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working together towards
sustainable development in NRW.

Sustainability Strategy
for North Rhine-Westphalia



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The Sustainability Strategy for North Rhine-Westphalia
was adopted by the State Government on 14 June 2016.

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Prime Minister Hannelore Kraft



Ladies and gentlemen,

With its sustainability strategy, the State Government of NRW demonstrates its commitment to sustainability as a guiding principle for the future development and shaping of our state. In this field, we in North Rhine-Westphalia are once again able to show that we keep track with the latest developments and that we are far ahead of quite a few others, since, after all, we got our concept off the ground at the same time when the United Nations defined its Sustainable Development Goals.

Now we are heading towards the implementation of these goals. In doing so, we will crosslink all areas of NRW policy and coordinate their activities with a view to ensuring sustainable development. As part of our strategy, it is particularly important for us to emphasize broad participation from the very beginning. We want as many stakeholders as possible to contribute their ideas, needs and knowledge to shape the place they call home. This way, we, together with the people living in North Rhine-Westphalia, will make a strong contribution to the implementation of the Agenda 2030 for sustainable development.

Thus, the concept presented here is a continuation of our path towards building a sustainable North Rhine-Westphalia by anchoring sustainability in all areas of NRW politics. For our strategy to be successful, however, it is particularly important that we do not regard it as a rigid program to be followed mechanically. Instead, it is much more than that, namely the basis for an ongoing societal and political process. Over the course of its implementation, we will arrive at new insights and discover new paths which will enable us to reach our target more quickly: the preservation of our natural livelihoods for future generations.

I thank everyone for their contributions our Sustainability Strategy, and I would be pleased if they were to actively support us in the future, too.

A handwritten signature of Hannelore Kraft in blue ink. The signature is cursive and reads 'Hannelore Kraft'.

Hannelore Kraft

Prime Minister of North Rhine-Westphalia

Act now Minister Johannes Remmel



Ladies and gentlemen,

With this NRW sustainability strategy, the State Government of NRW has presented a concept designed to actively address the upcoming challenges faced by our state. This strategy is the result of an exchange between all State Ministries and various societal groups focusing on creating a viable framework for ecologically, economically and socially balanced politics. I thank everyone who contributed to this process!

„Act now—working together towards sustainable development in NRW“ is our guiding principle. Today, we take decisions which will affect the livelihoods of our children and grandchildren. And the sustainable actions taken by us in NRW also contribute to the implementation of the sustainability targets adopted by the United Nations in 2015.

Conversations with people from North Rhine-Westphalia around their ideas about the future of NRW frequently reveal great similarities concerning their long-term visions. We want to use this consensus on the guiding principle for a sustainable NRW as the foundation of our politics. The question which ways are optimally suited to reach the individual goals will definitely remain subject to a lively contest of opinions and ideas. However, this should not cause us to lose sight of the long-term challenges awaiting us. The sustainability strategy as well as its targets and indicators will support us in monitoring government actions and in making the necessary adjustments.

Nevertheless, the involvement of the State Government alone does not suffice. Instead, the active contributions of our citizens, the municipalities, civil society, the industry and science are vitally important for securing a sustainable future of our state. I trust that the present sustainability strategy helps to create a viable framework for all stakeholders here.

A handwritten signature in blue ink, which appears to read 'Johannes Remmel'. The signature is fluid and cursive, with a large initial 'J'.

Johannes Remmel

Minister of the Ministry for Climate Protection, Environment, Agriculture, Conservation and Consumer Protection of the State of North Rhine-Westphalia

A. Fundamental Principles of Sustainable Development in North Rhine-Westphalia

I. Mission statement

The State Government of North Rhine-Westphalia advocates for a successful, equitable and future-oriented development in social, environmental and economic terms and therefore bases its actions on sustainability as a guiding principle. This contributes to the creation of a functioning equilibrium for today's and future generations. As the most populous federal state, we demonstrate how to implement successful change towards sustainable development while maintaining and reinforcing our economic and industrial structures.

NRW preserves and develops the well-being of all people and social prosperity in a healthy and intact environment. Global responsibility for the ecological boundaries of our planet will serve as a framework for action.

All people in NRW enjoy equal opportunities of personal development and a good life. Social cohesion is high. NRW remains an important industrial hub with future-oriented economic structures. Companies are internationally competitive and operate on the basis of social and environmental principles. The environmental quality is improved and ambitious environmental goals are being achieved.

NRW drives its change via an open, democratic and gender equitable process based on sustainable public finances and through the joint commitment of citizens, the civil society, municipalities, science, businesses as well as political and administrative players.

NRW plays an important pioneering role on an international level, contributes in the context of the sustainability efforts of the Federal Government, the European Union as well as the UN, and benefits from a dialogue with regions and other players worldwide.

II. Sustainability as a guiding principle for NRW

1. Starting point

Sustainable development is a central political guiding principle in North Rhine-Westphalia and is taken into account by many decision-makers in the state. Sustainability as a guiding principle is closely related to the principles of prevention and inclusion.

2. Fundamental conception

The fundamental conception of this strategy is based on the well-known definition of the so-called 1987 Brundtland Report but goes beyond it. Of course, our understanding of sustainability includes contemplation of the limits of the planet's regenerative capacity (planetary boundaries), but also assumes that only an economic and social development trajectory can ensure the preservation of environmental sustainability. In this context, NRW acts in agreement with the four guiding principles of the National Sustainable Development Strategy, i.e. intergenerational justice, quality of life, social cohesion and international responsibility endorsed in 2002, which have been the fundamental basis of the sustainability efforts of all Federal Governments since 2002.

3. International responsibility

The global financial and economic crisis since 2007, along with the significant increase in the influx of refugees since 2015, have once and for all demonstrated in a undeniable way that global developments and crises as well as poverty and underdevelopment in other parts of the world directly affect life in Germany and in North Rhine-Westphalia, just as our lifestyle and consumer patterns have direct consequences on the livelihood of people in other countries.

The „global village“ has long become a reality and North Rhine-Westphalia as a part of this global village bears an international responsibility.

In light of this responsibility North-Rhine Westphalia actively joins the global efforts under the umbrella of the new global Agenda 2030 and the 17 Sustainable Development Goals (SDGs) articulated in it. In its sustainability strategy, the State Government of North Rhine-Westphalia explains how it will implement this new global consensus on all political levels in NRW. The Agenda 2030 equally functions as a guiding theme for NRW's international cooperation efforts and interactions with partner regions. Such efforts are bolstered by the German Federal Government's plans to further develop the National Sustainable Development Strategy in 2016 to equally take into account the SDGs and to define new goals for the period until 2030. The European Union and the other German federal states, half of which have already endorsed sustainability strategies, will also engage in the implementation of the SDGs.

In a resolution from June 26, 2015 on the „Post-2015-Agenda für nachhaltige Entwicklung – Nordrhein-Westfalen als Vorreiter bei der Umsetzung der internationalen Nachhaltigkeitsziele“ (LT-Drs. 16/8988) [Post-2015 agenda for sustainable development – North Rhine-Westphalia as a pioneer in implementing the international development goals], the State Parliament (Landtag) asked the State Government to implement the global goals for sustainable development in NRW, inter alia in the context of the NRW Sustainability Strategy. The State Government complies with this request by presenting the draft strategy.

4. Sustainability efforts in NRW up to present

This strategy aims at considering the findings of the NRW Agenda-21 process and the numerous local and regional agenda and sustainability processes below the state level. Many municipalities in NRW — both on the level of independent cities as well as on the level of administrative districts and district towns and municipalities—are national and even international leaders in terms of sustainability.

Taking into account this wealth of experience on a state level and especially also on a municipal level, the State Government passed „Eckpunkte einer Nachhaltigkeitsstrategie für NRW“ [Key points of a sustainability strategy for NRW] on November 12, 2013. As part of the implementation of this cabinet decision, the conference of secretaries of states passed a strategic position paper „Auf dem Weg zu einer Nachhaltigkeitsstrategie für Nordrhein-Westfalen“ [Towards a sustainability strategy for North Rhine-Westphalia] on June 23, 2014, which was subsequently discussed in public, inter alia at the 3rd NRW Sustainability Conference on November 17, 2014 in Mülheim/Ruhr. This involved a multitude of players representing the civil society, businesses, the municipalities and science. Findings from this participation process, for instance with regard to defining a thematic focus, have become part of this sustainability strategy.

5. Guidelines for action

During the elaboration process of this strategy, the State Government has followed in particular the generally accepted guidelines of the European Sustainable Development Network (ESDN). The guidelines for action included therein, especially

- › an optimized horizontal integration (particularly among the departments of the State Government),
- › an improved vertical integration with the UN, EU and Federal Government level on one hand, and the NRW municipalities on the other hand,
- › a good participation of players from among the civil society and the economy,
- › effective implementation mechanisms and
- › functioning reporting and update mechanisms

will also play an important role with regard to the implementation and further development of the strategy.

6. Education for sustainable development (ESD)

Success in the fields of action of this strategy also depend on how well education can be consolidated, intensified and institutionalized as an instrument for sustainable development in the next years. In accordance with the Agenda 2030 for Sustainable Development (sub-goal 4.7), the State Government works in parallel on a state-wide education strategy for sustainable development that is meant to entail a widespread integration of ESD and a systematic implementation of ESD, if possible in all areas of the education system in North Rhine-Westphalia.

ESD in all fields of education in NRW— from elementary education to secondary school, academia, vocational education and extracurricular education—is based on a common understanding: Enabling a growing understanding of the interdependence of the immediate living environment, the local and regional context as well as the global level. In view of the complex economic, social and environmental challenges, ESD and Global Learning apply interdisciplinary approaches and innovative learning formats in order to help grasp interrelations and to shift perspectives, but also to deal with conflicting interests and dilemmas. In doing so, ESD works towards supporting future-oriented decisions and actions.

All educational institutions are faced with the task to provide this kind of competence. Children, adolescents and adults alike are meant to become confident in their own potential to actively and creatively help shape NRW in their private, professional and societal environments in a future-oriented way and with the ambition to promote sustainable development.

In order to do justice to the procedural nature of sustainable development, objectives constantly need to be reviewed and realigned, if necessary, based on active participation by responsible citizens. Therefore, ESD pursues the objective of integrated lifelong education that also imparts social and emotional skills and values besides knowledge. This is best achieved through participatory learning processes that focus on cooperation with scholastic and non-scholastic educational players and that develop new forms of learning in interrelated local and regional network environments.

The ESD strategy is destined equally for the State Government and state administration as well as for stakeholders from the private sector, civil society and the municipalities, underlining their outstanding role within the ESD process. The strategy aims at improving the framework conditions while at the same time supporting developmental processes in educational institutions.

III. Specific challenges and state-specific policy areas for North Rhine-Westphalia

1. Climate protection, resource efficiency and raw materials

From a scientific perspective and according to the resolutions adopted at the Climate Conference in Paris, it will be necessary to limit the global temperature increase to a maximum of between 1.5 and 2 degrees in relation to pre-industrial times to keep climate change and its inevitable effects at tolerable levels. The G7 countries have committed to reaching a low-carbon economy by 2100. To achieve these goals, extreme efforts will be required on all political and societal levels.

In the context of existing climate protection on an EU and Federal Government level, the climate protection law was passed in North Rhine-Westphalia with the goal of limiting the emitted greenhouse gases in North Rhine-Westphalia by at least 25% by 2020 and by at least 80% by 2050 compared to 1990.

To reach these goals, but also to counteract the limited availability of raw materials in times of increasing global demand and the environmental burden that comes with the consumption of raw materials, reinforced resource protection and intensified resource and energy efficiency, inter alia, are of particular significance. Furthermore, the adaptation to the inevitable consequences of climate change will become increasingly important.

2. Safe, profitable, environmental friendly and efficient energy supply

As a federal state with a strong energy and industrial relevance, North Rhine-Westphalia plays a special role with regard to the energy supply in Germany. Almost a third of German electricity is produced here, and consumption amounts to around a quarter. Hence, also around a third German greenhouse gases are emitted here. At the same time, North Rhine-Westphalia is an industrial heartland of Germany and seeks to maintain this status in the future. As an internationally competitive business location, it produces energy-intensive but high-quality industrial products. In this process, companies from North Rhine-Westphalia have already achieved considerable energy savings due to energy-efficient production methods in the last years. Nevertheless, the goals of the energy transition such as the expansion of renewable energies up to a portion of 80% of the energy supply by 2050 present a special challenge for the industrial state of North Rhine-Westphalia. The high level of reliability and quality of the supply must be maintained, i.e. sufficient production capacities and a grid infrastructure adapted to new production structures have to be available at any time in the future. Additional flexibility options have to ensure that the fluctuations related to the power feed-in from renewable energies can be balanced at all times. The increase of the share of renewable energies and the reduction of energy demand are essential preconditions for a successful energy transition.

3. Provision of healthy and sustainably produced foods

Besides the global dimension of nutrition of a world population that will grow to 9 billion people by 2050, there are specific challenges of sustainable food supply in relation to Germany and North Rhine-Westphalia, e.g. with regard to the sustainable use of cultivable land, sustainable livestock management, competition for the use of open space, labeling and waste of food products as well as food monitoring. Sustainably produced foods also have to remain affordable for low income households. At the same time, healthier and more sustainable food consumption offers promising new perspectives for regional value creation chains.

4. Preservation of biodiversity and sustainable forestry

Biodiversity—that is the diversity of habitats, species and within species genetic diversity – is the existential basis of human life. In NRW, however, this diversity is decreasing at an alarming rate: according to the latest environmental report of the State Government, the number of extinct or missing species is higher than ever. Forests as extensive semi-natural ecosystems contribute significantly to the preservation of biodiversity. The essential challenge is to consistently protect biodiversity, to preserve long-established cultivated landscapes, to create spaces for the development of wildlife and to cultivate forests in a sustainable manner.

5. Powerful, eco-friendly, energy-efficient and safe mobility

Efficient and environmentally friendly transport systems are a fundamental requirement for livable settlement areas, economic success, social cohesion, individual participation and sustainable development. This basis is at acute risk as over a long period of time insufficient investments in infrastructure were made. Extensive financial resources will need to be mobilized to restore reliable road, rail and waterway networks which are viable in the long run.

The central task and challenge faced by transport policy makers today lies in designing and applying recovery plans to make up for what had been neglected for decades, while at the same time increasing the overall investment volume for the modernization and sustainable reconstruction of the infrastructure. This needs to involve measures to ensure that growing volumes of traffic are bundled on major transport axis in order to relieve settlement areas to the greatest possible extent.

However, today there are frequent bottlenecks as well as considerable noise and gas emissions that are environmentally and climatically harmful, and public transport is confronted with significant financial challenges.

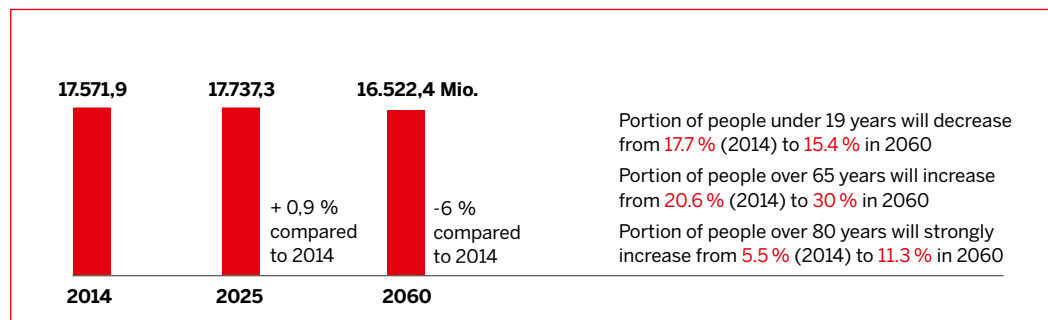
Climate change and resource degradation come with a profound need for change of our transportation and logistics structures. At present, this area is one of the larger sources of greenhouse gas emissions. Mobility, however, at the same time is the lifeline of business and society.

This means that infrastructure, drive technologies, passenger and product mobility logistics as well as financing models need to be further developed in a way as to ensure powerful, eco-friendly, energy-efficient and safe mobility. Local mobility, electro-mobility as well as the opportunities of digitalization with the improved possibilities of traffic management and of combining different mobility solutions are the drivers of sustainable developments.

6. Health and well-being in the context of demographic change

North Rhine-Westphalia is facing profound changes in the population's age structure. The population continues to age. Hence, according to the latest population projection, the old-age dependency ratio (people aged 65 and above per 100 people between the age of 20 and less than 65 years) will grow from 33.8 to 56.1 in the period from 2014 to 2060.

Population of NRW from 2010 to 2060¹



The demographic change poses enormous challenges for all economic and social areas, from the changes of work life over problems to find expert staff and successors for companies up to the social and health-related living conditions of the elderly. This leads, for example, to significant challenges for the areas of healthcare and nursing care as well as of supply and participation opportunities. Political measures for the elderly need to be taken on many different levels: in the neighborhoods, the urban centers and in rural areas—high-quality, inpatient and outpatient healthcare and nursing services have to be ensured in all those areas and across sectors. At the same time, the demographic change requires effective health support and prevention measures for people of all ages and in all spheres of life.

The right of self-determination of the affected people and their (nursing) relatives has to remain the focus of healthcare and care policy-making under changed demographic conditions. The demand for specialist labor has to be served.

7. Participation, gender equality as well as social security and cohesion in the context of societal change

Promoting social participation, social security, gender equality and integration of immigrants and therefore also the strengthening of social cohesion is and remains a particular challenge with regard to the sustainable future of North Rhine-Westphalia.

On one hand, a significant welfare increase has been achieved allowing for a considerable extension of personal development; on the other hand, the portion of people with little or no opportunities to engage in social participation and who are affected by or at risk of poverty (e.g. increase of poverty among children and elderly people as well as income poverty especially among women) is growing. In many cases, (long-term) unemployment or unstable employ-

¹ According to the population projection (Bevölkerungsvorausschau) of IT.NRW from 2015. The impact of the current migration movements on the medium-term demographic development is not quantifiable at present.

ment conditions are at the root of the problem. Along with the consequences for the affected individuals themselves, this poses important challenges for the social welfare systems.

In view of migration, cultural diversity, demographic change as well as changing lifestyles and occupational biographies, the challenge also consists of dealing with an increased heterogeneity of society. Promotion and realization of more participation as well as gender equality and equal opportunities are essential tasks for a sustainable future of our state in this context.

8. Shaping complex futures through education

Demographic change, shortage of skilled labor, migration and integration, overcoming social disparity as well as dealing with heterogeneity create huge challenges for scholarly and non-scholarly educational institutions in North Rhine-Westphalia. Digital change offers economic and social opportunities on one hand, while on the other hand also posing personal risks for individuals. Education must contribute to solving these issues to ensure that North Rhine-Westphalia will be able to survive as an industrial, knowledge and information society in the future. This task requires the input of educational institutions, municipalities, the state of NRW and the civil society alike. Education generates a sense of purpose on the personal level while at the same time promoting cultural life and being the prerequisite for successful occupational participation and social inclusion. Against this background, the potential of each and every single individual needs to be supported optimally irrespective of his or her individual level of development, gender, ethnic origin, and age. Learning should be designed in a sustainable manner to enable every single person to benefit from a wide range of learning options.

It is paramount for sustainable education to foster key skills required to translate knowledge about sustainable development into action. In a similar vein, the Global Action Program on Education for Sustainable Development (ESD) addresses the willingness of individuals and educational institutions to learn and to be open to innovation. In order to promote the required transformation of our society, the State Government therefore puts strong emphasis on integrating the idea of lifelong learning and ESD into its education and sustainability policy.

9. Sustainable public finances

The State Government stays committed to its goal of a balanced budget from the year 2020 on. A balanced state budget is key to sustainable public finances. To reach compliance with the debt brake by 2020, NRW will aim to step-by-step lower new indebtedness.

Both consolidating the budget and ensuring the state's ability to fulfil its duties are essential prerequisites for responsible state politics. Therefore, the main challenge is to consolidate the NRW budget while at the same time making investments into future relevant fields. We want North Rhine-Westphalia to remain an innovative and attractive location for companies and families alike even after 2020. Sustainable consolidation therefore will require future-oriented investment in education and infrastructure.

Another financial challenge to be tackled is the large extra expenditure for refugees. The care and integration of refugees is a long-term task which the state and its municipalities will need to cope with over the next decades.

10. Integration of refugees

In the year 2015 more than 200,000 asylum seekers arrived in NRW owing to the war and hostilities in Syria as well as in other countries which resulted in major refugee flows. Counteracting the causes behind migration in the countries of origin and securing the livelihoods in these countries presents a major challenge for Europe.

North Rhine-Westphalia and its municipalities are encountering particular challenges related to migration, asylum and refugee issues. The influx of refugees and asylum seekers, including

sustainable solutions for providing housing, care and support, have become one of the central socio-political tasks.

Many asylum seekers and refugees can be expected to stay in Germany for an extended period of time or even permanently because war, hardship and persecution make return to their native countries impossible. They are entitled to benefit from measures promoting integration and participation in social life, which in turn will require access to the German language, education and jobs.

The integration of refugees is an interdepartmental task which involves all departments of the State Government. It is in the very interest of North Rhine Westphalia to help asylum seekers and refugees who have prospects of permanent residence to learn the German language in a timely manner, and to support them in completing their school education or a vocational training as well as in finding regular employment. Prompt access to the labor market is of vital importance. This, however, can only be achieved through comprehensive programs and incentives designed to promote the language skills as well as social and occupational integration of both genders.

In this respect, NRW is facing a dual challenge: On one hand, we will need to continue actively supporting the integration, recognition and equality of those who have been living in NRW for a long time or who were even born here. On the other hand, those newly arrived have to benefit from equal opportunities granting them the chance of a full participation in all aspects of life.

11. Fields of action and focal points areas

Based on the strategy paper from June 2014 and the feedback received in response to this first version of the sustainability strategy, the State Government has identified the following 19 fields of action that adequately cover the three traditional dimensions of sustainability reflecting their cross-cutting nature:

- › Climate protection and energy transition,
- › Sustainable economy
- › Natural resource Protection: biodiversity, forests, water, land/soil, air and environment & health
- › Demographic change
- › Social cohesion and participation
- › Decent work—fair work
- › Integration
- › Sustainable financial policy
- › Sustainable urban development
- › Sustainable mobility
- › Sustainable consumption/sustainable lifestyles
- › Land cultivation
- › Health
- › One-world policy / European and international dimension
- › Gender equality
- › Inclusion
- › Sustainable municipalities (local agenda)
- › Civic involvement / participation
- › Education and science

With this thematic focus, the NRW Sustainability Strategy covers almost all thematic fields of the 17 international sustainability goals in which responsibilities and/or duties of the state NRW are addressed.²

² An alignment of the 19 fields of action with the 17 international sustainability goals can be found in the table under CII.

As part of the Sustainability Strategy, the topics shall not be addressed in isolation but from a holistic perspective. This strategy defines goals for all these topics; also, indicators are defined for many topics (see part C. II.).

Within this framework, the State Government has identified the following cross-departmental policy areas that should be given particular attention in the near future (see part B):

- › Climate Protection Plan
- › Green Economy Strategy
- › Biodiversity strategy
- › Sustainable financial policy
- › Sustainable development of urban areas and neighborhoods
- › Demographic change and suitable neighborhoods for the elderly
- › State initiative „NRW hält zusammen ... für ein Leben ohne Armut und Ausgrenzung“
[Together in NRW for a life without poverty and marginalization]

These focal areas are of a strong cross-departmental nature which fosters the identification of interrelations among different policy areas. A definition of key issue areas also reflects the approach of the Federal Government and other states and falls into line with the recommendations of the local authority associations (kommunale Spitzenverbände) and many civil society players from the upstream consultation process.

Within the planned progress reports process new issues can be defined or existing topics can be modified and/or removed from the strategy.

B. Current Focal Areas of Joint Sustainability Policy in NRW

Focal area # 1:

Climate Protection Plan

1. Initial situation

In its 5th status report from 2014, the Intergovernmental Panel on Climate Change (IPCC) has shown that humans are changing the climate with increasing speed. Compared to pre-industrial times, the global median temperature has increased by 0.8 degrees Celsius up to present. At the Paris Climate Conference in December 2015, the new global climate agreement based on the totality of these scientific findings was endorsed. There now is universal acceptance that climate change and its consequences can only be kept within reasonable limits if a strong reduction of greenhouse gas emissions and a limitation of global warming to 1.5 to 2 degrees Celsius are achieved. In addition, there is a need to adapt to the inevitable consequences of climate change.

In this context, the State Government of North Rhine-Westphalia has adopted a new climate policy approach for NRW. After passing the KlimaschutzStart-Programm [climate protection starting programme] 2011 and the Climate Protection Act of 2013 as well as the start of the KlimaExpo.NRW trade fair 2014, the Climate Protection Plan of North Rhine-Westphalia represents another milestone. It defines the strategies and measures to achieve the climate protection goals included in the Climate Protection Act. The Climate Protection Plan of North Rhine-Westphalia illustrates how resource and energy efficiency, energy savings and the expansion of renewable energies can be promoted „from below“ and presents actions that the state can take to prepare for the effects of climate change that are no longer evitable. Hence, the Climate Protection Plan contributes to the implementation of the guiding principle of sustainability.

In this process, North Rhine-Westphalia should maintain its status as the leading state in energy production and industry. NRW has already faced significant challenges in the past years. The adaptation processes with regard to coal and steel have imposed a considerable strain on both the economy and the population, whilst creating development opportunities at the same time. Industrial production has been a cornerstone of change as its value chains have created the basis for progress and wealth.

NRW will remain an industrial state in the future. Still, the greenhouse gas reduction goals of the NRW Climate Protection Act will present new challenges for the numerous energy-intensive industries. Therefore, climate protection also means a commitment to fair competition under the international climate protection agreements as well as at the national and EU level. In parallel, the State Government supports businesses to make climate-friendly adjustments and to make use of the resulting new opportunities. Global climate protection efforts and the focus on sustainable energy lead to an increasing demand for low carbon technologies, especially in the worldwide growing lead markets of engineering and plant construction, innovative materials, mobility and logistics, information and communication, energy and environmental management, media and creative services, healthcare as well as life science. Climate protection in NRW is therefore becoming an integral part of government policy in that it addresses economic strength, social justice and the environment alike.

As an important industrial and service location and as the most populous federal state, North Rhine-Westphalia depends on affordable energy. Supporting private households to save energy, investments in energy saving and efficiency technologies, in alternative drive systems or in the development of renewable energies contribute to a growing independence of prices on the global energy markets, which the state could otherwise hardly influence. The goal of the State Government consists of paving the ground for an affordable energy supply based on renewable energies in the long term.

Moreover, the Climate Protection Plan identifies adaptation measures to prepare for the consequences of climate change that are no longer evitable. Even if all global greenhouse gas emissions immediately came to a halt, we would be unable to stop climate change altogether. The consequences of climate change will become increasingly noticeable in NRW. For instance, heavy rainfalls or severe thunderstorms have already become more frequent these days. Experts have estimated that the impact of climate change in NRW alone will have a cost of around 70 billion € up to 2050. Despite the impossibility to entirely avert the negative impacts of climate change for the general public, nature or infrastructure, there are ways to reduce vulnerability by means of early and foresighted adaptation measures.

2. Important interplay with other fields of action

The participation of diverse players from the energy and industrial sectors, municipalities, the construction and transportation industry, trade and agriculture up to private households is essential for a successful implementation of climate protection and adaptation measures. Therefore, climate protection has to be regarded „per se“ as an interdisciplinary topic that is interrelated with different other fields of action.

There are, inter alia, significant overlaps with the Green Economy Strategy that aims at expanding the strong position of the North Rhine-Westphalian environmental economy, by reinforcing its competitiveness and transforming the companies in North Rhine-Westphalia into resource- and energy-efficient as well as climate protection-oriented business leaders.

Both climate change mitigation and adaptation are important factors for nature conservation. Hence, the preservation of biodiversity also features strongly in the NRW Climate Protection Plan.

3. Medium-term goals³

- a. Reduction of greenhouse gases: reduction of greenhouse gas emissions by at least 25% by 2020 and by at least 80% by 2050 (compared to the year 1990). For 2030, the State Government follows the scenario calculations in the context of the Climate Protection Plan, according to which emissions will be reduced by around 44% by 2030, including the effect of the European emissions trading scheme.
- b. Promotion of renewable energies: more than 30% of electricity should be obtained from renewable energies by 2025. By 2050, the nation-wide goals of more than 80% should translate into an equally ambitious development approach in NRW.
- c. Economical and efficient use of energy resources: according to scenario calculations of the Climate Protection Plan, a reduction of primary energy consumption by 12 to 18% between 2010 and 2020 and by 45 to 59% by 2050, as well as a long-term increase of the final energy productivity from 1.5 to 1.8% per year by 2050 seem possible.
- d. Achieving climate neutrality of all buildings in the long term: the aim is to achieve an average annual energetic restoration rate of 2% by 2050 in view of a nearly climate-neutral building stock as a long-term goal.
- e. Reinforcement of local climate protection: comprehensive, integrated climate change mitigation and adaptation concepts on a municipal level.⁴
- f. Limitation of the negative effects of climate change: reduction and/or at least stabilization of the expenditures for weather-induced damage in the homeowners' comprehensive insurance and/or of the working hours of the Technisches Hilfswerk (THW) in the event of weather-induced damage.

4. Actions/instruments/finances

With the Climate Protection Plan, North Rhine-Westphalia aims at creating preparedness for future challenges such as the adaptation to the effects of climate change and required climate protection efforts, as well as to achieve a successful change towards a sustainable society and an efficient and low carbon economy. The plan will function as a „radar“ in that it systematically shows avenues for action and indicates what decisions have to be made and when in order to achieve the long-term goals by 2050.

For the period until 2020, the Climate Protection Plan passed in December 2015 already contains actions that can complement the existing climate protection policy of North Rhine-Westphalia to reach short-term goals. 154 climate protection measures in the sectors „Energieumwandlung“ (energy conversion), „Produzierendes Gewerbe und Industrie“ (manufacturing and industry), „Gebäude und Gewerbe, Handel, Dienstleistungen“ (buildings, commerce, trade and services), „Verkehr“ (transport), „Landwirtschaft, Forst und Boden“ (agriculture, forestry and soil) and „Private Haushalte“ (private households) as well as 66 actions to adapt to climate change are included in the first Climate Protection Plan with the goal of implementing them by 2020. New measures based on new technological developments and framework conditions can be added during updates of the Climate Protection Plan that take place every 5 years.

³The information for 2030 is derived from the scenario calculations of the Wuppertal Institute related to the Climate Protection Plan. In this context, the draft of the Climate Protection Plan, as it was passed by the cabinet on June 15, 2015, reads on p. 41: „In den nächsten Jahren sind die Weichen für Investitionsentscheidungen für den Zeitraum bis 2030 zu stellen. Die Landesregierung hält es für sinnvoll, sich auch für diesen Zeitraum an den Bandbreiten aus den Szenariorechnungen des Wuppertal Instituts zu orientieren.“ [In the coming years, the course shall be set for investment decisions for the period until 2030. According to the State Government, following the entire spectrum of the scenario calculations of the Wuppertal institute also for this period is useful.]

⁴section 5 I of the NRW Climate Protection Law (Klimaschutzgesetz NRW) contains a power of executive order (Verordnungsermächtigung) according to which the municipalities can be obliged to set up such integrated concepts. It is not yet clear at the moment whether, when and based on which precise regulations this power shall be implemented.

Making climate protection a success largely depends on the due implementation of the strategies and actions by all relevant players within their field of influence. However, especially the commitment of those sectors with a high emissions reduction potential will be decisive.

The implementation of the following strategies is therefore of particular significance: setting ambitious targets for renewable energy expansion; increase energy and resource efficiency; saving energy; developing trigeneration; low-carbon technologies in industry; creating carbon neutral buildings in the long term; sustainable mobility; optimizing soil management and animal husbandry; enhancing climate awareness amongst consumers as well as creating a carbon-neutral state administration, universities and colleges in NRW.

To finance the actions of the Climate Protection Plan, the funds from the operational program for the European Regional Development Fund (ERDF) are available amongst other funding options. To implement the ERDF-NRW program in the funding period 2014-2020, EU funds amounting to 290 million € shall be used for the priority axis 3 „Förderung der Bestrebungen zur Verringerung der CO₂-Emissionen“ [promotion of efforts to reduce CO₂ emissions].

Focal area # 2:

Green Economy Strategy

1. Initial situation

The Green Economy describes the entirety of businesses that provide sustainable and eco-friendly products and services.⁵ As a cross-sectorial industry, it is composed of traditional economic sectors. Thematic focal points of the environmental economy include sustainable agriculture and forestry, traditional areas such as waste water and waste treatment as well as reduction and preservation technologies up to new industries such as eco-friendly mobility and renewable energies.

According to the Green Economy Report NRW created by Prognos, NRW is the largest provider of environmental products and services in Germany with an employment rate of around 320,000 people, profits amounting to 70 billion euros and a gross added value of 23.4 billion €.

Already today, one out of twenty jobs in NRW is part of the Green Economy. Therefore, the Green Economy provides opportunities for established companies from a variety of industries and creates spaces for innovative start-ups in diverse markets.

The Green Economy of North Rhine-Westphalia is a growing industry. The increase of the employment rate by 5.4% between 2009 and 2012 exceeds growth in the overall economy of North Rhine-Westphalia.

With 8.53 billion euros in exports in 2012, NRW's Green Economy is very export-oriented. North Rhine-Westphalia thereby reaches a global market share of 2.1% (Germany as a whole: 12.9%). In 2012, the export rate was 17%.

The analysis of patent applications confirms a high innovative potential in NRW. With 4.6 patents per 1.000 working individuals, the innovative potential is as high as for example in the engineering industry. Only for 2012, around 1,500 environmentally relevant patent applications were registered in North Rhine-Westphalia.

⁵ According to the definition elaborated by PrognosAG in the NRW Green Economy Report 2015 (Umweltwirtschaftsbericht NRW 2015).

2. Important interplay with other fields of action

The environmental economic portfolio of North Rhine-Westphalia reflects a comprehensive catalog of products, services and technologies with (direct) environmental benefits. The players of the Green Economy can therefore support the process of finding answers to global challenges.

Digitalization can create intelligent systems that provide opportunities for energy savings and for flexible energy systems to optimally use renewable energies (Smart Grids). Industrial production processes and product life cycles can be controlled better. Even agriculture becomes more efficient and eco-friendly with the support of IT systems.

Both climate protection as well as the adaptation have already created new markets and will open up new business perspectives for companies of the Green Economy, e.g. in the fields of renewable energies, energy efficiency, environmentally friendly mobility or water management.

Resource scarcity is a driver of innovation. In this context, key areas include material efficiency technologies and solutions for effective recovery of used raw materials. Likewise there is a demand for renewable and environmentally friendly materials as substitutes for conventional materials, renewable energy technologies and efficient water infrastructure systems.

Globalization leads to an even higher significance of export markets. Innovation and technological leadership are hence very important for the Green Economy of North Rhine-Westphalia. Products and services are faced with extensive flexibility and specialization demands on the global markets.

In a business-as-usual scenario, global population growth would lead to increased resource consumption and higher environmental stress. Hence, there is a growing demand for material- and energy-efficient production processes as well as for environmental protection technologies. Urbanization and the related growth of agglomerations and megacities require innovative infrastructural responses, especially in the areas of waste disposal, mobility and water supply.

Finally, changing values and consumption patterns will shape the future outlook of the Green Economy in NRW. An environmentally conscious consumer behavior creates a direct or indirect demand for products of the Green Economy. Green policy movements on the other hand, can help advance regulatory control mechanisms thus influencing the demand for environmental products.

3. Medium-term goals

North Rhine-Westphalia is supposed to develop into a leading national and international innovative hub for climate- and environment-oriented products, services, technologies and processes.

According to the NRW Green Economy Report, this should translate into an increase of the employment rate of the Green Economy to 420,000 individuals as well as a substantial increase of the gross added value of the Green Economy by 2025.

4. Actions/instruments/finances

Comprehensive, detailed and recent information for North Rhine-Westphalia and its regions is needed for the Environmental Economy Strategy. With the Green Economy Report as part of the State's Green Economy Strategy, the State Government pursues the goal of identifying strengths and opportunities of the industry in the federal state and its regions and to define relevant markets of the future.

A master plan of the environmental economy for North Rhine-Westphalia summarizing the actions as part of the Environmental Economy Strategy and regulating their specific implementation is to be presented on the basis of an open consultation process. Therefore, location- and business-related discussion panels are to be created with the companies, associations and business promotion agencies in North Rhine-Westphalia. Existing instruments, new proposals for action and implementation approaches must be discussed, substantiated and concentrated in the Environmental Economy Master Plan with all stakeholders throughout the state.

A catalog with actions to promote the environmental economy in North Rhine-Westphalia is to support the state-wide consultation process on the topic. It includes the formulation of approaches for action based on the Green Economy Report and their exemplary illustration with ongoing measures. They form the strategic framework for an intensive debate about future actions and steps to be included in the Green Economy master plan.

As a first action, the State Government has therefore adopted a new funding policy approach and reinforced the area of climate protection and Green Economy. 800 million euros are available for this purpose as part of the Green Economy Strategy until 2020.

Focal area # 3:

Biodiversity strategy

1. Initial situation

With more than 43,000 different animal, mushroom and plant species, North Rhine-Westphalia has a high level of biodiversity. Still, around 45% of the analyzed species are on the Red List of NRW, i.e. are endangered, at risk of extinction or already extinct. Only around 40% of the species protected in NRW and throughout Europe have a favorable status of conservation. Among the habitat types protected across Europe, only 21% of the lowlands, but 66% of the highlands have a favorable status of conservation.

The biggest challenge consists of reversing the negative trend of the last decades, i.e. of stopping the decline of biodiversity, within the next years. Especially the use of land should increasingly involve aspects of biodiversity preservation and the limitation of new land use. The population has to be convinced of the importance to protect our nature and landscape and motivated to take an active stance. It is therefore necessary to reinforce the understanding of biodiversity preservation as a mission for society as a whole and to integrate it to a greater extent into everyday life.

2. Important interplay with other fields of action

Climate change has an impact on biodiversity, on the composition of biotic communities and the distribution of species in NRW. For this reason, the creation of a state-wide biotope network is of vital importance to create opportunities of evasive movement to climatically and ecologically suitable spaces for climate-sensitive species. Renewable energy installations can have an impact on biodiversity. The creation of renewable energies therefore requires foresighted and aligned planning. Protection, development and experience of a diverse urban nature as well as conservation of green spaces in urban settlement areas increase the citizens' quality of life.

3. Medium-term goals

The decline of biodiversity should be stopped and biodiversity should be enhanced once again. Therefore, especially the following goals will be pursued:

- a. The majority of habitats and species should be maintained in a favorable status of conservation: to achieve this goal, the portion of the Red List species (endangered species) is to be reduced by 40% by 2030. Besides, biodiversity in all landscape spaces (indicator of biodiversity and landscape quality) shall be increased by 2030.

- b.** Protection of areas that are worthy of preservation: areas worthy of preservation that are not yet protected shall be protected based on the areas for the preservation of nature (APN) illustrated in the regional plans. By 2030, a portion of at least 15% (approx. 11.5% at present) of the area of the state territory should become part of the NRW biotope network area (especially conservation areas, nature reserves, FFH and bird preservation areas, contract-based nature protection areas). The included number of nature reserves (currently approx. 8%) should thereby be increased as far as required for the implementation of the APN instructions in the regional plans.
- c.** Increase of the stability and adaptability of the forests: by 2030, the portion of purely coniferous forests should be reduced to less than 20%.

4. Actions/instruments/finances

The NRW Biodiversity Strategy with approximately 150 goals and actions was passed by the state cabinet in January 2015. The implementation of the strategy in cooperation with diverse players will be the next step. The State Government has doubled the nature conservation budget from 18 to 36 million € between 2010 and 2013. This budget is used to implement the State Government's goals with regard to nature conservation as well as to pursue the NRW Biodiversity Strategy and also to extend the state-wide biotope network.

Focal area # 4:

Sustainable financial policy

1. Initial situation

At least with the Euro Crisis and the integration of the debt rule in the German constitution, the requirement of budgetary consolidation has become more than just a slogan. The European Fiscal Pact obliges all levels of government – the Federal Government, state administrations, municipalities – as well as the social security funds to consolidate their budgets. In addition, the debt cap generally prohibits the (structural) net borrowing by the Federal Government and the states (as of 2020).

Budget consolidation is an essential prerequisite for securing financial freedom of action. In terms of intergenerational justice, NRW aims at a balance of savings, investments and revenue protection. The State Government's motto is: as much prevention as possible. Therefore, in times of limited financial options future-relevant issues are prioritized and the principle of connectivity is respected. Compliance with the debt cap is a challenge that NRW will not tackle at the expense of the municipalities. The focus will hence be on continuing to strengthen the financial capacity of the municipalities, as the State and the municipalities are characterized by joint responsibility.

2. Important interplay with other fields of action

Sustainable public finances in the long term are an essential precondition for all other sustainability efforts as they ensure intergenerational justice. The state pursues a political strategy based on prevention, inclusion, integration as well as sustainability.

3. Medium-term goals

The aim is to ensure sustainable public finances through permanent compliance with the debt cap. Consolidation of the budget by 2020 and a structurally balanced budget during the subsequent years are preconditions for compliance here. Compliance with the debt cap leads to a sustainable reduction of the debt/GDP ratio, i.e. of the debt level as a proportion of the nominal GDP of NRW. The debt/GDP ratio as an indicator for sustainability of the public finances provides information about the relative interest charges for the budget.

The „Finanzierungssaldo des Landes“ (financing balance of the state) and/or the „strukturelle Finanzierungssaldo des Landes“ (structural financing balance of the state) and the „Schuldenstandsquote“ (debt/GDP ratio) will be used as indicators.

4. Actions/instruments/finances

A review of the budget with regard to efficiency increases potentials is an essential precondition for successful consolidation. Examples for successfully implemented efficiency measures include the introduction of a new budget management system (EPOS.NRW), the NRW Sustainability Bond and a consistent combat of tax evasion and tax fraud.

The budgeting and accounting system of the state is being modernized thanks to the launch of the program EPOS.NRW. In contrast to the purely payment-oriented cameralistic system, a periodic display of expenses and revenues as well as full illustration of the development of assets and debts provides complete cost transparency. This detailed overview of costs supports a financial policy based on long-term perspectives. The same principle applies to the selection of procurement options. The required economic efficiency calculations should generally be based on a holistic approach (life cycle analysis). The introduction of the guideline on „Economic Feasibility Studies in Municipal Building Construction“ (Wirtschaftlichkeitsuntersuchungen im kommunalen Hochbau“) (Ministry of Finance NRW, 2014) as well as the launch of a calculation tool to be used for this purpose has been designed to help municipalities evaluate their infrastructure projects across their life cycle and to implement them in an economical and sustainable manner.

Through concepts such as the NRW sustainability bond, public debt management can be combined with the promotion of environmental and social projects by private investors.

To increase its sources of revenue, North Rhine-Westphalia will continue its commitment to counteracting tax fraud and tax evasion. In spite of the high number of auditors required for this purpose, rigorous audits contribute to increasing tax revenues and thus to improve fiscal justice.

Focal area # 5:

Sustainable development of urban areas and neighborhoods and local mobility

1. Initial situation

The purpose of sustainable development of urban areas and neighborhoods is the integration of environmental, economic and social matters in the urban space ultimately aiming at inter-generational justice. In this context, the sustainable urban development policy in North Rhine-Westphalia is based on the Leipzig Charter on Sustainable European Cities that provide space for everyone.

Participation processes with inhabitants, feedback mechanisms for stakeholders, early integration especially of children, young people and the elderly have on one hand been successful in practice, but on the other hand always need to be adapted to changed situations.

Local mobility (pedestrian and bicycle traffic) play an elementary role for the sustainable development of urban areas and neighborhoods. The State Government consequently adopted the action plan for the promotion of local mobility in 2012. Its declared goal is to transform our cities and municipalities into high-quality spaces for living and mobility that ensure optimal mobility options for all road users. Our future transport infrastructure has to upgrade walking and bicycle traffic and thus transform non-motorized mobility into the mobility of first choice.

With an infrastructure that promotes mobility, including the high-speed bicycle routes that are currently promoted by the state with particular commitment, the State Government aims at raising its flag for sustainable mobility. In this process, it cooperates closely with the ,Arbeitsge-

meinschaft fußgänger- und fahrradfreundlicher Städte, Gemeinden und Kreise in NRW e.V.' [Association for pedestrian- and bicycle-friendly towns, municipalities and districts in NRW] and the ‚Netzwerk Mobilitätsmanagement und Verkehrssicherheit‘ [mobility and road safety network].

Sustainable urban development especially needs to embrace the three major challenges – demographic change, structural change and climate change—particularly through preventive approaches. In addition, new developments such as the increasing digitalization or the discussion of whether all social groups will also be able to afford living in prospering, growing cities in the future need to be taken into account. The design and structural quality of our cities constitute an important part of a pleasant living environment and help local citizens identify with their home in the neighborhood („Heimat im Quartier“). Lately, however, there have been concerns as to whether we will be able to continue preserving the structural quality and uniqueness of our architectural heritage while at the same time meeting stricter energy-saving requirements. In the context of the desired economic use of space, a decision has to be made about the maximum permissible level of internal densification which still ensures a livable and climatically friendly city with sufficient open air lanes and green areas. Moreover, in view of the demographic change which involves a continuously growing portion of elderly people, the goal of enabling everyone to stay in his/her living environment for as long as possible creates particular challenges for sustainable urban development.

There are no easy answers for NRW as a whole in this context. Each structural/spatial and social situation is different, with growth and shrinkage related to North Rhine-Westphalia cities occurring simultaneously, sometimes within the same city but in different neighborhoods. It is important to propose specific solutions by means of an integrated program.

2. Important interplay with other fields of action

Sustainable urban development with its direct spatial implications for the citizens' concerns and affects many other fields of action. For example, questions of climatic adaptation and resource efficiency, of biodiversity, of environmentally friendly, energy-efficient and safe mobility, of health and well-being in times of demographic change and of social cohesion—also with regard to integration and inclusion—always need be considered in the process of planning and structural/spatial design. Moreover, participation, and citizen involvement in particular, plays an important role in neighborhood development.

3. Medium-term goals

a. Homogeneity of the living conditions in metropolitan regions, urban regions and rural areas

It has to be the goal of sustainable urban development to make our cities future-proof and livable. Consequently, the development of urban areas and neighborhoods contributes to ensure homogeneous living conditions („Gleichwertigkeit der Lebensverhältnisse“).

b. Sustainable, climate-friendly, social and livable cities, taking into account conditions of integration and inclusion as well as the demographic change

- › Public urban areas provide space for a vital social life; each citizen should find his/her home in the neighborhood („Heimat im Quartier“).
- › Inclusion and integration are natural aspects of our sustainable cities and municipalities.
- › The living environment is green, climate-friendly and accessible without barriers.
- › The technical and social infrastructure fulfills the increased requirements that are, inter alia, resulting from demographic developments.
- › For the sake of sustainability, the urban development policy in North Rhine-Westphalia focuses especially on children and young people. The state must succeed in creating affordable and high-quality housing also for young families in our cities and municipal communities.
- › Equally, it has to be possible for people to remain in their own house as long as possible at an advanced age.

- c. Significant increase of the share of the mobility network (pedestrians, cyclists, pedelec users, busses and trains, e-mobility, car pooling etc.) in the traffic volume of urban transport in the future. For local mobility (which includes pedestrian and bicycle traffic, including pedelec traffic in particular) in inner city areas, we envisage a 60% modal share (number of trips) for this type of transportation by the year 2030.

4. Actions/instruments/finances

To support the existing efforts of cities and municipalities, the State Government supports the cities

- › with the annual urban development promotion program whose focal points reflect the respective challenges, but also with instruments for the re-use of fallow areas in accordance with a land recycling plan and consistent support of urban landscapes („urbanes Grün“) whose promotion is significant as part of the adaptation to the impact of climate change and as a way to ensure economic and social stabilization of neighborhoods;
- › through the „Starke Quartiere—starke Menschen“ (strong neighborhoods - strong people) fund bundling funding from the EU (EFRE, ESF, ELER Federal Government or the states for disadvantaged urban districts and neighborhoods;
- › with the support of pilot projects and the associated scientific counseling, for example the pilot project City Ruhr: Bottrop as a pilot city for the reduction of climatically harmful CO₂ emissions, embedded in the process of sustainable urban development;
- › as well as through further support, counseling and qualification services, e.g. as part of the networks of urban renewal.

227 million € will be provided for investments in the years 2014 to 2018 within the urban development promotion program that is jointly financed by the Federal Government and the states.

With the implementation of the Local Mobility Action Plan, the State Government makes a significant contribution towards promoting sustainable mobility. The Action Plan stands for equality and therefore equal treatment of local mobility (in particular pedestrian and bicycle traffic), public transport and motorized private transport. It includes ten main programmatic elements and numerous projects. The implementation of the measures stated in the Action Plan is scheduled to be completed by the year 2020. The main elements are e. g. AGFS 100, cycle super highways and road safety.

AGFS 100

The „Arbeitsgemeinschaft fußgänger- und fahrradfreundlicher Städte, Gemeinden und Kreise in NRW e.V.“, AGFS (pedestrian- and bicycle-friendly cities, municipalities and districts in NRW working community) is the competence network for the technical aspects around local mobility. The number of its members is to increase from 76 at present to 100 by the year 2020.

Cycle super highways

Cycle super highways play an important strategic role in future local mobility with regard to bundling and accelerating traffic flows for mass bicycle mobility. The Ministry of Building, Housing, Urban Development and Transport of the state of North Rhine-Westphalia (MBWSV) held a design competition for cycle super highways in order to stimulate municipal interest in this new infrastructure element. Five selected projects are to receive funds for a feasibility study and the subsequent planning process. In addition, the feasibility study for the cycle super highway from Essen via Bottrop to Gladbeck is sponsored by NRW. The 100 km „Radschnellweg Ruhr“ (Ruhr cycle super highway) from Duisburg to Hamm is already being realized. As the next step, the MBWSV will amend the Roads Act by introducing a new category of roads, transregional cycle super highways. This way, the state will take on the obligation to build and to maintain these roads, thus putting them on a level with state roads.

Road safety

Road safety is and remains one of the central tasks of transport policy. The MBWSV has recently established a new road safety program which has the ambitious goal of reducing the number of road fatalities by 40 %, and the number of serious injuries caused by road accidents by 20%. Among its additional goals is improving the safety of pedestrians and cyclists. In particular, the latter involves the prevention of illegal parking on sidewalks through appropriate campaigns and enhanced controls and sanctions. Moreover, the MBWSV will continue to support networking efforts between all stakeholders involved in the field of road safety.

Intelligent mobility is becoming increasingly intermodal, which requires better cross-linking of different means of transport. Establishing mobile stations to link local public transportation, car sharing, bicycle and pedestrian traffic will be a significant contribution to the generation of continuous mobility chains. One special focus will remain on promoting emission-free mobility.

With its „Zukunftsnetz Mobilität NRW“ (Future Network Mobility NRW), the State of NRW supports the municipalities in opening new avenues to livable cities and secured mobility in rural areas. This goal can only be achieved based on municipal planning and actions treating all modes of transport, from busses and trains via attractive bicycle and pedestrian routes and car sharing and car pools, as elements of an integrated system. Municipal mobility management greatly helps to achieve this objective by supporting the necessary coordination and information processes.

Four coordination offices established at the transport associations involved in local public transportation and funded by the MBWSV provide advice and information for any interested municipalities. The Zukunftsnetz Mobilität NRW offers, inter alia, a training course on municipal mobility management for municipal employees. Moreover, it provides assistance on themes such as car sharing or mobile stations.

Focal area # 6:

Demographic change and neighborhoods suited for the elderly

1. Initial situation

Demographic changes present massive challenges for our society—already today and to an even growing extent in the future. Due to immigration, the population in NRW will slightly grow from April 2015 until 2030, from 17.6 million (2014) to 17.7 million (2030) people, according to the population projection. Afterwards, population is expected to decrease to a forecast number of 17.1 million people in 2050 and 16.5 million in 2060. Our federal state presents strong regional and local disparities in this context: regions with a high population growth (e.g. along the Rhine) are contrasted by areas in other parts of the state that people leave (e.g. Sauerland, the Eastern part of East Westphalia, Emscher-Lippe region). Certain forecasts have shown that, in some regions of the state, areas of inbound and outbound migration are very close to each other (e.g. in the Bergische tri-city area and in the Ruhr district).

According to the recent forecast, the aging process of the overall society will continue with the trend of the past years. This leads to an increased number of elderly and old people in the overall society. As people are living longer, which, in principle, is a welcome trend, the support and care services need to be broadened and bolstered as well.

In addition, society as a whole is characterized by a record-high number of people enjoying prosperity and unknown health. Aging and being old has changed compared to the past decades and will continue to change in a sense that many elderly people will remain fit and active up to an advanced age. The so-called post-professional phase nowadays describes in many cases a stage of life that lasts for many years. People should be able to live this stage in a meaningful and participatory way.

In 2030, 1.3 million people in our state – and 2.1 million people in 2050 respectively – will be aged over 80 and therefore have reached an age in which their physical and mental capacities can be expected to decline for biological reasons. Due to this increasing life expectancy as well as the entry of the baby boomer generation in the post-occupational phase, there will be a visible demographic shift between elderly and younger people.

In this context, two developments require special attention:

An aging population leads to a growing number of people in need of care and support. While, according to the SGB XI, 581,500 people in need of care were living in NRW in 2013, around 700,000 people in need of care are forecast for the year 2030 (+ 20.4%), and around 920,000 people by 2050 (reflecting a 58% increase compared to 2013). Already today, around 300,000 people depend on daily support due to dementia and similar illnesses. This group is expected to have doubled by 2050. It should be pointed out in this context that these projections are based on an „as-is“ scenario. Due to the comprehensive redefinition of the concept of care dependency of the SGB XI by the 2nd Law on Enhanced Care (Pflegerstärkungsgesetz), proportionately more people will receive nursing care insurance benefits.

Significant developments can also be expected in the field of professional nursing care. Already in 2014, there was a shortage of around 4200 full-time positions for the caregiving professions. According to the prognostic calculation, the overall demand will increase to approx. 266,000 full-time equivalents until 2030, compared to the overall number of around 209,000 caregiving professionals/full-time equivalents in 2013. We know from surveys (e.g. TNS Emnid 2011) that two thirds of the people wish to live an independent life in their apartments or houses also at an advanced age. 57% of the surveyed individuals, however, would not want to do without additional care services. Together with a negative population growth in the long term (that is expected to impact on the size of the employment rate) and the aggravating shortage of nursing care staff, it is clear that the currently existing structures, which are already perceived as insufficient these days, will not be sustainable.

A simple continuation of the business-as-usual is not an option if we want to provide for a self-determined life of the elderly under conditions of sufficient care services.

Possible solutions have to take into consideration the diversity of our towns, villages, neighborhoods and districts in NRW. Concepts to enable people to remain as long as possible in their own house – even under conditions of an increased need for care and support – have to be affordable and adaptive to various living conditions.

To benefit from the richness of local experiences, people have to be involved and participate in the development of such approaches. We have to listen to the people, ask them about their needs and look at their personal livelihoods and where the challenges become directly apparent: the personal, location-based environment in which they nurture their social contacts and organize their daily routines, i.e. the place that people perceive as their neighborhood („ihr Quartier“).

What we need is a vivid societal discussion based on sustainability and social inclusion that takes into account the described developments and that will evolve into a new social attitude and practice.

All public and private players are asked to find appropriate answers to these fundamental challenges in order to ensure intergenerational cohesion in our state: the Federal Government, state administration and municipal level, the professions as well as the civil society.

2. Important interplay with other fields of action

On one hand, there are interrelations especially with the focal area ‚sustainable urban development of urban areas and neighborhoods‘ which also focuses on the social dimension of a future-oriented and intergenerationally just development of cities and neighborhoods. Demographic change and an aging population are, on the other hand, a challenge for social cohesion within a society (cf. focal area „NRW hält zusammen ... für ein Leben ohne Armut und Ausgrenzung“ [Together in NRW ... for a life without poverty and marginalization]). The establishment of social institutions and processes that ensure social cohesion will only be possible by means of stimulating civic commitment and participation.

Sustainable neighborhoods that cater to the needs of all generations including the elderly also have the potential to boost issues like „gender justice“ and inclusion. In addition, demographic change is likely to interact with issues of general services for the public and service infrastructures, the alignment and funding of the social security systems as well as economic and labor-related policy formulation with regard to demographic change.

3. Medium-term goals

- a.** Ensuring active participation, self-determination and a self-effective life of all people in our society

This should help prevent isolation and loneliness, which especially worries elderly citizens and which actually affects an alarmingly high number of people. The aim is to create and to effectively implement framework conditions that enable all individuals to live an independent life at any time.

The aim is to increase the portion of individuals in need of care with an access to outpatient care and the portion of elderly people living in residential communities and flat shares. This offers them to live in their own homes or at least in a familiar social environment as self-determined individuals for as long as possible.

In addition, the number of municipal senior-citizen interest groups is to be increased.

The number of people in need of care and the number of nursing care professionals are used as underlying indicators.

- b.** Promotion of local development concepts of neighborhoods suited for the elderly

The following indicators are used:

- › the number of provided counseling sessions of the Landesbüro Altengerechte Quartiere.NRW“ [State Agency for Neighborhoods Suited for the Elderly] and the Landesbüro Innovative Wohnformen.NRW [State Agency for Innovative Housing Forms], and
- › the use of funds in the context of the Landesförderplan Alter und Pflege [State Promotion Plan for Senior-Citizen Services and Care].

4. Actions/instruments/finances

Reform of the state legislation regarding senior-citizen services and care: Alten- und Pflegegesetz [Old Age and Nursing Care Act] (APG NRW) and Wohn- und Teilhabegesetz (WTG NRW) [Residential and Participation Act] North Rhine Westphalia.

The reform of the state legislation regarding senior-citizen services and care has paved the way towards more sustainable policy decisions in this area. Involvement of care-giving relatives, enhancement of the municipal nursing care infrastructure including complementary outpatient care, and a promotion of alternative housing solutions have enabled many old people to stay in their own home. The diversification of services in the WTG NRW offering further housing and support options reinforces the public commitment to enhanced quality.

Masterplan altengerechte Quartiere.NRW [Master Plan for Neighborhoods Adapted to Senior Citizens] currently focuses on four fields of action:

Satisfaction of basic needs

This field of action relates to the need for a secure supply in relation to housing, housekeeping and personal care as a precondition for an independent and self-determined life. It is based on the fundamental idea of neighborhoods suited for the elderly that provide a maximum of products and services possible directly to those whose sphere has become increasingly restricted due to illness or disability. New concepts and ideas are called for in this area.

Housing

The development of neighborhoods suited for the elderly aims at enabling elderly people to remain in their own homes through structural adjustments or at least at providing them with suitable „substitutes“ such as residential communities or shared homes in the neighborhood. In this context, the housing environment needs to be analyzed in terms of accessibility or safety as well as in relation to mobility and social interaction aspects. The goal should be to provide a real possibility to choose among the different housing types at an advanced age.

Experiencing togetherness

Our society is constantly changing. Family structures vanish or change, e.g. due to increased workplace mobility; more people are living alone.

Demographic change will rather aggravate this evolution. Therefore, personal networks such as a circle of friends and acquaintances or neighbors become increasingly significant and should be promoted with low-threshold programs and accessible opportunities close to people's residential area. Intergenerational contacts are enriching for everyone. We need spaces of encounter that can also be places of political participation as well as of educational, cultural and sports activities.

Participation

More and more people are looking for meaningful and often community-oriented activities in their post-occupational phase and at an advanced age. They would like to participate in social life and to support the community with their experience and their input. This potential should be harvested to a greater extent than before. In addition to being a preventive measure, neighborhoods which are designed to avoid dependence on care, promote active individual participation and involvement.

Landesförderplan Alter und Pflege [State Promotion Plan for Senior-Citizen Services and Care] According to section 19 of the of the PG NRW as amended on October 2, 2014, the competent ministry creates a Landesförderplan [State Promotion Plan] for each legislative period in which the State Government's presents its plans to strengthen the social support structure for elderly people and for individuals in need of care as well as their relatives. Inter alia, this includes the creation, development and quality adjustments of care services, counseling offers, nursing facilities and alternative housing forms in a concentrated and systematic way. The annual financing budget amounts to 8.0 million €. In 2015, the plan was tested as part of the „Vorläufiger Landesförderplan Alter und Pflege“ [Provisional State Promotion Plan for Senior-Citizen Services and Care]; in 2016, the State Promotion Plan is to be implemented under real-life conditions. The ‚Landesförderplan Alter und Pflege‘ is created for the term of one legislative period. From 2016, the annual funding will be 9.1 million €. In December 2015, the Landesförderplan Alter und Pflege 2016/2017 was announced.

Landesaltenbericht [Senior-Citizen Report of the State]

In March 20, 2012, the State Government initiated the development and implementation of a continuous monitoring process on the status of the older generation in North Rhine-Westphalia

under the leadership of the MGEPA. Section 20 APG NRW tasks the State to undertake a regular reporting of on the state of the elderly in NRW. It is also used as a basis for planning in relation to the Landesförderplan regulated in section 19 APG NRW. Senior-citizen reporting is a procedural system undertaken once per legislative term with an overall report on the situation of older people in NRW: „Alt werden in Nordrhein-Westfalen“ [growing old in North Rhine-Westphalia] that will feed into the general debate on an aging population. Publication of the first Landesaltenbericht has been scheduled for the second quarter of 2016.

Focal area # 7:

State initiative „NRW hält zusammen ... für ein Leben ohne Armut und Ausgrenzung“ [Together in NRW ... for a life without poverty and marginalization]

1. Initial situation

The German and North Rhine-Westphalian economy and labor market underwent positive developments in the past years. The number of employees subject to social insurance contributions has reached a new peak level. Most people are well-off and able to maintain a good standard of living for themselves and their children and to participate in social, cultural, economic and political life. In contrast, however, there are also many individuals who are adversely affected by these developments: more and more people are no longer able to make a living due to unemployment but also increasingly in spite of having a job. Therefore, controlling social inequality, poverty and social marginalization in NRW is and remains an important and permanent political and social task.

2. Important interplay with other fields of action

Prevention and control of poverty and social marginalization are interrelated with many other policy areas, e.g. with education and labor policy, but also with issues around environmental justice and health. Neighborhoods with a high concentration of low-income households are often found in areas affected by higher levels of environmental pollution (noise, air pollutants, bioclimatic contamination) and a more restricted access to environmental resources (e.g. open spaces). This comes with significant health risks for the affected population. The issue of environmental justice, the interrelations between environment, health and the social situation is one of the focal areas of the Masterplan Umwelt und Gesundheit NRW [Master Plan for Environmental and Health Issues in NRW].

3. Medium-term goals

The state initiative „NRW hält zusammen ... für ein Leben ohne Armut und Ausgrenzung“ [Together in NRW ... for a life without poverty and marginalization] aims at a just and humane society with equal opportunities for everyone to engage in societal participation. In addition, it strives to take extended measures to prevent poverty, and, in cooperation with the state pilot project „Kein Kind zurücklassen! Kommunen in NRW beugen vor“ (KEKIZ) [Municipal Communities Take Preventive Actions for All Children], to develop integrated prevention processes („Präventionsketten“) for different target groups. This includes the provision of support especially within the (social) environment of those concerned and in consideration of differences in age-related living conditions.

4. Actions/instruments/finances

As part of the state initiative „NRW hält zusammen – für ein Leben ohne Armut und Ausgrenzung“ [Together in NRW—for a life without poverty and marginalization], the State Government adopts many projects, measures and actions to fight direct and indirect poverty as well as marginalization. Examples include:

- › the Fachstelle für sozialraumorientierte Armutsbekämpfung (FSA) [Specialist Office to Control Poverty with a Focus on Social Communities],

- › the program for action against homelessness or the
- › „Alle Kinder essen mit“ [Meals for All Children] hardship fund.

In addition, the opportunities provided by the European Structural Funds are used, inter alia, to fight poverty within social communities. With these funds, the European Union aims at, among other things, counteracting poverty and social marginalization. Therefore, preventive actions targeting children, youths and families, measures to improve public spaces, or actions for environmental revitalization on a municipal level could be implemented through a combination of EU funds and the funding programs of the Federal and State Government (until 2020) as part of the campaign „Starke Quartiere – starke Menschen“ [strong neighborhoods – strong people]. Priority is given to the funding of pilot projects.

Moreover, the State Government sponsors projects and measures that put a special focus on children, youths and their families living in underprivileged neighborhoods. As this group of people has been particularly vulnerable to poverty and marginalization and affected by a growing poverty risk for many years, their participation opportunities and prospects in life shall be improved.

C. Implementation of the NRW Sustainability Strategy

I. Structures for a Sustainable NRW

1. State Government

The State Cabinet decides on all matters regarding the implementation and further development of the NRW Sustainability Strategy based on a cabinet draft submitted by the Minister for Climate Protection, Environment, Agriculture, Nature and Consumer Protection.

The implementation and funding of the items defined under the sustainability strategy, in the context of the resources allocated by the budgetary legislator, fall within the scope of responsibility of the ministers and departments concerned.

The Inter-Ministerial Working Group on the Sustainability Strategy, established in 2013 („IMAG Nachhaltigkeitsstrategie“), coordinates, in close collaboration with all relevant ministries, the implementation of the strategy under the presidency of the Ministry for Climate Protection, Environment, Agriculture, Nature and Consumer Protection, and drafts a progress report.

2. Municipalities

Embracing sustainability on a municipal level and the possibility to test new approaches locally are essential preconditions for effective implementation. The municipalities and the local citizens are the backbone of sustainable development as reflected in the Local Agenda 21. This also holds true for NRW.

After the Rio Conference of 1992, Agenda 21 related sustainability processes were initiated in many municipal communities in NRW: these processes, which were often driven especially by civic commitment in the beginning, nowadays also involve municipal actors and policy-makers. Many NRW cities, municipalities and districts are national or even international leaders in terms of municipal sustainability – often in spite of difficult budgetary conditions. For example, the city of Dortmund was awarded the German Sustainability Award (Deutscher Nachhaltigkeitspreis) as the most sustainable large city in 2014, and the district of Steinfurt received the German Local Sustainability Award Zeitzeichen.

The State Government also aims at reinforcing the local and regional sustainability processes below state level through its own sustainability strategy. The new international Sustainable Development Goals will also stimulate new ideas for municipal sustainability in NRW e.g. in the context of international town twinning agreements of the municipalities in NRW.

To include the municipal experiences and perspectives in the elaboration process of the NRW Sustainability Strategy, the Ministry for Climate Protection, Environment, Agriculture, Nature and Consumer Protection has promoted a dialog called ‚Chefsache Nachhaltigkeit‘ [Sustainability as a Priority] as part of a project of the Landesarbeitsgemeinschaft [Regional Working Group] Agenda 21 NRW e.V. (LAG 21 NRW) since 2014. In collaboration with fifteen Mayors and heads of district administrations and/or adjunctive representatives designated by the three leading municipal associations (kommunale Spitzenverbände) new pathways for sustainability were contemplated. Additionally, annual municipal NRW Sustainability Conferences and events with the municipal federations of the political parties represented in the State Parliament have taken place since 2014.

During the implementation phase of the NRW Sustainability Strategy, an intensive dialog with municipal representatives from the NRW Association of Cities (Städtetag), from the NRW Association of Towns and Municipalities (Städte- und Gemeindebund NRW) and from the NRW Association of Districts (Landkreistag NRW) shall be continued and will focus, among other things, on indicators.

3. Civil society

The implementation of sustainability throughout the State of North Rhine-Westphalia can only be successful if the ideas and implementation potentials of players from the civil society, business, science, churches and trade unions are considered. Civic commitment is of great importance when it comes to the implementation of on-the-ground activities related to sustainability. Moreover, media plays an important role in public debate on sustainability.

The State Government has involved these players in the elaboration phase of the strategy and wishes to continue this approach during the implementation phase. Participation, transparency and easy accessibility are important prerequisites for a successful exchange between stakeholders.

In the context of the implementation and further development of the strategy, we will assess whether participation processes will need to become more institutionalized in the future. For the time being, the already existing exchange processes will be continued.

4. State Parliament (Landtag)

In view of the significance of sustainability issues and the envisaged long-term orientations of state politics and the State NRW, constructive monitoring of the Sustainability Strategy by the State Parliament and the parliamentary groups of the Landtag is an important precondition for success.

Therefore, the Landtag and all parliamentary groups have been strongly involved in the elaboration process of the Sustainability Strategy, especially as part of the annual NRW Sustainability Conferences (NRW-Nachhaltigkeitstagungen). The Sustainability Conferences 2013 and 2015 were held in cooperation with the parliament at the Landtag. During the elaboration process, all parliamentary groups have provided important ideas for a strategy that aims at long-term effectiveness.

The sustainability strategy was presented to the Landtag during the consultation phase and directly after being passed by the State Government.

II. Goals and indicators

Goals are not only defined for the 7 focal areas (see part B), but also for all 19 fields of action of the strategy (see part A). In addition, many indicators and benchmarks draw upon already existing monitoring frameworks in the context of other state strategies and policies.

To ensure consistency in regard to federal, EU and international sustainability policies the strategy's goals and indicators are mostly aligned with the goals and indicators of the National Sustainability Strategy and the indicator report on the National Sustainability Strategy from 2014. However, no state-specific data, and hence no NRW-specific information, is available for some of the indicators used on the Federal Government level, and alternative indicators had to be chosen for this purpose. Where necessary, the federal indicator set was selectively supplemented in order to appropriately illustrate political responsibilities and priorities on the state level. Furthermore, the strategy also reflects the 17 international Sustainable Development Goals (SDGs) focusing on the target year 2030 to the extent these responsibilities and tasks address the State of North Rhine-Westphalia.

The State Government has generally attempted to consider the current discussions about goals and indicators on an international and European level as well as the debates about continuation of the National Sustainability Strategy in 2016 up to the target year 2030 (e.g. the recommendations of the Council for Sustainable Development to the Head of the Federal Chancellery about the further development of the National Sustainability Strategy). The 17 SDGs are also covered to a great extent. Only parts of the SDGs 10 (reduction of inequality,

inter alia, among the countries), 14 (oceans, seas and marine resources) and 16 (universal access to justice, effective, accountable institutions on all levels, inter alia) are not covered due to the absence of responsibility and/or a lack of direct concern of the State of North Rhine-Westphalia.

The 169 targets⁶ related to the SDGs have only been considered to a minor extent in the proposed monitoring framework. In this respect, it remains to be seen how the Federal Government will address these targets in the context of the National Sustainability Strategy.

It should be pointed out that the indicators chosen to measure quantitative goals (target indicators) do not cover an entire issue area but only touch upon individual aspects of one or sometimes also several issue areas. Some developments such as demographic development, are observed through indicators for which the State Government is not able or willing to determine a target value (background indicators).

Some of the goals and indicators are still subject to scrutiny reservations, which are to be dissolved in the course of the process. An assessment will be done to find out whether multi-indicator indices, such as the regional prosperity index and the ecological footprint or indices which more closely reflect the OECD Better Life Index or the UN Human Development Index should be used in the reports.

The agreed goals and indicators are listed in the following table which also indicates the respective indicators of the National Strategy and the related SDGs.

⁶See list of the indicator areas of the National Sustainability Strategy and the SDGs in the Annex.

Field of action	Affected international development goal (SDG)		
Sustainability postulates	Indicators	Goals	Remarks
Climate protection/ energy transition	SDGs 13 + 7		
Reduction of greenhouse gases	Greenhouse gas emissions (1)	Reduction by at least 25 % by 2020 and by at least 80 % by 2050 (compared to 1990). For 2030, the State Government uses the scenario calculations as part of the Climate Protection Plan, according to which the emissions will decrease by around 44% by 2030, incl. the effective contribution of the European emissions trading scheme ⁷ , as a basis for assessment.	Acc. to Climate Protection Act NRW, Climate Protection Plan NRW
Promotion of renewable energies	Electricity from renewable sources of energy as a proportion of the energy consumption (3b)	By 2025, more than 30% of the electricity should be produced through renewable sources of energy. By 2050, this figure should be increased to 80% in the context of ambitious promotion goals on a federal level.	Acc. to Climate Protection Act NRW
Economical and efficient use of energy resources	Primary energy consumption (1b) Final energy productivity (ratio GDP/final energy consumption) (1a)	According to scenario calculations as part of the Climate Protection Plan, it seems possible to reduce primary energy consumption by 12 to 18 % between 2010 and 2020, and by 45 to 59% by 2050 and to increase final energy productivity in the long term from 1.5 to 1.8 per year by 2050.	Acc. to Climate Protection Act NRW
Ensuring long-term climate neutrality of existing buildings	Percentage of energetic renovation of buildings ⁸	In the context of the long-term goal of a climate-neutral building stock until 2050 an average annual energetic renovation rate of 2 % is envisaged. ⁹	Acc. to Climate Protection Act NRW
Strengthening local climate protection	Integrated municipal climate protection concepts	In all municipalities integrated climate protection and adaptation concepts ¹⁰	
Limitation of the negative impact of climate change	Damage expenses in the residential building insurance	Reduction and/or at least stabilization of the weather-induced damage expenses of the comprehensive homeowners' insurance.	Acc. to Climate Protection Act NRW; as part of the monitoring of the Climate Protection Plan, the adaptation goals and indicators might be adjusted.
	Weather-induced working hours of the THW (Technical Relief Service)	Reduction and/or at least stabilization of the working hours of the THW due to weather-induced events of damage.	

• = Focal areas

* = Indicators used in a similar way in the National Sustainability Strategy (as of 2014) are marked in green; the indicator number of the nat. strategy is indicated in brackets. An overview of the indicators of the National Sustainability Strategy and the Sustainable Development Goals (SDGs) are included in the Annex on p. 49.

⁷ The draft of the Climate Protection Plan (Klimaschutzplan) as it was passed by the cabinet on June 16, 2015 reads on p. 41: „In den nächsten Jahren sind die Weichen für Investitionsentscheidungen für den Zeitraum bis 2030 zu stellen. Die Landesregierung hält es für sinnvoll, sich auch für diesen Zeitraum an den Bandbreiten aus den Szenario-rechnungen des Wuppertal Instituts zu orientieren.“ [In the coming years, the course shall be set for investment decisions for the period until 2030. According to the State Government, following the entire spectrum of the scenario calculations of the Wuppertal Institute also for this period is useful.] (see <https://www.klimaschutz.nrw.de/dokumente/klimaschutzplan-nrw/>)

⁸ For the monitoring in relation to the Climate Protection Plan (Klimaschutzplan), the use of an indicator for the energetic renovation rate, which should then also be used for the sustainability strategy, is currently assessed. Therefore, also the indicator situation on the federal level is taken into account.

⁹ Climate Protection Plan (Klimaschutzplan) from June 2015, p. 37: „Im Rahmen eines langfristig klimaneutralen Gebäudebestands wird eine durchschnittliche energetische jährliche Sanierungsrate von zwei Prozent bis 2050 angestrebt.“ [As part of a long-term climate-neutral building stock, an average annual energetic restoration rate of two percent should be reached by 2050]

¹⁰ Section 51 of the Klimaschutzgesetz NRW (NRW Climate Protection Law) contains a power of executive order (Verordnungsermächtigung) according to which the municipalities can be obliged to set up such integrated concepts.

Currently, it is not yet clear whether, when and based on which precise regulations this power will be implemented.

Field of action	Affected international development goal (SDG)		
Sustainability postulates	Indicators	Goals	Remarks
Sustainable business	SDGs 8 + 9 + 12		
Promotion of sustainable business activity		NRW should become a leading location for climate- and environmentally friendly products, services, technologies and processes.	Acc. to the Green Economy Strategy NRW 2015.
	Workforce employed in the environmental industry	Substantial increase of the number of professionals employed in the environmental industry to a level of 420,000 by 2025 ¹¹ .	
	Gross added value of the environmental economy	Substantial increase of the gross added value of the green economy.	
Economical and efficient use of resources	Raw material productivity (ratio GDP/raw materials consumption) (1c)	Substantial increase. A precise goal will be defined as soon as the indicators and objectives of the Federal Government related to resource consumption for 2030 have been defined	
Protection of natural resources	SDGs 6 + 15		
Conservation of species – protection of habitats		The decline of biodiversity should be stopped and biodiversity should be strengthened again. Therefore, the following precise goals should be pursued:	
	Endangered species („Red List“)	The majority of habitats and species have a favorable status of conservation: the percentage of Red List species should be reduced to 40% by 2030.	
	Diversity of species and landscape quality (5)	Increase of biodiversity in all landscape spaces by 2030 (state-wide achievement of the best local or regional situation in the time period 1997-2015).	
	Surface area of the state-wide biotope network	In 2030, 15% of the surface area of the State will be biotope network areas.	
	Portion of the purely coniferous woodlands	Increase of the stability and adaptability of the forests: reduction of purely coniferous woodlands to < 20% by 2030.	
Conservation and continuation of sustainable forestry	Percentage of certified woodland (FSC and PEFC)	Increase of the percentage of certified woodland in relation to the overall forests by 2030.	
Conservation and protection of the ecological water management systems	Environmental condition of surface waters	All flowing water bodies will reach good environmental quality and/or a good ecological potential in accordance with the EU Water Framework Directive by 2027.	With exceptions for some waters in the Rhenish brown coal area
	Nitrate in the ground water	Reduction of the nitrate load of all groundwater bodies to < 50 mg/l by 2027 at the latest	

• = Focal areas

* = Indicators used in a similar way in the National Sustainability Strategy (as of 2014) are marked in green; the indicator number of the nat. strategy is indicated in brackets. An overview of the indicators of the National Sustainability Strategy and the Sustainable Development Goals (SDGs) are included in the Annex on p. 49.

¹¹Green Economy (Umweltwirtschaft) shall be understood in the sense of the NRW Environmental Report 2015 (Umweltwirtschaftsbericht NRW 2015).

Field of action	Affected international development goal (SDG)		
Sustainability postulates	Indicators	Goals	Remarks
Reduction of land use	Increase of the settlement and transportation areas (4)	Limitation of land use for settlement and transportation areas to 5 ha per day by 2020. The aim is a zero net consumption in the long run.	After defining a 2030 goal as part of the National Sustainability Strategy, negotiations will be held about a 2030 goal for NRW
Improvement of the ambient air quality	Particulate Matter (PM10) and nitrogen oxide (NO2) concentration (similar to 13)	By 2030, the average annual median values of the immission concentrations of PM10 in urban locations are to be reduced to 20 µg/m ³ and for NO2 to 40 µg/m ³ , even on roads in urban agglomerations.	As stipulated by the applicable Who benchmarks
Reduction of noise pollution	Noise pollution at night and/or day, evening, night	In consideration of the WHO recommendations, noise pollution in residential areas shall be reduced significantly by 2030. Therefore, research findings on the effects of noise demonstrating that even noise pollution at levels of > 65 dB(A) during the day and > 55 dB(A) at night have a detrimental effect on our health are to be taken into account.	
Demographic change	SDGs 3 + 11 + 16		
Shaping demographic change		Ensuring participation and self-determination of elderly people in our society	
	Percentage of the people in need of care who receive outpatient services	Increase of the percentage of individuals in need of care who receive care through outpatient services or as inhabitants of shared residences.	
	Municipal senior-citizen representative councils	Increase of the number of senior-citizens in representative councils on municipal level.	
	Number of the consulting sessions of the Landesbüro altengerechte Quartiere.NRW and of the Landesbüro innovative Wohnformen.NRW	Promotion of local concepts for the development of neighbourhoods suited for the elderly.	
	Utilization of subsidies in the context of the applicable Landesförderplan Alter und Pflege [State Promotion Plan for Senior-Citizen Services and Care]		
For a longer, healthier life	Premature mortality (14a/b)	Reduction of premature mortality (deaths per 100.000 inhabitants younger than 5 years).	
Increase of the employment rate among elderly people	Employment rate % (16b)	Increase of the employment rate among elderly people (from age 55 up to the statutory retirement age), especially of elderly women.	
Reducing the risk of poverty among the elderly	At-risk-of-poverty rate	Reduction of the (gender-specific) poverty risks at an advanced age.	

• = Focal areas

* = Indicators used in a similar way in the National Sustainability Strategy (as of 2014) are marked in green; the indicator number of the nat. strategy is indicated in brackets. An overview of the indicators of the National Sustainability Strategy and the Sustainable Development Goals (SDGs) are included in the Annex on p. 49.

Field of action	Affected international development goal (SDG)		Remarks
Sustainability postulates	Indicators	Goals	
Social cohesion and societal participation	SDGs 1 + 10 + 16		
Ensuring social cohesion and societal participation		Prevention and control of poverty Support of people in difficult living conditions. ¹² Improvement of the quality of life in disadvantaged neighborhoods	
Reducing poverty risks	At-risk-of-poverty rate	See above: Demographic change	
Promoting just income distribution	Income distribution	Reduction of the income differences ¹³ (ratio of the income of the 90 th percentile to the income of the 10 th percentile of the income distribution).	
Improvement of early childhood education as well as integration and reconciliation of family and working life	Full-time day care for children from age 1 until the start of school (1a/b)	Need-based full-time day care for children from age 1 until pre-school in relation to all children of the age range.	
Decent work – fair work	SDG 8		
Promoting good and fair work		Systematic use of the operational safety principles to make companies improve safety and health protection of the employees and company-based health management in SMEs. Improvement of working conditions in the context of the „Decent work—fair work“ state campaign initially focusing on transformation of mini jobs into employment contracts subject to social insurance contributions, fair organization of temporary employment and service contracts (i.e. by strengthening the collective wage system) and assurance of fair wages. Raising awareness among the public for the combat of the worst forms of child labor through people's own consumption behavior. A mentality change within society should strengthen the market of fair-trade products in NRW.	
Increasing the employment rate, especially among women	Employment rate (16a/b)	Increase of the employment rate of people aged 15 up to the statutory retirement age by 2030.	

• = Focal areas

* = Indicators used in a similar way in the National Sustainability Strategy (as of 2014) are marked in green; the indicator number of the nat. strategy is indicated in brackets. An overview of the indicators of the National Sustainability Strategy and the Sustainable Development Goals (SDGs) are included in the Annex on p. 49.

¹² In the context of equal participation with regard to life circumstances and groups of persons the indicators for the actions fields ‚demographic change‘, ‚decent work—fair work‘, and ‚integration‘ are of relevance.

¹³ Income distribution based on the selected indicator is a highly limited and simplified reflection of ‚social cohesion‘. Moreover, income distribution is a factor which can only be impacted indirectly, if at all, by State Government funding.

Field of action	Affected international development goal (SDG)		
Sustainability postulates	Indicators	Goals	Remarks
Integration	SDG 16		
Creating a culture of participation and warm welcome ¹⁴	Employment rate of people from migrant backgrounds	Approximation of the employment rate of people from migrant backgrounds to the average employment rate of the general population	
	Highest school certificate of people from migrant backgrounds	Promotion of educational participation and equal opportunities for people from migrant backgrounds	
	Highest professional qualification of people from migrant backgrounds, with differentiations	Improved access to the labor market for people from migrant backgrounds incl. the resulting strengthening of their societal participation and their position on the labor market.	
	At-risk-of-poverty rate among people from migrant backgrounds	Reduction of the at-risk-of-poverty rate for people from migrant backgrounds	The at-risk-of-poverty rate is one of the indicators used to measure the level of relative income poverty
Sustainable financial polices	SDGs 8		
Securing viable public finances	State deficit/surplus/ structural balance (6a)	Structurally balanced state budgets from 2020	„Structural balance“ is an indicator which is still being refined at present.
	Debt ratio (6b)	Sustainable reduction of the debt ratio from 2020	
Sustainable development of urban areas and neighbourhoods	SDGs 9 + 11		
Promotion of sustainable neighborhoods in cities and in rural areas		Equivalence of the living conditions in metropolitan regions, urban regions and rural areas. Sustainable, climate-friendly, social and livable cities.	
Reduction of land use		See above part on conservation of natural resources.	
Climate-neutral upgrade of existing buildings		See above in the part on climate protection/energy transition.	

* = Focal areas

* = Indicators used in a similar way in the National Sustainability Strategy (as of 2014) are marked in green; the indicator number of the nat. strategy is indicated in brackets. An overview of the indicators of the National Sustainability Strategy and the Sustainable Development Goals (SDGs) are included in the Annex on p. 49.

¹⁴ All indicators for integration must consider the differences with regard to integration between those who have lived here for an extended period of time or were often born here (before 2015), and those who have just come to North Rhine-Westphalia recently and will stay here (from 2015 and later).

Field of action	Affected international development goal (SDG)		
Sustainability postulates	Indicators	Goals	Remarks
Sustainable mobility	SDG 9		
Ensuring mobility – protecting the environment	Breakdown of traffic volume for urban passenger transport based on means of transport	Significant increase of the share of pedestrians, cyclists, pedelec users, busses and trains, e-mobility, car pooling etc. in the traffic volume of urban transport in the future. For local mobility (which includes pedestrian and bicycle traffic, including pedelec traffic in particular) in inner city areas, we envisage a 60% modal share (number of trips) for this type of transportation by the year 2030.	The relevant data will be collected in 2017 via a specific evaluation process for NRW in the context of the „Mobility in Germany“ survey.
	Breakdown of traffic volume for regional and long-distance passenger transport based on means of transport	Further overhaul of the road, rail and inland waterway infrastructure systems. Increase of the efficiency of the goods transportation infrastructure esp. through extension of the co-modal intersections and extension of the railway infrastructure. Extension of the capacity and enhancement of the attractiveness of the regional passenger railway traffic through new offers (e.g. RRX) and modernization of train stations (e.g. MOF). Taking advantage of the opportunities in connection with an increased use of e-mobility, digital technologies and other new developments.	
Sustainable consumption/ sustainable lifestyles	SDG 12		
Promoting sustainable consumption and sustainable lifestyles		Raising awareness among citizens as well as pointing out alternatives for action with regard to a climate-friendly and resource-efficient consumption behavior and sustainable lifestyles.	
	Recycling rate for household waste	Achievement of a recycling rate of 65 % until 2020 (percentage of the recyclable bio waste and waste of value of the overall quantity of household waste).	According to an amendment of the EU Waste Regulation, goals for 2030 are to be defined.
	Final energy consumption of private households (without mobility)	Reduction of the final energy consumption of private households (in petajoule) by 2030	
	Portion of expenses for bio foods	Substantial increase of the portion of expenses for organically produced foods (with EU Bio label) in relation to the overall expenses for food by 2030.	
	Resource consumption of private households	Substantial decrease of resource consumption of private households	Based on calculations of the Wuppertal Institute which are currently being refined.
		Support of initiatives and social innovations in the field of sustainable consumption.	

• = Indicators used in a similar way in the National Sustainability Strategy (as of 2014) are marked in green; the indicator number of the nat. strategy is indicated in brackets. An overview of the indicators of the National Sustainability Strategy and the Sustainable Development Goals (SDGs) are included in the Annex on p. 49.

Field of action	Affected international development goal (SDG)		
Sustainability postulates	Indicators	Goals	Remarks
Land cultivation	SDG 2		
Sustainable production in our cultural landscapes	Nitrogen surplus (12a)	Reduction of the average nitrogen balance surplus to 60-75 kg N/ha by 2030.	The indicated target value for the nitrogen surplus refers to the latest LIKI indicator but can change as a function of an adjustment of the accounting methodology.
	Ecological agriculture (12b)	Increase of the percentage of areas with organic agriculture in relation to the overall area used for agriculture.	
	Increase of the settlement and transportation areas (4)	See above part on conservation of nat. resources.	
	Nitrate in the ground water	See above part on conservation of nat. resources.	
Health	SDGs 3		
Promoting health and reinforcing prevention	Percentage of obese and overweight individuals (14e)	Reduction of the portion of obese or overweight adults and/or students [modification agreed between IT.NRW and MGEPA]	If appropriate, future modification of the indicator on the basis of new scientific knowledge.
	Percentage of smokers (14c/d)	Reduction of the percentage of occasional or regular smokers.	
	Percentage of early retirements due to mental disorder	Reduction of the percentage of early retirements due to mental disorders	
One-world policy/Euro-pean and international dimension	SDGs 4 + 17		
Contributing to a globally sustainable development	Imports from developing countries (21)	Improving trade opportunities for developing countries by: Increase of the value of imports from developing countries to NRW. ¹⁵	
	Landesprogramme [State programs] in the field of one-world politics	Keeping the state programs on an adequate level. ¹⁶	
	Percentage of foreign students	Strengthening the international educational exchange by increasing the percentage of foreign students at universities in NRW.	

* = Indicators used in a similar way in the National Sustainability Strategy (as of 2014) are marked in green; the indicator number of the nat. strategy is indicated in brackets. An overview of the indicators of the National Sustainability Strategy and the Sustainable Development Goals (SDGs) are included in the Annex on p. 49.

¹⁵Increasing the value of imports from developing countries is a target which implies another increase in additional transport routes. As a result, it conflicts with other sustainability targets such as the reduction of greenhouse emissions. Moreover, achieving this goal is frequently associated with negative consequences of exploitation of raw materials in the exporting countries. Since a positive economic development for developing countries without them increasingly participating in world trade seems difficult to conceive, and in view of the fact that doubling the share of the participation in world trade for the least developed countries is a sub target of the SDGs, this goal is deemed to make sense regardless of the abovementioned considerations.

¹⁶The programs are: the Programm zur Förderung der Kommunalen Entwicklungszusammenarbeit [Program for the promotion of municipal cooperation], the Programm zur Förderung der „Entwicklungspolitischen Informations- und Bildungsarbeit (EpiB) [Program for the promotion of information and educational work in the context of development politics]; the program for promoters of educational work on development cooperation in North Rhine-Westphalia; subsidies for services rendered by young volunteers in developing countries – Konkreter Friedensdienst (KFD) [Tangible Civil Peace Service Initiative]; Program for the promotion of development projects of the civil society abroad („Auslandsprogramm“) [international program]

Field of action	Affected international development goal (SDG)		
Sustainability postulates	Indicators	Goals	Remarks
Gender equality	SDG 5		
Promoting gender equality in society and at work	Women in management positions	Increasing the percentage of women in management positions in companies and in the supreme state authorities. ¹⁷	
	Pay gap between men and women (18)	Reduction of the pay gap between men and women.	
	Poverty rate (gender-specific)	See above: Social cohesion.	
Accessibility/inclusion	SDG 16		
Enabling joint learning	Promoting the rate of integration among students with special educational needs	Continuous increase of the percentage of special-needs students attending regular schools by 2030.	
Sustainability in the municipal communities (Local Agenda 21)	SDG 11		
Activate commitment to sustainability in all municipalities	Municipalities with agenda decision(s) about a sustainability strategy. Municipalities with sustainability committees or with their own programs	Increase of the number of municipalities that strategically pursue sustainability.	based on findings of the LAG 21 NRW e.V.
Civic commitment/participation	SDG 16		
Mobilization of civic commitment for a sustainable and open society	Percentage of committed citizens according to the volunteer survey	Increase of committed citizens based on the volunteer survey; broken down by age groups and gender as well as, where applicable, by areas of commitment	

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¹⁷Plus the data protection and freedom of information commissioners of the states and the state administrations.

Field of action	Affected international development goal (SDG)		
Sustainability postulates	Indicators	Goals	Remarks
Education and science	SDGs 4 + 9		
		Ensuring the best education for everyone, especially through systematic and permanent implementation of Education for Sustainable Development in all educational areas.	
	Individuals aged 18 to 24 without any school-leaving qualification (9a)	Continuous reduction of the percentage of people aged 18 to 24 who failed to complete their secondary education (qualification to attend university) and/or vocational training by 2030. Improvement of the flexibility of and equal opportunities within the education system.	
Shaping the future with new solutions	Innovative companies making improvements	Increasing the percentage of companies which have launched a product or process innovation in the previous year by 2030.	

• = Indicators used in a similar way in the National Sustainability Strategy (as of 2014) are marked in green; the indicator number of the nat. strategy is indicated in brackets. An overview of the indicators of the National Sustainability Strategy and the Sustainable Development Goals (SDGs) are included in the Annex on p. 49.

Background indicators

I. Demographic development:

Life expectancy	- Life expectancy (average life expectancy at birth as well as further average life expectancy at the age of 65, differentiated by gender)
Age and youth dependency ratio	- Age dependency ratio (number of people aged 65 and older per 100 people aged between 20 and 65 years, differentiated by gender) - Youth dependency ratio (number of people younger than 20 years per 100 people aged between 20 and 65 years, differentiated by gender)
People from a migrant background	- Population from a migrant background (percentage of people with a migrant background as a proportion of the overall population, differentiated by gender)

II. Economic development:

	- Gross domestic product (GDP) per inhabitant (10)
	- Gross capital investments as a proportion of the GDP (7)

III. Education and science:

	- Portion of the people aged between 30 and 34 with a university education or a comparable degree (tertiary or post-secondary, non-tertiary degree) (9b)
	- Private and public expenditures for research and development as a proportion of the GDP (8)
	- Patent applications and patent intensity

* = Indicators used in a similar way in the National Sustainability Strategy (as of 2014) are marked in green; the indicator number of the nat. strategy is indicated in brackets.

III. Overarching implementation tools of the NRW Sustainability Strategy

1. Annual NRW Sustainability Conferences

As a platform for multidisciplinary dialog on questions regarding the future of NRW, each of the three annual NRW Sustainability Conferences has already brought together around 400 players from among the civil society, municipal communities, businesses and science from all over the state. The annual conferences have been central places of participation for the different elaboration phases of the NRW Sustainability Strategy and, thanks to the participation of respectively three ministers, also a symbol for the interdepartmental nature of the strategy. In addition, representatives of all parliamentary groups from the Landtag have contributed with their own input to the conferences and hence to the development of the strategy. Last but not least, the conferences have also been forums for the exchange with the Federal Government level, the European level and the municipalities of NRW and hence an important element for successful vertical integration of the sustainability concept.

In the implementation and further development phase, the annual NRW Sustainability Conferences will also play an important role as platforms for exchange and communication.

Thereby, further players from the entire spectrum of state politics and society should be involved, inter alia in the context of workshops and interactive events. The involvement of young voices from youth associations and local schools in the conference should be intensified in the future; for example, the cooperation with the Regional Youth Council (Landesjugendring) should be further developed. Thus the „voices of the young generation“ should be given significant attention and invited to share their visions of a livable future.

The municipal NRW Sustainability Conferences that have taken place since 2014 and that have been organized by the Landesarbeitsgemeinschaft [Regional Working Group] Agenda 21 NRW (LAG 21) with the support of the leading municipal associations (kommunale Spitzenverbände) and funding by the State Government have proven to be a successful dialog platform for administrative, political and civil society players on a municipal level. Therefore, they should continue to give an important impetus for sustainable development within municipalities through the practical exchange of best practices on a municipal level.

2. Communication around sustainability

Due to its abstract nature and its complexity as well as its connection with many different areas of life and policy, the issue of sustainability is hard to communicate. Access to information shall be facilitated through an upgrade of the existing website of the NRW Sustainability Strategy (www.nachhaltigkeit.nrw.de) to a NRW sustainability portal under the leadership of the Minister for Climate Protection, Environment, Agriculture, Nature and Consumer Protection. Extensive networking shall be used to also establish close links to other players in the field of sustainability.

3. Sustainability assessment for laws and regulations

The State Government shall introduce sustainability assessments for laws and regulations that will be based on the goals of this strategy.

4. Sustainability assessments for state programs

In addition, the State Government will to a greater extent consider aspects of sustainability for the design of funding programs, project calls and the respective selection criteria. The achievement of positive sustainability effects beyond the specific funding purpose, or at least the reduction of negative effects for the state's sustainability goals, will also continue to remain important considerations for the design of funding policies by the departments in the future. The goal of this measure is to ensure that the limited level of state funding available is used to successfully tackle the major social challenges of the region.

In the field of research, the „Forschungsstrategie Fortschritt NRW - Forschung und Innovation für nachhaltige Entwicklung 2013–2020“ [Research Strategy for Progress in NRW - Research and Innovation for Sustainable Development 2013-2020] has already led to a suitable alignment of research funding programs by the state.

In addition, sustainability considerations have played an important role for the design of the operational program of the EU structural and investment funds for NRW (especially the European Fund for Regional Development (EFRD), the European Social Fund (ESF) as well as the European Agricultural Fund for Rural Development (EAFRD)). Sustainability considerations will have a significant impact on the implementation of the programs by 2020 and the subsequent redesign of operational programs for the time after 2021 due to the provisions of the European treaties and the relevant EU regulations on sustainability as a cross-sectorial goal. A total of almost 2.5 billion € of EU funds and presumably a similar volume of co-funding resources, i.e. a considerable part out of the state budget, will be invested in sustainable projects in the context of the EU programs until 2020.

The State Government will integrate aspects of sustainability in the abovementioned sense in funding programs of the state in which the state has appropriate levels of autonomy. In order to avoid unpredictable risks for the departments on one hand, and to maintain the principle of departmental responsibility on the other hand, the organizational, staffing and financial framework conditions are to be clarified prior to the introduction of sustainability assessments.

5. Sustainable public procurement

The volume of public procurement by the State Government, the municipalities and other public purchasing entities in North Rhine-Westphalia has an estimated amount of 40-100 billion € per year.¹⁸ The total share of public procurement in relation to the economic activity (GDP) in Germany is around 10%. This procurement volume has a considerable impact on the situation of supply and demand of many markets of goods and services and indirectly also on the social and environmental situation in the bidder companies and their frequently international supply chains. Consideration of sustainability aspects in public procurement can therefore provide important stimuli for many sustainability issues such as environmental and climate protection, resource and energy efficiency, fair working conditions with a particular focus on women and families, fair trading relationships and the promotion of sustainable innovations.

The State of NRW has always been a leader with regard to a best possible use of available opportunities and integration of sustainability aspects in the public procurement processes. Already back in 2010, the then State Government passed decrees to consider environmental protection and energy efficiency issues and to avoid the worst forms of child labor in procurement processes.

With the NRW Law on Collective Labor Agreements and Public Procurement (Tariftreue- und Vergabegesetz NRW (TVgG-NRW)) in 2012, further aspects of sustainability such as fair compensation of labor, consideration of social issues, especially the core labor standards of the ILO, and the support of women as well as of reconciliation of work and family life were taken into account and also transformed into binding principles for the municipalities through state legislation. The overall purpose of the TVgG-NRW is to promote and support competition amongst tenders with respect to matters of cost effectiveness but also social sustainability, environmental protection, energy efficiency as well as quality and innovation of the offers. In addition, an office for sustainable procurement – newtradeNRW – was created by the Minister for Federal Affairs, European Affairs and Media who is responsible for the one-world policy in cooperation with the Stiftung Umwelt und Entwicklung NRW [Foundation for Environment and Development NRW] to contribute to the promotion of (socially) sustainable public procurement in NRW and to consider and support sustainable procurement efforts. An amendment of

¹⁸Broken down to NRW on the basis of the figures from Kienbaum, „Statistik der öffentlichen Beschaffung – Grundlagen und Methodik“, 1st intermediate report, 2014.

the TVgG is expected to be passed in 2016, which will contain additional upgrades and amendments besides the adaptation to changed regulations on a European and federal level.

However, making use of the great potential of sustainable public procurement is not primarily dependent on the further development of the legal grounds. It is also important to use the already existing legal room for maneuver in the state and the municipal communities, especially in the first decision-making phase of a procurement process, i.e. around the question of what exactly shall be purchased. The concentrated handling of the procurement measures by particularly qualified staff with good knowledge of the market as well as the use of functional service descriptions and the approval of side offers can often help achieve innovative solutions that lead to remarkable success in terms of sustainability while saving costs.

The issue of sustainable procurement is also an example for successful cooperation of the Federal and the State Governments. Based on decisions such as the conference of the Heads of the State and Senate Chancelleries with the Head of the Federal Chancellery, sustainable procurement was defined in 2009 as one of three focal areas of the cooperation between the federal and the state level related to sustainable development. On this basis, the State Governments and especially the State of North Rhine-Westphalia have actively become involved in the „Allianz für Nachhaltige Beschaffung“ [Alliance for Sustainable Procurement] launched in 2010 under the leadership of the Federal Ministry of Economics. One aspect of this alliance is the undertaking of important preparation work for the further development of the legal framework and towards ensuring practicality of sustainable procurement on a federal, state and municipal level. Based on a suggestion of the alliance, a competence center for sustainable procurement was created, inter alia, at the procurement office of the Federal Ministry of the Interior in Bonn, which also supports sustainable procurement in the federal states. Also in the future, North Rhine-Westphalia will continue its support for joint procurement efforts such as the compilation of practical purchase guidelines on important goods, e.g. electric vehicles, or the provision of an enhanced statistical basis.

6. Sustainable state administration

If the State Government wishes to promote a more sustainable behavior among businesses, municipal communities, civil society and other players and eventually also among the citizens, it will have to set a good example with its own actions. Hence the State Government strives to act on the basis of sustainability criteria, not only in its own policy process but also the actions of the state administration, in the future. Therefore, the State Government uses, among other aspects, the Federal Government's „Maßnahmenprogramm Nachhaltigkeit – Nachhaltigkeit konkret im Verwaltungshandeln umsetzen“ [Sustainability Action Program—Implementing Sustainability in the Administrative Practice], which was last updated on March 30, 2015 by the State Secretaries' Committee for Sustainable Development of the Federal Government, as a reference.

The alignment of procurement with aspects of sustainability (see 5.) is part of such a sustainable state administration. This also applies to construction contracts awarded by the state. The key issues paper (Eckpunktepapier) from November 2014 on building and property management of the state (Bau- und Liegenschaftsbetrieb, BLB NRW) reads: According to the certification systems of the DGNB (Deutsche Gesellschaft für Nachhaltiges Bauen) or BNB (Bewertungssystem Nachhaltiges Bauen), the requirements with regard to the economic, environmental and social quality of buildings are certified objectively and transparently. The BLB NRW will create a sustainability report every three years, starting in this election period. In addition, the procurement processes of the State Government with a focus on specific lead-buyers, for example procurement of IT products by the Landesbetrieb Information und Technik NRW [NRW State Office for Information and Technology] (IT.NRW), procurement of vehicles by the Ministry of Finance and procurement of paper by the Oberfinanzdirektion [State Revenue Office] of North Rhine- Westphalia offer particularly good preconditions for the consideration of sustainability criteria.

The canteens at the offices of the State Government are encouraged to consider sustainability criteria, similar to the ones selected on a federal level in the future. As a result of the state's canteen guideline as amended in 2015, the canteens have begun to consider nutritional requirements and also have come to fulfil the recently revised quality standard of the Deutsche Gesellschaft für Ernährung e.V. [German Nutrition Association] for company catering.

Moreover, the concept for a generally climate-neutral state administration, to be achieved by 2030 as provided for by the NRW climate protection law, is an important cornerstone of a sustainable state administration. The initial milestones for a climate-neutral state administration were defined as part of the Climate Protection Plan NRW passed by the State Government on June 16, 2015. A comprehensive concept for a climate-neutral state administration is to be elaborated on this basis. It will cover, inter alia, issues like climate-neutral buildings, the expansion of renewable energies on state-owned pieces of land and climate neutrality of the official mobility.

Apart from that, the working processes at the state authorities are to be organized in an environmentally friendly way (e.g. by means of reducing water consumption and waste).

The organization of events by the state administration will increasingly be based on the guideline for sustainable organization of events of the Federal Environmental Agency (Umweltbundesamt) in the future.

Also, aspects of sustainability shall be considered to a greater extent in the specific design of jobs at the state administration through a dialog with trade unions, employee representatives and the employees in the future. Goals are, among others, a better reconciliation of work and family life as well as care, an increased share of women in leadership positions, greater flexibility with regard to working hours, good healthcare management as well as an intelligent transition of older colleagues to retirement. Good entry-level conditions for younger colleagues, for example continued employment of vocational trainees and limitation of fixed-term employment contracts, especially without a substantive reason, are also important. Laws, regulations or decrees can be adapted or service agreements can be concluded to achieve these goals. In addition, actions to increase the share of citizens with a migrant background in public positions will be continued.

The municipal communities of the state are also encouraged to base their administrative actions on the aspects of sustainability and, where appropriate and possible, on the measures implemented on the state level.

7. Bonn as a UN sustainability hub

The federal city of Bonn is the most important UN hub for sustainability issues. Many UN agencies such as the Secretariat of the UN Framework Convention on Climate Change and the Secretariat of the UN Convention to Combat Desertification, further international organization such as the World Biodiversity Council (IPBES), internationally active German organizations such as the Federal Ministries for the Environment, Nature Conservation, Construction and Nuclear Safety (BMUB) and for Economic Cooperation and Development (BMZ) and the German Society for International Cooperation (GIZ), international and internationally-oriented civil society organizations such as ICLEI (Local Governments for Sustainability) and Germanwatch as well as scientific agencies such as the German Development Institute (DIE), the Center for Development Research (ZEF) and the Bonn International Center for Conversion (BICC) are working in and from Bonn. Many international networks on substantial global topics of the future such as climate protection, biodiversity, the Post-2015 Agenda for Sustainable Development as well as sustainability concepts in the cities and megacities around the world operate from here. With the establishment of the Knowledge Center for Sustainable Development of the UN System Staff College (UNSSC) in January 2006 and the imminent establishment of the Regionale Netzstelle Nachhaltigkeitsstrategien ‚West‘ (RENN ‚West‘) (Regional Sustainability Strategies Network Office ‚West‘), Bonn's position as a national and international sustaina-

bility hub will be enhanced even further. Besides the Federal Government, the State Government of North Rhine-Westphalia and the city of Bonn support many sustainability players based in Bonn; for example, the state is a shareholder of the DIE and supporter of the Stiftung Umwelt und Entwicklung NRW (NRW Foundation for the Environment and Development) and the Stiftung Entwicklung und Frieden (Foundation for Development and Peace). Many of the sustainability players from Bonn are active contributors of discussion groups, projects, real-world labs and initiatives that have already been effective in and around Bonn and whose potential throughout North Rhine-Westphalia has yet been used only to a very limited extent.

The extensive specialist knowledge, the many good ideas and experiences, the significant international networks and the commitment of the Bonn-based sustainability actors are to be increasingly used for the NRW Sustainability Policy in the future. The Bonn Conference for Global Transformation, which is organized by the State Government and the GIZ and which aims at a practice-oriented international dialog, can be an important communication platform in this process. The Regional Conference ‚West‘ for the continuation of the National Sustainability Strategy was also held in Bonn in January 2016.

D. Updates and Reporting

The NRW Sustainability Strategy is meant to offer a long-term and stable reference framework for the development of the state and its policy. For it to fulfil this role, evaluation of the implementation of the strategy through regular reporting is vitally important.

In addition, periodic checks are to take place to see whether and how the strategy can be further developed without giving up the aim of a stable long-term reference framework. Although the strategy claims to conceptually consider expected future developments in the state, there will still be changes of the framework conditions that are unpredictable today. Therefore, periodic updates appear to be necessary in view of the procedural nature of sustainable development.

To ensure widespread acceptance of the long-term orientations of the strategy in the State of North Rhine-Westphalia, the planned sustainability reporting needs to be based on a broad, objective set of data. The further development of the strategy has to occur within an open process that allows for participation of all political and societal forces in the state.

I. Progress reports of the State Government on the sustainability strategy

Once per parliamentary term and for the first time in 2020, the State Government will present a progress report on the NRW Sustainability Strategy to the public. This report will on one hand show the development of the NRW sustainability indicators on the basis of data collected by the Landesbetrieb Information und Technik NRW (IT.NRW). On the other hand, the progress report will contain information on the development of the focal areas and the use of multidisciplinary implementation tools. Finally, the progress report is to also support the further development of the strategy, e.g. (and where appropriate) identify new challenges, modify the list of focal areas and fields of action, assess and possibly change the institutional framework or the implementation tools, update the defined goals and determine additional actions to achieve the goals.

II. Sustainability indicator reports of IT.NRW

Approximately every two years, IT.NRW will produce a sustainability indicator report on behalf of the State Government that provides a clear overview of the progress of the agreed sustainability indicators in consideration of the defined goals. In this process, IT.NRW will closely align its work with the indicator reports by the Federal Statistical Office (Statistisches Bundesamt) in the context of the National Sustainability Strategy. One out of every two indicator reports will be combined with the progress report of the State Government. Also, data in connection with the NRW sustainability indicators that is updated between the reports will be provided by IT.NRW on the website www.nachhaltigkeitsindikatoren.nrw.de.

III. Participatory mechanisms in the process of updating the strategy

A public consultation with the participation of the civil society, municipal communities, businesses and scientific players will be held in preparation of progress reports on the NRW Sustainability Strategy in order to ensure a broad-based evaluation of the strategy and to identify relevant ideas for the further development of the strategy. The annual NRW Sustainability Conferences and the NRW sustainability portal www.nachhaltigkeit.nrw.de will be important platforms for exchange with regard to updates of the strategy.

Annex to the Sustainability Strategy

I. Indicator areas of the National Sustainability Strategy (2014)

1. Conservation of resources
2. Climate protection
3. Renewable energies
4. Land use
5. Biodiversity
6. Public debt
7. Economic saving
8. Innovation
9. Education
10. Economic capability
11. Mobility
12. Cultivation of land
13. Air pollution
14. Health and alimentation
15. Criminality
16. Employment
17. Perspective for families
18. Gender equality
19. Integration
20. Development cooperation
21. Market liberalization

II. International goals for sustainable development—Sustainable Development Goals (SDGs)

1. Reducing poverty, everywhere and in all its forms
2. Eliminating hunger, achieving food safety and better nutrition, promoting sustainable agriculture
3. Ensuring healthy living conditions and well-being of all people of any age
4. Ensuring inclusive and quality education at an equal level and enabling lifelong learning for all
5. Achieving gender equality and self-determination of all women and girls
6. Ensuring access to and sustainable management of water and sanitary facilities
7. Ensuring access to affordable, reliable, sustainable and modern energy.
8. Promoting inclusive, sustainable economic growth, and full and productive employment and decent working conditions
9. Creating a stable infrastructure; promoting inclusive, sustainable industrialization and innovation
10. Reducing inequality in and among countries
11. Creating inclusive, safe, resistant and sustainable cities and human settlements
12. Ensuring sustainable patterns of consumption and production
13. Taking immediate measures against climate change and its consequences
14. Sustainable preservation and use of oceans, seas and marine resources
15. Protection, recovery and sustainable use of terrestrial ecosystems; sustainable cultivation of forests, fighting against desertification, ending and reversing soil degradation and loss of biodiversity
16. Promoting peaceful and inclusive societies for sustainable development, ensuring universal access to justice and building effective, accountable and inclusive institutions on all levels
17. Reinforcing means of implementation and revival of the global partnership for sustainable development

Communication around sustainability

www.nachhaltigkeit.nrw.de

Due to its abstract nature and its complexity as well as its connection with many different areas of life and policy, the issue of sustainability is hard to communicate. Access to information on sustainability shall be facilitated through an upgrade of the existing website of the NRW Sustainability Strategy (www.nachhaltigkeit.nrw.de) to a NRW sustainability portal under the leadership of the Minister for Climate Protection, Environment, Agriculture, Nature and Consumer Protection. Extensive networking shall be used to also establish close links to other players in the field of sustainability.

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