	Goal and indicator will be determined in 2021 based on the updated procurement statistics ordinance		MWIDE
 <b>SDG 13. Take urgent action to combat climate change and its impacts</b>				
13.1	Reducing greenhouse gases	Greenhouse gas emissions	Reduce greenhouse gas emissions by at least 25% by 2020, and by at least 80% by 2050 (in each case compared to 1990). Post-2020, an ambitious reduction path will be pursued aiming at being largely climate neutral by the second half of the century, in line with the German and European objectives and taking into account the particular circumstances in NRW. (A modification of the climate protection targets in the 2013 NRW Climate Protection Act is planned; these will be incorporated into the sustainability strategy after adoption by the state parliament)	MWIDE
13.2	Strengthening local climate protection and climate adaptation	Municipal climate protection concepts	Have climate protection and adaptation concepts in all municipalities	MWIDE/ MULNV
13.3	Making existing buildings climate-neutral in the long term	Direct greenhouse gas emissions in the building sector	Pursue a 66-67% reduction of greenhouse gas emissions by buildings in NRW by 2030 (compared to 1990) as part of the long-term goal of a largely climate neutral building stock	MHKGB/MWIDE
 <b>SDG 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development</b>				
 <b>SDG 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss</b>				
15.1.a	Preserving species—protecting habitats	Biodiversity and landscape quality	Increase biodiversity in all landscape zones by 2030 (achieve best condition since 1997)	MULNV
15.1.b		Endangered species ("Red List")	Reduce the percentage of Red List species to 40% by 2030, with the majority of habitats and species having a favorable status of conservation	MULNV
15.1.c		Area of the state-wide biotope network	Have 15% of the federal state area be part of biotope networks by 2030	MULNV
15.2.a	Maintaining and securing sustainable forest management	Percentage of mixed forests in NRW	Increase the percentage of mixed forests in NRW to 80% by 2030, improving the stability and adaptability of the forests	MULNV
15.2.b		Percentage of certified woodland (FSC and PEFC)	Increase the percentage of certified woodland in relation to the overall forests by 2030	MULNV
15.3	Protecting ecosystems, preserving ecosystem services, and preserving habitats	Eutrophication of ecosystems	Reduce eutrophication by 35% by 2030 (compared to 2005)	MULNV

Nr.	NRW sustainability objective (strategic goal)	Indicator	NRW contribution (concrete goal, incl. data base)	Ministry in charge
	<b>SDG 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels</b>			
16.1	Increasing personal safety	Criminal offenses	Reduce the number of recorded criminal offenses per 100,000 inhabitants to less than 7000 by 2030	IM
16.2	Mobilizing civic engagement for a sustainable and open society	Percentage of volunteering citizens according to the volunteer survey	Increase the level of volunteer work based on the volunteer survey by age groups and gender and, where applicable, by areas of volunteer work	Stk
	<b>SDG 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development</b>			
17.1	Contributing to global sustainable development	State programs in the area of "one world" policies	Keep the state programs on an appropriate level	MBE!
17.2.a	Transferring knowledge across borders	Number of students and researchers from developing countries and LDCs per year	Increase the share by 10% from 2015 to 2020, then stabilize (with federal support)	MKW/ MBE!
17.2.b		Percentage of foreign students	Strengthen the international knowledge transfer and educational exchange by increasing the percentage of foreign students at universities in NRW (with federal support)	MKW
17.3	Improving trade opportunities for poor developing countries	Share of imports from LDCs in total imports to Germany	Increase the value by 100% by 2030 (compared to 2014)	MBE/ MWIDE



## C. Implementation of the NRW sustainability strategy

### I. Structures for a sustainable NRW

#### 1. State government

The state government decides on all fundamental questions of implementation and further development of the NRW sustainability strategy. The Minister for Environment, Agriculture, Conservation, and Consumer Protection is the coordinating lead minister.

The respective ministers and their departments are responsible for implementing and financing the provisions of the sustainability strategy within the available resources of the individual plans.

In 2020, the state government will set up a sustainability advisory board which will, upon request, advise the government on the implementation, evaluation, and further development of the sustainability strategy.

#### 2. Municipal and regional level

The municipalities and their citizens are the backbone of sustainable development in the state of North Rhine-Westphalia. There are numerous points of contact between the federal state and municipalities for the joint realization of sustainability initiatives and projects at the regional level, e.g. in the administrative districts, the Ruhr region (RVR), the regional associations, and the REGIONALE structural support measures. The guiding principle of sustainability must be firmly anchored at local and regional level if sustainable solutions are to be effective in politics, administration, society, and economic life. Locally, time and space are needed to test model projects and new approaches.

Since their adoption in 2015, the 2030 Agenda and the SDGs have triggered a new dynamic in North Rhine-Westphalian municipalities: Many base their sustainability strategies and processes on these frameworks. The processes are usually carried out jointly by civil society, administration, local administrations, and local business. The Ministry for Environment, Agriculture, Conservation, and Consumer Protection and the NRW Foundation for the Environment and Development have supported many local and regional strategy processes by funding network projects of the state working group Agenda 21 NRW (*Landesarbeitsgemeinschaft Agenda 21 NRW e.V.*, LAG 21). The annual municipal NRW Sustainability Conferences and the “Sustainability as a Priority” dialog (*Chefsache Nachhaltigkeit*) with 18 mayors, deputy mayors, city administrators, and district councilors were important exchange formats both within the municipalities and between them and the federal state.

To address the regional level more strongly, six regional forums on sustainability were also held in 2018/2019 in cooperation with the district governments and the RVR in the five administrative districts and the Ruhr metropolis. A total of over 650 participants discussed the challenges and opportunities of statewide and regional sustainability processes.

These joint efforts of the municipalities, the municipal umbrella organizations, regional players, and the federal states are successful: Despite oftentimes difficult budgetary situations, many cities, municipalities, and districts in North Rhine-Westphalia have by now become pioneers in the field of municipal sustainability, nationally or even internationally. Essen, for example, has won the title of European Green Capital 2017. In 2018, Münster, Eschweiler, and Saerbeck were the three winners of the German Sustainability Award for Municipalities (*Deutscher Nachhaltigkeitspreis für Kommunen*), and in 2019, Bad Berleburg won in the “Small towns” category.

With its own sustainability strategy and the support of various projects and initiatives at municipal and regional level, the NRW state government aims to further strengthen and expand the commitment to sustainability below the federal state level. To this end, the MULNV, together with the Communities in One World Service Agency (*Servicestelle Kommunen in der Einen Welt*, SKEW), is providing technical and financial support for the second project period of the Global Sustainable Municipality NRW project (*Global Nachhaltige Kommune NRW*), in which 15 NRW municipalities, consulted by LAG 21, are developing their own sustainability strategies on the basis of the SDGs and the NRW sustainability strategy. Strategic exchanges of information between federal state and municipal leaders, administrations, council members, and civil society are also to be further promoted.

### 3. Social actors

The implementation of the guiding principle of sustainability in federal state policy and, beyond that, throughout the state of North Rhine-Westphalia can only succeed if the ideas and implementation potential of actors from civil society, business, science, church communities, trade unions, and, in particular, the ideas of young people – and of their organizations – are included. Volunteering is of great importance for many sustainability issues. The media also play a crucial role in the sustainability debate.

The state government wants to involve these actors in the implementation and further development of the sustainability strategy. Participation, transparency, and accessibility are important prerequisites for a successful exchange process.

## II. Overarching implementation tools of the NRW sustainability strategy

### 1. NRW Sustainability Conferences and sustainability communication

Since 2012, the NRW state government has been hosting annual Sustainability Conferences. These were central places of participation, both for the formulation of the first NRW sustainability strategy and for its implementation and further development since 2016. Each of the conferences brought together around 400 participants from civil society, municipalities, business, and science from all over the federal state.

The conferences were also forums for exchange with the federal level, with the European level, and with the NRW municipalities, and thus an important tool for a good coordination of sustainability concepts at the various levels.

The NRW sustainability conferences are to continue to play a key role as an exchange and communication platform in the future. Interactive formats and the involvement of young people are to be further strengthened to highlight the intergenerational dimension.

The municipal NRW Sustainability Conferences, which have been held since 2014 and are organized by LAG 21 with the support of the three leading municipal associations (*kommunale Spitzenverbände*) and funding from the state government, have proven to be a valuable additional exchange format for municipal actors from administration, local politics, and civil society. They are therefore to be continued in order to provide important impulses for sustainable development at the municipal level through the exchange of good practices from NRW's municipalities.

The communication of sustainability issues as a whole has been a high priority since work began on a NRW sustainability strategy. Since 2015, the development process and the contents of the NRW sustainability strategy as well as current sustainability reports from the

state government and the network of actors have been communicated primarily via the [www.nachhaltigkeit.nrw.de](http://www.nachhaltigkeit.nrw.de) website as a central information platform on sustainable development in the federal state, and via the Twitter channel @NachhaltigesNRW.

## 2. Sustainability assessment for laws and regulations

The state government will review the sustainability assessment for laws and regulations contained in the Common Rules of Procedure for the Ministries of the State of North Rhine-Westphalia (*Gemeinsame Geschäftsordnung für die Ministerien des Landes Nordrhein-Westfalen*, GGO) in the next amendment to the GGO.<sup>8</sup>

## 3. Sustainable public procurement

According to scientific studies, the volume of public procurement by the federal state, the municipalities, and other public principals in North Rhine-Westphalia is estimated at 40-100 billion euros per year.<sup>9</sup> Overall, public procurement in Germany accounts for around 10% of economic activity (GDP). This procurement volume has a considerable influence on the demand and supply situation in numerous goods and services markets, and indirectly also on the social and ecological situation in the companies of the bidders and their oftentimes international supply chains. The consideration of sustainability aspects in public procurement can therefore provide important impulses for many related issues such as environmental and climate protection; resource and energy efficiency; safe, healthy, women- and family-friendly working conditions; fair trade relations; and the promotion of sustainable innovations.

Here, it is important to use the existing legal scope in the federal state and the municipalities, especially in the earliest decision stage of a procurement process: the question of what is to be procured in the first place. By concentrating procurement measures on bodies with special qualifications and good knowledge of the market, as well as by using functional performance specifications and allowing auxiliary bids, innovative solutions can often be attained, potentially leading to particularly large sustainability successes and simultaneous cost savings.

In order to realize savings for the federal state budget and to optimize the state government's purchasing, the NRW government has therefore been pursuing a so-called lead buyer concept for many years. For certain product groups, the procurement needs of the entire state administration are assessed and put out to tender centrally. Requirements regarding aspects of innovation and sustainability are examined by the lead buyers in the context of the specific award procedures. This takes into account, for example, the energy consumption of products and the origin of the raw materials used. The current product groups of the lead buyer concept include motor vehicles, parcel delivery, travel agency services, paper and cardboard, office supplies, and information and communication technology, as well as tissue paper, electrical goods, and cleaning agents. Currently, the optimization possibilities of the lead buyer model are being examined, with criteria of innovation and sustainability taken into account.

The EU Commission is urging the member states to use the strategic potential of public

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<sup>8</sup> [www.nachhaltigkeit.nrw.de/themen/nachhaltigkeitspruefung/](http://www.nachhaltigkeit.nrw.de/themen/nachhaltigkeitspruefung/).

<sup>9</sup> Figures broken down to NRW on the basis of Kienbaum, *Statistik der öffentlichen Beschaffung – Grundlagen und Methodik 1*. Interim report, 2014. According to the Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU), public procurement accounts for approx. 13% of GDP, see [www.bmu.de/themen/wirtschaft-produkte-ressourcen-tourismus/produkte-und-konsum/umweltfreundliche-beschaffung/](http://www.bmu.de/themen/wirtschaft-produkte-ressourcen-tourismus/produkte-und-konsum/umweltfreundliche-beschaffung/).



procurement.<sup>10</sup> Sustainable procurement is also a topic for cooperation between the federal state and the state governments in the field of sustainability. The topic was last discussed with the head of the Federal Chancellery at the Conference of Heads of Federal State Chancelleries in May 2019. The energy optimization of buildings, green IT, and climate-friendly mobility were emphasized as particularly important.

The Competence Center for Sustainable Procurement at the Procurement Office of the Federal Ministry of the Interior (*Kompetenzstelle für nachhaltige Beschaffung beim Beschaffungssamt des Bundesministeriums des Inneren*) in Bonn also supports state and local administrations in the federal states in sustainable procurement, e.g. through joint conferences and training courses.

Many NRW municipalities have taken political decisions on sustainable procurement and reorganized their administrative structures. Some of the important product groups here are workwear, IT, vehicles, and canteens. In many cases, it is possible both to strengthen social, ecological, and innovative criteria, and to save money compared to the status quo.<sup>11</sup>

Civil society and church communities in North Rhine-Westphalia are also very much involved in sustainable and fair procurement (e.g. in the product groups textiles, food, and IT). The NRW Environment and Development Foundation has a funding priority in the area of procurement. The civil society alliance for ecological and social procurement is in regular contact with the primary decision-maker, the Ministry of Economics, to develop further potential for sustainable public procurement.

#### 4. Sustainable state administration

If the state government wants to persuade businesses, municipalities, civil society, and other actors—and ultimately the citizens of the federal state—to act more sustainably, it must set a good example in its own actions. The state government is therefore striving to align not only its policies but also the actions of the state administration with sustainability criteria. There are already some model projects or good examples of this:

As part of the “Sustainable Administration of the Future” model project (*Nachhaltige Verwaltung der Zukunft*) run by the NRW State Office of Nature, Environment and Consumer Protection (*Landesamt für Natur, Umwelt und Verbraucherschutz Nordrhein-Westfalen, LANUV NRW*) and funded by the German Federal Environment Foundation (*Deutsche Bundesstiftung Umwelt, DBU*), an overall concept for a sustainability management by the authorities was developed from April 2017 to July 2019. Five fields of action were examined in detail: building and property management; mobility; canteen operations; procurement; and human resources development and management. The overall concept thus created is now being implemented in LANUV. Furthermore, an EMAS certification of all main LANUV locations is being prepared. In parallel, LANUV continuously passes on its experience to other public institutions in the federal state, consulting them on the implementation of individual measures to improve environmental and sustainability performance in the state administration.

The State Building and Real Estate Management Authority (*Bau- und Liegenschaftsbetrieb des Landes, BLB NRW*) has prepared a first sustainability report in 2017 and plans to publish such a report every three years in the future. At the same time, a management system is

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<sup>10</sup> See i. a. Commission Communication “Making Public Procurement work in and for Europe” dated 10/03/2017, COM/2017/0572 final.

<sup>11</sup> See e.g. the experiences of the city of Dortmund: [http://www.nachhaltige-beschaffung.info/SharedDocs/Kurzmeldungen/DE/2016/161110\\_newtrade\\_vorreiter\\_DO\\_Duesseldorf.html](http://www.nachhaltige-beschaffung.info/SharedDocs/Kurzmeldungen/DE/2016/161110_newtrade_vorreiter_DO_Duesseldorf.html).

being set up at BLB, which will also provide sustainability criteria for general corporate management. In addition, in several pilot projects, the BLB is testing the application of the Sustainable Building Assessment System (*Bewertungssystem Nachhaltiges Bauen*, BNB) developed by the German Federal Government. The aim is to determine whether BNB or DGNB standards will be set in North Rhine-Westphalia in the future, as is the case at the federal level for new buildings, taking into account the experience gained from the pilot projects.

The canteens at NRW administrative offices are encouraged to consider selected sustainability criteria in the future, as is the way at the federal level. They already take into account nutritional requirements for food and also comply with the revised quality standard of the German Nutrition Society (*Deutsche Gesellschaft für Ernährung e.V.*) for corporate catering on the basis of the NRW canteen guideline amended in 2015. Since the end of 2019, LANUV has been conducting a qualification and training project for canteen employees at federal state institutions to support sustainable and healthy nutrition.

The work processes in the state authorities must also be organized in an environmentally friendly manner (e.g. by reducing water consumption and waste). When organizing events, including major ones such as the NRW Day, the state administration will in future take greater account of climate protection and sustainability aspects. The NRW Sustainability Conferences have been hosted in a sustainable and climate-neutral manner since 2012. Here, the MULNV is guided by the Federal Environment Agency (*Umweltbundesamt*) guidelines for the sustainable organization of events, which have been applied at federal level for years.

Complementing the approach of sustainable administration, the state government has set itself the goal of making the actions of the state administration climate-neutral by 2030. The NRW Office of Climate-Neutral State Administration (*Geschäftsstelle Klimaneutrale Landesverwaltung NRW*) at the Ministry of Economic Affairs, Innovation, Digitalization, and Energy is currently working on a concept to implement this goal. The building and mobility sectors are addressed in particular. In 2016, BLB NRW has already switched the supply of the state-owned properties to green electricity, saving around 200,000 tonnes of CO<sub>2</sub> every year. In March 2019, the state cabinet adopted a concept for the implementation of photovoltaics on federal state properties.

As part of the lead buyer concept, parts of the federal state's vehicle fleet with combustion engines are being replaced by plug-in hybrids or vehicles with electric motors since 2016. For a more extensive replacement, an appropriate charging infrastructure must first be created. A concept for setting up a charging infrastructure for electric vehicles at the NRW administrative offices is in preparation. Until 2017, the CO<sub>2</sub> emissions from business trips by the state government were offset through emission certificates from a Joint Implementation model project in North Rhine-Westphalia. This project has been completed by now. The central compensation of business trips is to be continued; the details of implementation are still being discussed at the time of writing. Further measures to achieve a climate-neutral state administration have been and are being implemented.

In all measures for sustainable administration, the state government is also guided by the federal government's "Program of Measures for Sustainability—Implementing Sustainability in Administrative Action" (*Maßnahmenprogramm Nachhaltigkeit – Nachhaltigkeit konkret im Verwaltungshandeln umsetzen*), which was last updated in 2015 by the Federal Government's State Secretary Committee for Sustainable Development

(*Staatssekretärsausschuss für nachhaltige Entwicklung der Bundesregierung*).<sup>12</sup> In December 2018, at its meeting with representatives of the federal states, this State Secretary Committee identified sustainable and climate-neutral administration as a topic for best practice exchange between the federal government and the federal states.

The federal state's municipalities are also encouraged to base their administrative actions on sustainability and climate protection aspects, following the measures taken at NRW level where appropriate and possible.

## 5. Bonn as a UN sustainability hub

The Federal City of Bonn is the most important UN location for sustainability issues. Various UN institutions based in Bonn as well as other international and national organizations located there work on central sustainability challenges such as climate change, loss of biodiversity, communication of SDGs, or the transformation of the world's cities and megacities.

Of particular importance among the international actors are the UN Climate Change Secretariat (UNFCCC), the Secretariat of the Convention to Combat Desertification (UNCCD), the UN System Staff College (UNSSC), the World Biodiversity Council (IPBES), the UN University Institutes, and the SDG Action Campaign, as well as the municipal organization ICLEI (International Council for Local Environmental Initiatives). Together with the city of Bonn, the state government is making efforts to attract further UN organizations to the federal city – with success. In autumn 2019, UN Habitat announced that the secretariat of the Global Water Operators' Partnerships Alliance (GWOPA) would move to Bonn.

Bonn is also home to numerous relevant national organizations, the most important ones being the Federal Ministry for Economic Cooperation and Development (*Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung*, BMZ), the Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU), and the Federal Foreign Office (*Auswärtiges Amt*), as well as the German Agency for International Cooperation (*Deutsche Gesellschaft für internationale Zusammenarbeit*, GIZ) and Engagement Global with its Communities in One World Service Agency. In 2017, RENN.west – the Regional Network Center for Sustainability Strategies for the Western Federal States (*Regionale Netzstelle Nachhaltigkeitsstrategien für die westlichen Bundesländer*) – was also successfully established in Bonn. It is supported by LAG 21 and Germanwatch, among others, and financed by the Federal Chancellery.<sup>13</sup>

By hosting the 2017 UN Climate Conference, Bonn has proven that, with the support of the federal and state government, it can organize even very large international conferences successfully and climate-neutrally, especially in the new World Conference Center.

The state government would like to continue supporting Bonn as a UN location and further develop the city as a whole as an international sustainability location.

To name one example: the Innovation Campus Bonn (*Innovation-Campus Bonn*, ICB) was founded in 2019 by the research association "Bonn Alliance for Sustainability Research" (*Bonner Allianz für Nachhaltigkeitsforschung*) with the support of the Ministry of Culture and Science (*Ministerium für Kultur und Wissenschaft*). The association and the research center aim to further strengthen and expand sustainable development and global transformation research in Bonn. There is also great interest in bringing further UN organizations to the city.

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<sup>12</sup> <https://www.bundesregierung.de/breg-de/themen/nachhaltigkeitspolitik/berichte-und-reden/massnahmenprogramm-nachhaltigkeit-der-bundesregierung-427896>

<sup>13</sup> <https://www.renn-netzwerk.de/west/>.

In future, a North Rhine-Westphalian Academy for International Politics (*Nordrhein-Westfälische Akademie für Internationale Politik*) is also to be established in Bonn. It will bring highly qualified and creative scientists from all over the world to Bonn for research stays that will enrich the exchange between science, politics, and the media, including on sustainability issues.

North Rhine-Westphalia also supports numerous national sustainability actors in Bonn; for example, the federal state is (in addition to the federal government) co-partner of the German Development Institute (*Deutsches Institut für Entwicklungspolitik*, DIE) and the main shareholder (with Brandenburg) of the Bonn International Center for Conversion (*Internationales Konversionszentrum Bonn*, BICC). It also financially supports the NRW Environment and Development Foundation as well as the Development and Peace Foundation (*Stiftung Entwicklung und Frieden, sef*).

Many of Bonn's sustainability actors are also involved in discussion groups, projects, real-world laboratories, and initiatives that are already effective in Bonn and its surrounding area but whose potential for the whole of North Rhine-Westphalia has not yet been exhausted.

The great technical knowledge, the many good ideas and experiences, the important international networks, and the commitment of these sustainability actors in Bonn are to be used more intensively in future for the sustainability policy in North Rhine-Westphalia. For this reason, for example, the 7th NRW Sustainability Conference of the state government was held in Bonn in 2019. One of five dialog conferences on updating the German Sustainability Strategy also took place in the Federal City of Bonn in February 2020.



## **D. Reporting and Updates**

The NRW sustainability strategy is intended to provide a long-term and stable orientation framework for the development of the federal state itself as well as of state policy. At the same time, however, it should also take into account new findings, framework conditions, and challenges.

It is therefore necessary to evaluate the implementation of the strategy and sufficiency of the progress towards the defined medium-term and long-term objectives through regular reporting. This evaluation, the analysis of new findings, the consideration of changed conditions, and the examination of new challenges should serve as a basis for further strategy development.

In this process, the objective of a stable long-term orientation framework should be kept in mind. This means i.a. that objectives and indicators will only be adjusted or replaced if they provide a clear added value compared to those previously used.

In order to ensure broad acceptance of the strategy's long-term orientation in the state of North Rhine-Westphalia, sustainability reporting must be based on a broad, objective set of data. Further development of the strategy must take place in a process open to the participation of all political and social forces in the federal state.

### **I. Sustainability reporting by IT.NRW**

On the website [www.nachhaltigkeitsindikatoren.nrw.de](http://www.nachhaltigkeitsindikatoren.nrw.de), the NRW State Office for Information and Technology (IT.NRW) provides regularly updated data on the NRW sustainability indicators. IT.NRW will base its reports on the indicator reporting of the Federal Statistical Office (*Statistisches Bundesamt*) in the context of the German Sustainability Strategy.

### **II. Progress reports of the state government on the sustainability strategy**

Once every legislative period, the state government presents an online progress report on the NRW sustainability strategy to the public. The report will describe the development of the NRW sustainability indicators. Data compiled by IT.NRW will be an important basis for this. Moreover, the progress report will cover the use of cross-thematic implementation instruments. The report can also serve to further develop the strategy, e.g. to identify new challenges, to examine (and, if necessary, modify) the institutional framework or the implementation tools, possibly to update the objectives set or to define new objectives, and to define measures for achieving them.

Civil society, municipalities, business, and science are involved in preparing the progress report on the NRW sustainability strategy, so as to ensure a broad basis for its evaluation and to gain additional ideas for its further development.

The sustainability advisory board can be asked by the state government to make recommendations for the continuation of the strategy prior to the update.

## Annex

### **Joint “Principles of Sustainable Development” of the Federal Government and the Federal State Governments<sup>14</sup>**

#### **1. Consistently applying sustainable development as a guiding principle in all areas and in all decisions**

The overarching goal and yardstick of all our actions is to secure the natural foundations of life on earth in the long term, enabling all people to live in dignity, now and in the future.

To this end, economic performance, the protection of natural foundations of life, social justice, and equal participation in all decisions must be considered together to render developments ecologically and socially sustainable for present and future generations, also from a global perspective. Political action must be coherent and take into account systemic interactions as well as technological and social innovations.

#### **2. Assuming global responsibility**

a) In line with the United Nations’ 2030 Agenda for Sustainable Development and the Paris Climate Agreement, the following must be linked at a global level:

- the fight against poverty, hunger, social inequality, and exclusion,
- the respect, protection, and guarantee of human rights,
- the full participation of all people in economic and social development,
- the protection of the environment, in particular the climate, including compliance with the limits of ecological resilience in a regional and global context,
- rule of law and good governance.

b) Germany should take into account and promote sustainable development in other countries. Our actions in Germany should, insofar as possible, not lead to burdens for people and the environment in other countries.

#### **3. Preserving the natural foundations of life**

a) In order to preserve the natural foundations of life and to remain within planetary boundaries, material cycles must be closed as quickly as possible or brought into harmony with ecosystem processes and functions. To this end,

- renewable natural resources (such as forests or fish stocks) and soils may only be used within the scope of their regenerative capacity, and their other ecological functions may not be impaired,
- non-renewable natural resources (such as mineral resources or fossil fuels) are to be used as sparingly as possible. Renewable resources should replace the use of non-renewable resources if this reduces environmental pollution, and the use is sustainable in all aspects,
- the release of substances may only occur in compliance with the precautionary principle within the ecological limits of the resilience of natural systems (environmental responsiveness).

b) Threats and unacceptable risks to human health and nature must be avoided.

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<sup>14</sup> Source: German Sustainability Strategy, 2018 update, pp. 50-52, [www.bundesregierung.de/resource/blob/975274/1546450/65089964ed4a2ab07ca8a4919e09e0af/2018-11-07-aktualisierung-dns-2018-data.pdf?download=1](http://www.bundesregierung.de/resource/blob/975274/1546450/65089964ed4a2ab07ca8a4919e09e0af/2018-11-07-aktualisierung-dns-2018-data.pdf?download=1), referred to in the resolution of the Prime Minister Conference with the Federal Chancellor of June 2019, [www.bundesregierung.de/breg-de/themen/nachhaltigkeitspolitik/nachhaltige-entwicklung/bund-laender-zusammenarbeit-427746](http://www.bundesregierung.de/breg-de/themen/nachhaltigkeitspolitik/nachhaltige-entwicklung/bund-laender-zusammenarbeit-427746).



#### 4. Strengthening sustainable economic activity

- a) The necessary structural transformation for global sustainable consumption and production as well as the technical modernization to be made available for this purpose should be economically successful as well as ecologically and socially sustainable and intergenerationally just in the German and global context.
- b) Energy and resource consumption and transport performance must be decoupled from economic growth. At the same time, the aim should be to reduce the increase in demand for energy, resources, and transport services, and to reduce consumption through efficiency gains (absolute decoupling).
- c) A sustainable agriculture and fisheries sector must be productive, competitive, and socially and environmentally sound; in particular, it must protect and conserve biodiversity, soil, and water bodies. It must also meet the requirements of animal welfare and preventive consumer protection, in particular consumer health protection.
- d) Public budgets are bound by intergenerational justice in all dimensions of sustainability. Financial markets should take the requirements of sustainable development into account.

#### 5. Maintaining and improving social cohesion in an open society

In order to strengthen social cohesion and leave no one behind,

- poverty and social exclusion are to be overcome or prevented as far as possible, and inclusive prosperity is to be promoted,
- equivalent living conditions across regions are to be pursued,
- everybody is to be given an equal opportunity to participate in economic development,
- necessary adjustments to the demographic development are to be made at an early stage in politics, the economy, and society,
- everybody is to be enabled to participate fully and without discrimination in social, cultural, and political life,
- contributions to reducing poverty and inequality worldwide are to be made.

#### 6. Using education, science, and innovation as drivers of sustainable development

- a) The necessary qualifications and skills must be anchored in the entire education system, providing an education for sustainable development.

The opportunities for participation in high-quality education and the acquisition of skills for sustainable development must be further improved regardless of origin, gender, and age.

- b) Scientific findings must be taken into account as a basis for all decisions. Science and research are called upon to align themselves more strongly with the goals and challenges of global sustainable development.
- c) Sustainability aspects must be consistently taken into account from the outset in innovation processes, especially in the context of digitalization, so that opportunities for sustainable development can be exploited while avoiding risks to people and the environment. At the same time, the willingness and scope for innovation are to be increased.

## List of abbreviations

AAV	Association for Land Recycling and Remediation of Contaminated Sites ( <i>Verband für Flächenrecycling und Altlastensanierung</i> )
AG	stock corporation ( <i>Aktiengesellschaft</i> )
BICC	Bonn International Center for Conversion ( <i>Internationales Konversionszentrums Bonn</i> )
BIM	Building Information Modeling
BLB NRW	North Rhine-Westphalia State Building and Real Estate Management Authority ( <i>Bau- und Liegenschaftsbetrieb des Landes Nordrhein-Westfalen</i> )
BMU	Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety ( <i>Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit</i> )
BMZ	Federal Ministry for Economic Cooperation and Development ( <i>Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung</i> )
BNB	Sustainable Building Assessment System ( <i>Bewertungssystem Nachhaltiges Bauen</i> )
CAP	Common Agricultural Policy (of the European Union)
CBD	Convention on Biological Diversity
CDR	Corporate Digital Responsibility
CHP	Combined Heat and Power Generation
CO <sub>2</sub>	carbon dioxide
CSR	Corporate Social Responsibility
db(A)	decibel
DGNB	German Society for Sustainable Building ( <i>Deutsche Gesellschaft für Nachhaltiges Bauen</i> )
DIE	German Development Institute ( <i>Deutsches Institut für Entwicklungspolitik</i> )
DNS	German Sustainability Strategy ( <i>Deutsche Nachhaltigkeitsstrategie</i> )
e.g.	for example ( <i>exempli gratia</i> )
e.V.	Incorporated Association ( <i>eingetragener Verein</i> )
EAFRD	European Agricultural Fund for Rural Development
EMAS	EU Management and Audit System
ERDF	European Regional Development Fund
ESD	Education for Sustainable Development
ESF	European Social Fund
ESG	Environment, Social, Governance
etc.	and so on ( <i>et cetera</i> )
EU	European Union
EU WFD	EU Water Framework Directive
FM	Ministry of Finance of the State of North Rhine-Westphalia ( <i>Ministerium der Finanzen des Landes Nordrhein-Westfalen</i> )
GDP	Gross Domestic Product
GGO	Common Rules of Procedure for the Ministries of the State of North Rhine-Westphalia ( <i>Gemeinsame Geschäftsordnung für die Ministerien des Landes Nordrhein-Westfalen</i> )
GIZ	German Agency for International Cooperation ( <i>Deutsche Gesellschaft</i>

	<i>für internationale Zusammenarbeit)</i>
GW	gigawatt
GWOPA	Global Water Operators' Partnerships Alliance
i.a.	among others ( <i>inter alia</i> )
ICB	Innovation Campus Bonn
ICLEI	International Council for Local Environmental Initiatives (= Association of Towns, Municipalities, and Regions for Environmental Protection and Sustainable Development)
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (= World Biodiversity Council)
IT	Information Technology
IT.NRW	North Rhine-Westphalia State Office for Information and Technology ( <i>Landesbetrieb Information und Technik des Landes Nordrhein-Westfalen</i> )
it's OWL	Intelligent Technical Systems OstWestfalenLippe ( <i>Intelligente Technische Systeme OstWestfalenLippe</i> )
KFAM	Climate Impact and Adaptation Monitoring for North Rhine-Westphalia
NRW	( <i>Klimafolgen- und Anpassungsmonitoring für Nordrhein-Westfalen</i> )
KPMD-	Criminal Investigation Reporting Service—Politically Motivated Crime
PMK	( <i>kriminapolizeilicher Meldedienst – Politisch motivierte Kriminalität</i> )
KUER	Climate, Environment, Energy Efficiency, and Resource Conservation ( <i>Klima, Umwelt, Energieeffizienz und Ressourcenschonung</i> ; a startup competition)
LAG 21	State Working Group Agenda 21 NRW ( <i>Landesarbeitsgemeinschaft Agenda 21 NRW e.V.</i> )
LANUV	North Rhine-Westphalia State Office for Nature Conservation, Environment, and Consumer Protection ( <i>Landesamt für Naturschutz, Umwelt und Verbraucherschutz</i> )
LBG	Civil Service Act ( <i>Landesbeamtengesetz</i> )
LEP	State Development Plan ( <i>Landesentwicklungsplan</i> )
LFoG	NRW State Forest Act ( <i>Landesforstgesetz</i> )
LGBTI*	Lesbian, Gay, Bisexual, Transgender/Transsexual, and Intersex People
LGG	NRW Act on Equal Opportunities ( <i>Landesgleichstellungsgesetz NRW</i> )
LNatSchG	NRW State Nature Conservation Act ( <i>Landesnaturenschutzgesetz NRW</i> )
LoQ	Living Without Smoke ( <i>Leben ohne Qualm</i> )
LZG.NRW	North Rhine-Westphalia State Health Center ( <i>Landeszentrum Gesundheit Nordrhein-Westfalen</i> )
MAGS	North Rhine-Westphalia Ministry of Labor, Health, and Social Affairs ( <i>Ministerium für Arbeit, Gesundheit und Soziales des Landes Nordrhein-Westfalen</i> )
mg/l	milligram per liter
MKFFI	North Rhine-Westphalia Ministry for Children, Family, Refugees, and Integration ( <i>Ministerium für Kinder, Familie, Flüchtlinge und Integration des Landes Nordrhein-Westfalen</i> )
MKW	North Rhine-Westphalia Ministry of Culture and Science ( <i>Ministerium für Kultur und Wissenschaft des Landes Nordrhein-Westfalen</i> )
MPK	Prime Minister Conference ( <i>Ministerpräsidentenkonferenz</i> )
MULNV	North Rhine-Westphalia Ministry for Environment, Agriculture, Conservation, and Consumer Protection ( <i>Ministerium für Umwelt,</i>

*Landwirtschaft, Natur- und Verbraucherschutz des Landes Nordrhein-Westfalen)*

NRW	North Rhine-Westphalia
OECD	Organization for Economic Co-operation and Development
PAH	Polycyclic Aromatic Hydrocarbons
R&D	Research and Development
RE	Renewable Energies
RENN.west	Regional Network Center for Sustainability Strategies West (for the federal states of North Rhine-Westphalia, Hesse, Rhineland-Palatinate, and Saarland; <i>Regionale Netzstelle Nachhaltigkeitsstrategien West für die Länder Nordrhein-Westfalen, Hessen, Rheinland-Pfalz und das Saarland</i> )
RNE	Council for Sustainable Development ( <i>Rat für Nachhaltige Entwicklung</i> )
RVR	Ruhr Region ( <i>Regionalverband Ruhr</i> )
SDGs	Sustainable Development Goals
sef	Development and Peace Foundation ( <i>Stiftung Entwicklung und Frieden</i> )
SKEW	Communities in One World Service Agency (by Engagement Global; <i>Servicestelle Kommunen in der Einen Welt</i> )
SMBs	Small and Medium-sized Businesses
STEM	Science, Technology, Engineering, and Mathematics
SUE	North Rhine-Westphalia Environment and Development Foundation ( <i>Stiftung Umwelt und Entwicklung Nordrhein-Westfalen</i> )
TEP	“Part-Time Vocational Training—Accompany Entry—Open Perspectives” program ( <i>Teilzeitberufsausbildung – Einstieg begleiten – Perspektiven öffnen</i> )
TWh	terawatt hours
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
UNSSC	United Nations System Staff College
VM	North Rhine-Westphalia Ministry of Transport ( <i>Ministerium für Verkehr des Landes Nordrhein-Westfalen</i> )
UN	United Nations
WHO	World Health Organization

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