Bundesministerium
für Umwelt, Naturschutz
und nukleare Sicherheit

National Water Strategy

Federal Environment Ministry Draft Summary

nationale
WASSERSTRATEGIE

I. Why do we need a National Water Strategy?

Water is crucial to survival. Without water, people, animals and plants would not exist. Farmers would have no harvest. Businesses would not produce anything. Water is a human right – not a typical commercial product, but an inherited resource which has to be protected and treated with care. In our society, water is a vital nutrient and an important economic factor as an energy source, means of transport and raw material. Water supply is a basic public service.

Climate change is a tremendous challenge for the water sector and everyone who uses water. Summers are hotter and drier. Heavy rainfall occurs more frequently, snow less frequently. The groundwater level is receding, and there is less moisture in the soil. Dry periods threaten crops and our forests. Waterways are often no longer passable for ships. Water use conflicts are worsening.

A second challenge compounds the issue, namely, pollution of the groundwater, rivers and lakes with nutrients like nitrate or phosphorous and various other substances. These inputs endanger the ecological status of the water bodies and increase the cost and effort required to extract and purify drinking water.

To overcome these challenges, we need to fundamentally change the way we use water. The draft of the National Water Strategy and its programme of measures represents the Federal Environment Ministry's blueprint outlining the process of transitioning to sustainable water management.

The BMU draft for a National Water Strategy is based on the results of a two-year national dialogue on water. More than 200 participants from the water sector, agriculture, research, associations, the federal states and local authorities joined the BMU in this framework to compile the most important challenges and goals for the development of water management. The national citizens' dialogue on "water" contributed further ideas and gathered policy requirements from the public. We ultimately need involvement from all stakeholders to successfully transition to sustainable water management.

II. What should the National Water Strategy achieve?

With the National Water Strategy, the Federal Environment Ministry wants to:

- make adequate, high-quality, affordable drinking water available all over Germany now and 30 years from now,
- ensure that groundwater, lakes, streams and rivers are cleaner,
- prevent further overuse of and strain on water resources,
- ensure that excellent wastewater disposal continues to operate and that the costs are distributed fairly, taking into account polluter responsibility and social justice and
- adapt water management to the impacts of climate change and changes in demographics.

A diverse range of actors shares responsibility for the judicious management of water. Many of the necessary changes will have to be initiated and implemented by the federal states and local authorities. However, they will not be able to do this on their own. The Federal Environment Ministry is therefore providing guidance and support with the National Water Strategy, which proposes uniform decision-making criteria, develops standards and promotes research and best practice examples.

III. Goals and measures of the National Water Strategy

The BMU's National Water Strategy addresses the challenges of water management in Germany up to the year 2050. It describes the progress Germany wants to make by 2050 on ten strategic issues and the goals and measures the BMU is pursuing along the way.

The water strategy includes a draft programme of measures to be implemented gradually over the next few years. The next sections outline some of the priorities, goals and measures.

Priority I: Preventing water scarcity and conflicts of use

Overview: Three successive years of drought have made it clear that the impacts of climate change are already tangible and are likely to intensify in the coming years and decades. Regional water scarcity is an issue that the BMU wants to prevent in order to avoid damage and conflicts of use.

Goals for 2050: Clean water is readily available at all times everywhere in Germany. The water balance is able to withstand climate extremes. The landscape and soil function as natural water storage. The banks of lakes and rivers, but also floodplains, oxbows and landscape depressions are in a semi-natural state and once again serve as natural retention spaces and buffers during flooding and as storage for phases of low precipitation. Peatlands are restored. Sufficient groundwater recharge is ensured. There are generally accepted mechanisms and rules for determining which use has priority in the event that regional conflicts of use between different water uses nonetheless arise during prolonged periods of drought.

What needs to be done – measures:

- **Analyse water needs and water availability and develop plans for supply**

Federal and state authorities must be able to predict more accurately where water will be available in the future and where it will be needed. Although we have a wide range of water data at our disposal, it is becoming evident that we need more data, forecasts and scenarios to be able to predict which regions could run short of water. The ability to forecast is key. The BMU supports the research and development of relevant data, forecasts and scenarios.

- **Create incentives to adapt water use to its availability**

The seasonal and regional availability of water will no longer be what we are used to. This means that overall water consumption must be reduced, and water use will have to be selectively managed. To create the necessary incentives, the BMU is reviewing the introduction of uniform regulations across Germany for water extraction fees and the potential for “smart” water tariffs developed in consultation with water users. These tariffs could make water cheaper for users when demand is low. For example, incentives could be established to encourage gardens to be watered later in the evening or washing machines to be programmed to run at night. To this end, the BMU and its partners are launching a pilot project with private households. In the future, these kinds of smart tariffs could also be used in industry.

- **Develop guidance for water-optimised land use and sustainable water use**

The BMU is launching a dialogue platform for practitioners in farming, forestry and the water sector. The goal is to develop regional models for water-optimised and climate-friendly land use and sustainable water use. In concrete terms, this means, for example, restructuring irrigation and drainage of farmland or measures to prevent erosion during heavy precipitation and floods.

- **Establish rules for handling conflicts of use during prolonged dry periods**

The BMU will work with the federal states to begin a participatory process intended to identify recommendations and criteria for determining priority in the event of water scarcity (water use hierarchy). From the BMU’s perspective, the public supply of drinking water and the ecological water requirements – the minimum amount of water that animals and plants need to survive – are particularly important. The criteria can be adapted regionally and defined in more detail. The BMU will also work with its partners to develop proactive measures to secure the water supply in the long term and to develop crisis measures to respond to extreme events.

Priority II: Adapting water infrastructure to climate change

Overview: The main focus of water management as a public service is the reliable supply of water and effective wastewater and rainwater management. However, the impacts of climate change, such as more frequent heavy rainfall events, long periods of heat and drought and sea-level rise, make it necessary to modernise and adapt the infrastructure that has been built up over decades.

Goals for 2050: The water infrastructure, i.e. sewer networks, retention basins, waterways and dikes, is adapted to the changing climate and is resilient to water extremes. Wherever possible, nature-based or semi-natural elements are used to plan and modernise water infrastructure. The potential of these elements will be systematically harnessed: river floodplains, for example, can provide protection against floods and retain pollutants, green spaces in cities can serve as recreational areas, water reservoirs and habitats for animals and plants.

What needs to be done – measures:

- **Support municipalities in climate change adaptation**

The BMU has launched a three-point plan for better climate change adaptation in municipalities to help cities cope more effectively with weather extremes such as droughts and heavy rain. The plan includes a central information centre on climate adaptation, a BMU support programme for adaptation measures and the Blue Compass competition, which recognises particularly innovative climate change adaptation projects.

- **Build water-smart cities**

A plan for water-smart urban development (“sponge cities”) is being drawn up by the BMU in cooperation with the municipalities and industry associations. Water-smart cities are green and have many unsealed surfaces to allow rainwater to be stored and used, to create habitats for plants and animals and to provide cooling. They are able to withstand periods of heat and heavy rain. The existing technical guidelines will be reviewed to determine whether they contribute to the preservation of the natural water balance, climate adaptation and urban nature, and will be revised where necessary.

- **Develop guidelines for adapting the water infrastructure**

The BMU is initiating the development of national guidelines to support administrations and infrastructure operators in long-term planning. Particular importance is attached to natural and semi-natural elements as they are much more versatile and flexible than technical structures. The guidelines include practical examples of climate-adapted solutions. The BMU is also exploring options for seed funding for broader implementation of this kind of solution.

- **Determine the need for cross-regional water supply infrastructure**

In the future, infrastructure planning must be guided by the principle of water supply that is as local as possible. This will be supplemented by interconnected networks and long-distance supply lines to balance out regional differences in water availability. In cooperation with the federal states, the BMU will conduct a nationwide survey to assess the need for these kinds of supra-regional water supply systems, also across state borders. The aim is to ensure that the necessary land and routes can be designated in advance in spatial development plans.

Priority III: Making water cleaner and healthier

Overview: Many bodies of water are cleaner today than they used to be. However, substances that were difficult to detect in the past are now causing problems. They include not only trace substances from pharmaceuticals or pesticides, but also particles from plastics, nutrients and pathogens. They can pose a danger to humans, plants and animals.

Goals for 2050: Water pollution from nutrients, pollutants and pathogens is minimal. We know much more about the effects substances have on the water cycle and what risks they pose. We know how to safely handle products that contain risky substances and use alternatives wherever possible. The EU's zero pollution action plan is implemented in Germany. Responsibility for minimising substance inputs as much as possible is taken seriously by producers and users.

What needs to be done – measures:

- **Improve knowledge about water pollution**

A trace substance centre will be set up at the Federal Environment Agency (UBA). The trace substance centre will research the sources and extent of water pollution caused by trace substances, i.e. chemicals from detergents, pharmaceuticals and pesticides, identify ways to reduce pollution, recommend specific measures and contribute to providing information about the risks.

The BMU is striving to establish a nationwide database that brings together water monitoring data on substances, substance groups and pathogens. In addition, the German government and the federal states are setting up a monitoring system for nitrate pollution to improve the data available for evaluating the effectiveness of the measures taken.

The BMU is also supporting the testing of methods that can be used to determine and assess the impact of plastics in water on humans and the environment.

- **Restructure wastewater charges**

The BMU will restructure wastewater charges to create stronger incentives for further reducing water pollution from municipal and industrial wastewater. The revenues can be used, for example to add a fourth purification stage to sewage treatment plants.

- **Hold companies accountable**

The BMU advocates EU regulations that hold producers accountable for water pollution caused by substances and products. The goal is to prevent adverse environmental impacts throughout the entire life cycle and to encourage companies to contribute to financing the expansion of sewage and water treatment plants. A European regulation will prevent disadvantages for German companies on the internal market.

- **Pandemic prevention: Identify microbiological threats to human health**

A monitoring system is being set up, which will initially be used in the context of the COVID-19 pandemic for early information on trends in the development of the pandemic. It is also intended to enable new virus variants or relevant mutations to be identified based on sequencing of wastewater samples. The coronavirus pandemic is not expected to be the last of its kind. In the future, established wastewater monitoring systems could also be used to detect other viruses or multi-resistant pathogens that pose a similar threat to our health.

Priority IV: Create a broader base to finance restructuring of the water sector

Modernising the water sector and adapting to climate change will require large investments with a tremendous need for financing. The German government should contribute by participating directly in financing and by further developing or creating financing instruments. The strategy thus contains a combination of proposals to this effect.

- **Immediate action programme: One billion euros for water development and adaptation of the water sector to climate change**

The BMU is advocating for an immediate action programme to improve the ecological status of water bodies and increase their resilience to climate change. Over the next 10 years, 100 million euros is earmarked for this programme. The money will be spent on renaturation measures, removing barriers to species' migration, shade for water bodies to prevent warming and the reclamation or creation of natural reservoirs as a precaution in the case of drought. It is also intended to promote the expansion of wastewater treatment plants with additional purification stages for better filtration of trace substances.

In addition, the BMU wants to broaden the base for the costs of modernising the water sector by restructuring **wastewater charges** and by **strengthening producer and product responsibility** (both: see Priority III) and holding the private sector more accountable.

There is much to do even beyond these priorities. The action programme comprises a total of 57 measures. To ensure that the water industry is ready for the future, we need an efficient and digitally networked administration that is well organised and staffed with qualified employees. Water law must continue to evolve, and other laws must also be assessed to determine whether they are compatible with the goals for the water management of the future. Last but not least, it is important to show how water can be used responsibly in business, agriculture, transport and by each and every individual.

IV. What happens next?

The next step is to turn the draft of the National Water Strategy into a coordinated National Water Strategy of the German government. Implementation is a responsibility shared by the German government, the federal states and municipalities, the water sector and all groups involved in the water dialogue.

The programme describes a set of measures to be gradually implemented by 2030. The implementation of the programme is just getting under way and is scheduled to be evaluated after no later than six years as part of a progress report on the National Water Strategy. The programme of measures will then be adapted and supplemented where necessary.