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White Paper: Green Spaces in the City

Green Spaces in the City – For a more liveable future



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Introduction

Urban green spaces are a key element of our cities and an important part of building culture. They structure and shape major, medium-sized and smaller cities and towns both in growing and shrinking regions, assuming a wealth of functions for sustainable urban living. To secure and create more urban green spaces, we require coordinated action in the spirit of the Leipzig Charter on the Sustainable European City, covering various political fields, as well as all institutions and persons involved in sustainable urban development. Authorities, citizens, companies and stakeholders must regard the development and maintenance of high-quality, sustainable public spaces, including open green spaces, as a common task.

In 2007, as part of its National Strategy on Biological Diversity, the Federal Government already formulated the goal of significantly increasing the amount of green spaces in settlements, including green spaces near residential developments, by 2020.

In 2013, the Federal Government placed the theme of “green spaces in the city” on the agenda as a comprehensive, interdepartmental issue for the first time. In 2015 seven federal ministries worked together to publish the green paper “Green Spaces in the City”, representing the state of research on urban green areas. It was conceived as a discussion paper with the aim of initiating a broad dialogue with respect to the significance of urban green spaces in integrated urban development. The green paper was presented at the first federal congress entitled “Green Spaces in the City”, which was jointly organised in June 2015 by the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety and the Federal Ministry of Food and Agriculture. The feedback was positive and there was widespread interest.

All participants agreed that urban green spaces play an important role in shaping towns and cities in a sustainable, i. e. socially and environmentally compatible way, but that many communities need help with them.

The next step therefore involved developing a white paper with concrete recommended measures and possibilities for the Federal Government to implement more green spaces in towns and cities, the result of which is this publication. The underlying basis for this white paper was developed by the Federal Institute for Research on Building, Urban Affairs and Spatial Development, the Federal Agency for Nature Conservation, the German Environment Agency (UBA) and the Julius Kühn Institute – Federal Research Centre for Cultivated Plants.

In addition to federal bodies, states and municipalities, this white paper’s development also involved associations, societies, foundations, the economy and civil society. In December 2016, the public was also able to contribute to the white paper’s conception through an online dialogue. The process was accompanied by parallel projects and activities in research institutions. The results of completed and ongoing research projects and federal pilot initiatives were fed into the white paper together with conclusions of expert reports and specialist workshops. It is therefore the result of a comprehensive process of discourse. It does not claim to be exhaustive and should instead be regarded as one module of a longer-term initiative for high-quality green spaces in our towns and cities.

In future, the Federal Government will report on the white paper’s implementation in its Urban Development Report and consolidate the exchange of experience between all active parties.



Paths to a green city – fields of action

Urban green areas have a wide range of functions: green open spaces are meeting places, strengthen social cohesion and consolidate a location's cultural, structural and architectural identity. They allow recreation and activities, accommodate sports and playing areas, improve people's health and well-being and can thereby contribute to the population's quality of life. Urban green spaces improve the living environment and enhance the quality of neighbourhoods. They contribute to locations as an element of high-quality planning, spatial development and improvement. Intelligent green spaces that are designed according to requirements surround real estate for a wide range of uses and act as a location factor that increases the value of land and real estate.

Green open spaces also form a green infrastructure that provides fresh air corridors and cold-air generation, they insulate noise, help to keep the air clean and regulate its temperature. Thus they are important to protect the climate and people's health, while also regulating the water cycle. They are habitats for flora and fauna, thereby supporting biodiversity, and are urban locations for experiencing nature. Many cities are habitat bottlenecks in Germany; in that respect, urban green spaces can help to network biotopes. Green open spaces are a key precondition for sustainable, liveable, resilient and viable cities and regions.

In terms of sustainable development, which is a guiding principle of government policy, the Federal Government fulfils its responsibilities by working towards stronger urban areas through integrated, sustainable urban development. To achieve that the Federal Government will continue its activities and supplement them with new measures using the funds provided accordingly in its budget and finance plan – also in view of implementing the United Nations' Agenda 2030 for sustainable development, for instance through the German National Sustainable Development Strategy in its 2016 edition, the Integrated Environmental Programme 2030 "Shaping Ecological Transformation" and the "New Urban Agenda" ratified at the third UN world conference on housing and

sustainable urban development (Habitat III) in Quito. It includes a stronger legal basis for green spaces, more targeted funding measures, support in developing benchmarks and guidelines, and communication on the value of green open spaces and greenery around buildings in the city.

The "Green Spaces" white paper presents these measures in ten distinct fields of action, which were developed as a result of the dialogue process initiated by the green paper. They include targets, planning potential and concrete measures by the Federal Government for creating more green spaces.

With the "Green Spaces" white paper, the Federal Government has produced a range of means to support the work of municipalities and other actors in the field. The creation, maintenance and preservation of urban green spaces should become a natural aspect of integrated urban development and urban planning. Thus the selection of measures is connected to the need to strengthen the requirements and enhance the value of urban green spaces, which often have a lower priority in competition with other urban development policy aims and requirements. In this respect, a fundamental change in strategy towards the sustainable and multifunctional qualification of urban green spaces is required. Competing utilization and development targets must be carefully balanced to prevent negative developments. That especially applies to the aims of land use, the priority of internal development and the provision of affordable housing and necessary economic regions, while simultaneously ensuring a healthy living quality in urban spaces. Good quality at viable costs must also be a key aspect of designing urban green spaces. Economic viability is a cross-sectional theme that affects all of this white paper's fields of action.



1. Integrated planning for urban green spaces

Preserving or creating new urban green spaces with all their social, culturally aesthetic, health-related, ecological and economic functions requires integrated and networked planning processes. That entails coordinated, interdepartmental action on all federal levels in the spirit of the Leipzig Charter and national urban development policy. Different interests and goals in urban development must be weighed up and balanced out. Preserving and developing green open spaces with the right dimensions, adapted to local conditions and aligned towards local requirements, is a fundamental principle of urban and regional planning with a sustainable orientation. The Federal Government intends to improve underlying conditions and provide support for municipalities in implementing these goals. They are especially aimed at municipal planning, environmental and greenery authorities, as well as federal and state administrations responsible for the concrete planning and management of urban green areas.

Strengthening the significance of urban green spaces in planning

The German Federal Government Sustainable Development Strategy has defined a reduction in the use of new land for settlement and transport purposes to 30 hectares per day by the year 2030. Thus it is necessary to increasingly steer construction development towards inner areas of our cities and communities, for instance by reusing urban wastelands and vacant lots, converting lofts, heightening buildings and condensing existing settlements. The great challenge for municipalities is on the one hand to achieve density and use land efficiently for inner developments, and on the other to provide residents with an appropriate amount of high-quality private and public green spaces.

To support that planning approach in the coming legislative period, the Federal Government intends to supplement the various requirements of current construction law with respect to urban land-use planning to include the aspect of providing sufficient green spaces.

Further development of plans for regions, landscapes and green spaces

The development of aims and measures for small areas with respect to urban greenery must be derived from overall urban strategies and concepts, for which planning practice can use both formal and informal instruments. Qualified landscape plans and landscape programmes by city-states form an important basis for sustainable settlement development. On a regional level, the landscape structure plan forms an important basis for regional green spaces and the development

of open spaces in urban regions. These plans and programmes provide key information on the situation of the environment and formulate aims and measures to preserve, maintain and develop nature and landscapes. The landscape plan also serves as a scale for the environment and the spatial compatibility of urban development projects, which are assessed at regular intervals and amended appropriately. The Federal Government is committed to the further development of content and strengthening of municipal and regional landscape planning, as well as the further development of the instrument of planning for green spaces.

In addition to formal landscape planning, the development of informal municipal guidelines and strategies for urban green spaces and biodiversity form an important basis of integrated urban development concepts (such as municipal biodiversity strategies or open space concepts relating to neighbourhoods and districts). Such interdepartmental guideline processes, which are integrated into a participatory process with urban society, are an important precondition to find agreement on overriding goals with respect to green spaces in the city.

When producing and amending urban land-use plans, the presentation of landscape plans must be taken into account in accordance with s.1 (6) (No. 7) (g) of German Building Law. The presentation of landscape and green area plans are generally binding if they are assumed in definitions of development plans.

The development of green open spaces also assumes their preservation on a regional level – for instance green spaces that simultaneously act as cold-air

producing areas and cold-air channels, or develop along waterways, since they do not end at administrative boundaries. The networking function of green infrastructure is a key element in the necessary process of strengthening relationships between cities and their surrounding areas. The Federal Ministry of Transport and Digital Infrastructure (BMVI) will soon provide regional planning groups and other actors with a guideline for measures entitled “Climate-change-compatible regional planning”. On the level of regional planning, the BMVI is committed to the development of regional cultured landscapes and supports regions with a research initiative (MORO) (pilot project for regional development).

Strengthening green spaces in planning practice

The aim of integrated urban and spatial development is to harmonise social, economic, health-related and environmental planning requirements. The Federal Government is committed to ensuring that the cross-sectional task of green infrastructure in the complex interrelationship of urban and settlement development is anchored as an underlying principle of sustainable action, thereby strengthening awareness of the significance of urban green spaces in planning practice. German Building Law already includes many possibilities to achieve those aims in a development plan. For instance regulations can be defined for playing, leisure and recreational areas, areas intended for community use, sports and playing fields, spaces where building is prohibited, as well as areas or measures to protect, maintain and develop land, nature and landscapes. Furthermore, regulations on the planting of trees, shrubs and other vegetation (such as grass or creepers for rooftop and façade greenery) and their preservation can already be determined.

More flexible organisation of parking space rules and regulations

The duty to provide vehicle parking spaces makes new building projects more expensive and seals land near housing developments. Above all in urban agglomerations, the increasing trend towards cycling, car-sharing and public transport systems offers new planning potential. The Federal Government is committed to a more flexible approach by states and municipalities with respect to parking space rules and regulations. That also conforms to demands of the Alliance for Affordable

Housing and Building (Bündnis für bezahlbares Wohnen und Bauen). As part of prudent urban development planning, parking space requirements should be developed hand in hand with mobility concepts. Increasing the attraction above all of cycling, public transport and car-sharing also provides a lever to activate land use potential for other purposes, including open and green spaces. At the same time, a network of green infrastructure supports local mobility, especially cycling, if connected and inter-district thoroughfares are created.

Supporting integrated strategies for green spaces

Preserving and developing urban green spaces is often the responsibility of many different people, so interdepartmental communication and cooperation is essential. The development of municipal strategies for green spaces or the establishment of green-space coordinators can play an important role in this respect. Synergies with climate protection managers acting as part of the national climate protection initiative should also be involved.

The Federal Government will use pilot projects to investigate strategies in a targeted way that contribute to strengthening the quality of urban green spaces. That involves underlying conditions to create integrated planning processes in establishing concepts for urban green spaces or in shaping subsequent implementation processes, as used for example in project-related planning to develop open spaces or as part of overall urban planning support measures. In developing such municipal concepts for urban green spaces, synergies with landscape planning must be used, while the different functions of processes should be mutually coordinated. The Federal Government will especially address this aspect within the Expert Commission for Urban Planning at the Conference of Building Ministers and at the Conference of Environmental Ministers.

Relationships between cities and their surroundings

Relationships between cities and their local environment are a key connecting factor for urban planning and landscape potential. Qualified networking using “green axes” into cities can strengthen both ecological and social functions. A range of foot and cycle paths embedded into green structures can reduce

automobile traffic between the city and its surroundings. The often complex requirements of such strategies, frequently with several participating municipalities and a large number of functions, are generally difficult to fulfil. The Federal Government therefore supports regionally orientated concepts within the scope of its powers to develop a green infrastructure between cities and their surroundings.

The development of peripheral green spaces with concepts such as “productive urban landscapes” or “periurban parks” can also tap positive use scenarios even in shrinking towns and cities. The Federal Government intends to implement pilot projects based on cooperation between different actors to develop ideas to strengthen such transitional spaces between cities and surrounding areas in future.

Integrating federal real estate into urban development concepts

In many towns and cities, large-scale federal real estate is extremely important to the development of inner-urban areas. The Federal Government will assume its responsibility in those spaces to actively preserve urban green areas and biodiversity. Many municipalities strive to give new uses to wasteland areas as well as converting spaces and outdated infrastructures, such as oversized streets and car parks. Above all the revitalisation of building land potential in the settlement structure offers potential to establish new, high-quality green structures with multifunctional connecting axes. Everyone involved is called upon to support that development. The Federal Government has a special exemplary role in this respect. With the “Federal

Government Strategy for the Exemplary Consideration of Biodiversity on all Federal Property” (StrÖff), the Federal Government has decided to implement a nature-conservation strategy for federal land that protects, preserves and encourages biodiversity. It is the task of the Institute for Federal Real Estate (BImA) to utilize no-longer needed military land. The support provided by the BImA in the conversion process is an important factor in reducing land consumption and maintaining and creating ecologically valuable areas in municipalities.

Cities on the way to improved open spaces

In future, it will be especially important to activate existing potential in urban spaces, as well as qualifying existing urban green areas and further developing the green infrastructure. Temporary uses, street spaces, urban squares and private open spaces between housing should also be taken into account in this respect.

Federal policy approach:

Green spaces to become fixed elements of building culture and integrated urban development

The Federal Government will:

- Strengthen the importance of urban green spaces in planning law and planning practice
- Provide the tool “Climate-change-compatible regional planning”
- Work towards a flexible approach to parking space rules and regulations to maintain the potential for green and open spaces
- Implement pilot initiatives for improving the quality of urban green spaces and with respect to the relationships between cities and their surrounding areas



2.

Qualifying green spaces and designing them to be multifunctional

Urban green spaces are under great pressure: growing populations, the effects of climate change, housing demands and economic developments lead to increased demand for land to build on, especially in urban agglomerations. Additionally, green spaces are being used more heavily in daily life, increasingly for all kinds of events and leisure activities. That leads to overuse in many ways. Above all in more densely populated areas, high-quality green spaces are required that can cope with the increased utilisation pressure. Thus the Federal Government aims to support municipalities with integrated urban development and planning and design green spaces that can cope with the demands of urban development, have a high quality with respect to building culture and are more resilient in view of the increasing utilisation demands.

Strengthening green spaces as a compensatory measure

The qualified development of open spaces and consistent compensation of construction densification are urgently required in densely populated areas. Compensatory measures required in accordance with s. 1a (3) of German Building Law can also make a considerable contribution in residential areas with publicly accessible green spaces. The Federal Government intends to record and appropriately analyse best-practice projects implementing multifunctional compensation measures as part of integrated urban development. The Federal Government will examine whether the regulations to compensate for measures in producing land-use plans developed in an accelerated process in accordance with s. 13a (2) (No.4) of German Building Law have lost their significance.

Preserving cemeteries as part of urban green spaces

In many cemeteries, there is an increasing number of spaces that are no longer used for burials or that have never been used for that purpose. Often, these spaces have a high level of biodiversity and cultural significance, so they are suitable for integration into the planning and development of green open spaces. Thus, cemeteries could also become places of recreation. The Federal Government will order a study of the potential of cemeteries with respect to urban green spaces and support pilot initiatives.

Developing reference values and parameters for green spaces

The Federal Government will examine and adapt existing reference values and parameters for the quantitative and qualitative provision of green and open spaces, including the accessibility of green spaces, the provision of sufficient spaces, their quality and the green space factor. These reference values and parameters will have an advisory nature and are intended to provide municipalities with additional weight to arguments in favour of achieving networked green spaces that fulfil requirements compared to other aims of urban development. The recording and assessment of important ecosystem performance and the sufficient provision of open spaces to residents, including green and open spaces, will form the basis of developing standards. These must assess in detail the demands of different qualities and performance of urban green and open spaces. The Federal Government will exchange information on this subject with municipalities, researchers, associations and other interested parties.

Strengthening green spaces in the city as part of urban planning funding programmes

In recent years, the Federal Government and states have made “Green spaces in the city” a special aspect of support in their Administrative Agreement on Urban Planning Funding (VV). It enables measures to prepare for and implement investment with respect to the planning, production, conversion and design of urban green areas, as well as desealing measures in all urban planning funding programmes.



Now, the 2017 budget includes a new urban planning funding programme entitled “Future Urban Green Spaces” (“Zukunft Stadtgrün”) worth EUR 50 million. It further consolidates green spaces in the city within urban planning funding programmes and contributes to improving the urban green infrastructure.

With respect to urban planning renovation measures, the aspect of providing green spaces should be taken into account in assessing whether urban planning improvements are required. To further support the intended target, the Federal Government will examine whether insufficient green spaces and accessibility of public green spaces should be included as a clarification criterion to document a poor urban planning situation in regulations on urban planning renovation measures (§ 136 German Building Law).

Furthermore, integrated urban planning development concepts produced for urban planning funding measures should also be coordinated with overall green-space planning in cities to support the urban green. The Federal Government promotes that consolidation and will also encourage the states to implement it in state regulations.

Expanding the scope of support for urban green spaces

To preserve and develop urban green spaces, the Federal Government will examine whether further already existent, suitable funding programmes can be expanded to include the aspect of “urban green spaces”. Already now, the programme “Energy-efficient

renovation” by the Kreditanstalt für Wiederaufbau provides funding for the heat insulation of rooftop surfaces through greenery measures. Furthermore, the preservation of nesting places for birds that nest on buildings can for instance be supported by installing specially constructed nesting boxes/stones beneath eaves, roof diagonals and gables. In developing new funding programmes, the Federal Government will examine the extent to which requirements of urban green spaces with respect to improving recreation, nature conservation and the urban climate can be taken into account and integrated.

Urban green spaces are part of building culture

Urban green spaces and open spatial planning make an important contribution to the appearance of our cities and improve living standards in urban space. They are an integral part of the overall constructed environment. Thus they are also relevant to the Federal Foundation of Baukultur, which works towards quality planning and building. The legal task of the foundation is based on a comprehensive grasp of building culture. It includes the classification of buildings and infrastructures in the landscape and in settlements, as well as public spaces and aspects of landscape architecture. The foundation will therefore focus more strongly on the theme of “Green spaces in the city” – including the preservation and further development of garden heritage – for instance through events, cooperation and publications. Above all, it will address the theme in its forthcoming building culture reports, which provide the Federal Government and the German Bundestag



with information on the further development of underlying conditions for building and garden culture.

Encouraging multicoded green and open spaces

Green and open spaces must fulfil a wide range of overlapping uses and cope with different use intensities. Instead of a one-dimensional allocation of functions, open spaces should therefore assume parallel social, ecological, economic and technical functions in the sense of “multicoding”. The aim is to develop “multicoding strategies” for urban green spaces and their strategic and conceptual anchoring in integrated urban planning development concepts that take the different “multidimensional” interests and requirements of open spaces into account. Thus the Federal Government will order an assessment of a strategy for the multicoded use of open spaces and develop a guideline from it.

Using garden shows to implement “green” urban development

For decades, national and international garden shows – as well as smaller-scale state garden shows – have been a tried and trusted instrument of integrated urban and regional development processes focusing on “green spaces in the city”. Depending on the initial situation, the concrete measures they entail are multifaceted and affect aspects such as the new development of urban and landscape parks, green areas around housing and the implementation of green land projects and climate channels.

Garden shows provide a reliable framework of action by pooling individual measures and defining binding timetables and funding periods. The Federal Government will support garden shows within its means.

Federal policy approach:

Support for municipalities in qualifying urban green spaces

The Federal Government will:

- Strengthen urban green spaces and urban green infrastructures in urban planning funding measures and funding programmes
- Work with municipalities to develop green standards to provide high-quality green and open spaces
- Support the development of urban green spaces as part of building culture
- Develop a guideline for multicoded open-space utilisation
- Examine the potential of cemeteries with respect to urban green spaces and support pilot initiatives



3.

Using urban green spaces to strengthen climate protection and reduce climate consequences

Urban green spaces assume many different functions for climate-compatible urban development. The ground plays an important role as a central element of urban green spaces in reducing climate consequences and protecting the climate. Depending on its constituency and thickness, it contributes to water storage and air cooling in towns and cities through evaporation, thereby reducing extremes of the urban climate. Strategies to adapt to climate change that use the potential of urban green spaces in a comprehensive way are therefore of key importance to preventive, resilient urban development.

In the German Adaptation Strategy for Climate Change (DAS) adopted by the Federal Government and its progress report, the importance of urban green spaces is highlighted with reference to climate-adapted urban development plans – especially with respect to the strategic environmental assessment of plans and programmes, environmental assessment in urban land-use planning and assessment of the environmental compatibility of projects. Among other aspects, it has been agreed in the progress report to Action Plan II of the DAS that climate checks must be designed and implemented for climate-compatible urban planning and green development. In doing so, social spatial implications must be taken into account.

Taking climate-compatible urban green spaces into account in planning practice

Particularly since the 2011 Climate Protection Amendment, construction and urban planning must also fulfil climate protection aspects and adapt to the effects of climate change. That especially applies to taking into account more strongly the fresh and cold air channels in inner cities, the connected preservation of green and open spaces in recognition of the cooling potential of the ground, building alignment in relation to green spaces, greenery on buildings, special protection of bioclimatically sensitive groups of people, preventive measures against the effects of heavy rain with retention of the surface drainage on buildings and in cisterns to use rainwater, as well as the improved seepage of rainwater.

Necessary adaptation to the consequences of climate change requires early recognition of arising changes to ideally take into account the risks and opportunities on a planning level. To that aim, decision makers on various political levels must be able to take the effects of climate change into account with respect to all future planning. Access to knowledge with respect to climate adaptation should be facilitated, the assessment of climate consequences improved and the application of climate knowledge simplified, above all using online tools. With the progress report to the DAS and in view of the permanent nature of the long-term task of climate change, it was decided

to establish an overall range of Federal Government climate services and services to support adaptation to climate change as an interdepartmental routine task of the Federal Government. The aim is to gradually develop the range of offered information. Thus in the field of urban green spaces, advice will be provided and best-practice examples presented.

To this aim, the Federal Government will improve knowledge on climate-compatible planting and the effect of the ground on the urban climate – including possible allergenic potential in newly planted vegetation – and develop exemplary urban planning design for the climate-compatible planning of urban green and open spaces.

Using climate protection programmes for urban green spaces

Increasing the amount of urban green spaces in municipalities makes a contribution to protecting the environment in the field of reducing and binding greenhouse gas emissions, as well as in adapting to the consequences of climate change. The National Climate Protection Initiative (NKI) supports cities, towns, municipalities and rural districts in developing climate protection concepts and their implementation using so-called climate protection management, as well as investment in climate protection. As coordinators of climate protection measures, the on-location climate protection managers are especially suitable

for integrating and advancing the theme of “urban green spaces” into implementation plans. Municipalities can also use NKI funding to develop sub-concepts with strategies on how to adapt to the consequences of climate change. The theme of “urban green spaces” can be addressed there. Furthermore, since 2016, the NKI has also supported projects on the level of neighbourhoods. To increase the contribution made by urban green spaces with respect to climate change in municipalities in the future, an assessment will be made with respect to further sensible approaches to funding and support from the NKI.

Furthermore, as part of the programme “Adapting to the Impacts of Climate Change”, the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety will support projects that address the effects of global warming and alleviate local vulnerability. That includes supporting green projects. One key aim of the funding programme is to improve the adaptability of social actors, especially on local and regional levels, through initiatives to heighten

awareness, improve dialogue and encourage participation, as well as networking and cooperation, thereby gaining as many “imitators” as possible.

Limiting climate risks with vibrant green urban spaces

Urban space reacts sensitively to extreme weather conditions such as heat, drought, storms and heavy rain.

Since these are occurring more frequently, the Federal Government will launch a quality offensive for climate-adapted green spaces in selected towns and cities. They include pilot projects to improve the functions on buildings relating to climate ecology and air hygiene, to convert street spaces and to use smart technologies. In developing and further advancing state plans of action to counter heat, the Federal Government aims to integrate a heat-reducing plan on green and open spaces. To that aim, the Federal Government will introduce a guideline of measures in the spring of 2017 that was



jointly developed with the German states to produce action plans against heat and protect human health, while also cooperating on further research and development for advice products.

Developing cities in a water-sensitive way

Open, unsealed ground can contribute to protecting the built environment from the consequences of climate change by allowing water to seep and evaporate. Vertically staggered green spaces, green roofs and streets that temporarily store water as flood and drainage vessels (“emergency waterways”) retain rainwater and delay and reduce the drainage together with desealed ground; artificially created retention spaces increase retention capacity in addition to near-natural retention areas using hollows, trenches and pipes. Urban development that is sensitive to water designs surfaces, green spaces and planted areas in a way that allows the ground to absorb water, store it and only

release it slowly. The Federal Government will develop and support concepts for a water-sensitive development in densely populated towns and cities.

Aligning rainwater management towards retention and evaporation, reducing sealed surfaces, encouraging desealing

Rainwater is an important component of the water cycle. Thus water management law stipulates that rainwater from sealed private land and from public squares and streets must seep into the ground, dissipate or pass via a drainage system into a waterway as nearby as possible, without being mixed with dirty water, thereby returning it to the water cycle.

However, rainwater can also become dangerous, for instance through heavy rain. Thus increased volumes of rainwater flows or faster drainage of water must be prevented, while overground waterways must as far





as possible ensure natural and undamaging drainage conditions to prevent the risk of negative flooding consequences.

Furthermore, rainwater can be used in towns and cities to stabilise and improve the microclimate and lessen the possible effects of climate change, for instance the creation of heat islands or increasing aridity. In this respect, the retention of unpolluted rainwater in the ground is an important aspect.

Generally, depending on state law, municipalities are responsible for removing rainwater from private properties and public squares and streets. They can create targeted incentives to prevent further sealing of the ground and to deseal already sealed ground by for instance using a rainwater charge for water channelled into the public sewage system. By connecting the charge to the land relevant to water drainage, desealing is rewarded and an incentive is provided for as little new sealing as possible. Land relevant to drainage can be reduced with appropriate types

of surfaces to allow rainwater to seep into it (lawns, flower beds etc.). One important contribution can also be provided by increasing the ground's capacity to retain water. Other possibilities to increase rainwater retention include green rooftops and temporary storage in cisterns for rainwater use.

Expanding retention spaces as flood-prevention measures

Retention spaces assume key roles in preventing extreme events such as flooding and heavy rain. Water management law requires the German states to define flood plains along overground waterways that are likely to be affected by flooding. Flood plains must be preserved as water retaining areas or restored as required, if no overriding reasons of general welfare prevent such measures. If it is impossible to preserve flood plains, necessary compensatory measures must be taken.

Regional and state planning can define priority and restricted areas for flood protection, whereby flood plains are preserved or regained. In regions with major river systems, large-scale dependencies should be taken into account, especially between upstream and downstream sections. The Federal Government is therefore examining whether inter-state and international requirements to protect land and locations with respect to flooding should be compiled in a Federal Regional Development Plan.

Using planning instruments for fresh and cold air provision

Green spaces, fresh air channels, meadows, the ground and also waterways contribute to the provision of fresh air and the evaporation of the heat-island effect. Above all in agglomerations, the fresh and cold air supply should gain a greater importance in urban development. Regional development, as well as regional, urban land use and landscape planning can be used in this respect as planning instruments. Municipalities are already required to take climate adaptation into account in urban land use planning. Climate adaptation measures include the definition of areas as fresh air channels that must therefore remain undeveloped. The Federal Government will support pilot initiatives on assessing climate consequences, ensuring and

developing fresh air channels and cold air production areas in planning measures for settlements as part of regional and urban land use planning.

Integrating forward-looking mobility

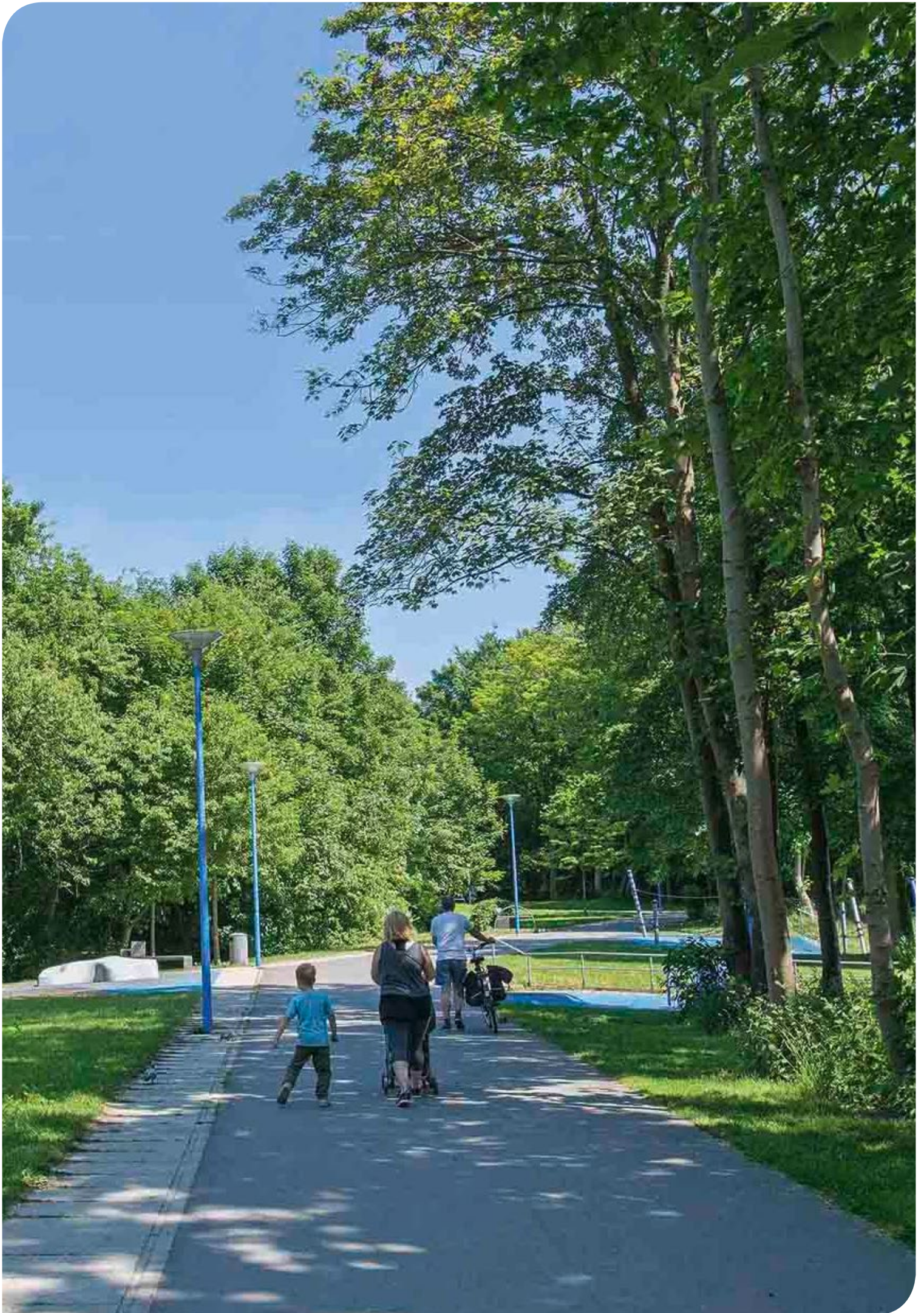
Climate-friendly mobility can be supported through the integration of cycle paths in urban green areas. As a result, it is especially possible to transfer commuter traffic and thereby improve preventive health care through more “exercise-intensive” forms of mobility. Municipalities should develop such approaches in urban and regional contexts and implement them in concrete projects. The Federal Government will support them by studying the effects of low-emissions mobility on the development of urban green spaces.

Federal policy approaches:

Strengthening urban green spaces for climate protection

The Federal Government will:

- Develop urban planning model designs for the climate-adapted development of urban green and open spaces
- Raise the importance of urban green spaces for climate protection together with the National Climate Protection Initiative and the support programme “Adapting to the Impacts of Climate Change”
- Launch a quality offensive for climate-adapted urban green spaces in selected towns and cities
- Present a guideline of action together with the states for developing heat reaction plans
- Develop concepts for water-sensitive urban development in various towns and cities
- Highlight the importance of urban green spaces for flood prevention and protection against heavy rain
- Support projects on the theme of fresh and cold air provision including the use of model initiatives
- Examine the effects of low-emissions mobility on the development of urban green spaces



4.

Developing urban green spaces in a socially just and healthy way

Public green and open spaces are important for daily local recreation, social encounters and the neighbourhood's identity. However, these areas in towns and cities are distributed irregularly: inner-urban neighbourhoods with a dense block perimeter development and socially disadvantaged neighbourhoods hardly have any high-quality, sufficiently large and inviting green and open spaces. However, above all in those densely populated urban areas, the demand for publicly accessible and usable green spaces is especially high – also due to the low proportion of private gardens and open spaces. Thus attention should be paid to achieving environmentally compatible urban development with respect to further construction work in those neighbourhoods, with sufficient, high-quality green spaces, barrier-free access (if economically viable), accessibility on foot wherever possible and the networking of green spaces. These measures visibly implement the requirements of the Leipzig Charter to strengthen disadvantaged neighbourhoods.

Strengthening social cohesion and the importance of an environmentally just perspective in urban planning support programmes

Strengthening social cohesion and social integration within neighbourhoods are a common goal of the Federal Government, the German states and cities, towns and municipalities. Public green spaces can play an important role in this respect. As part of federal and state urban planning support, measures in the field of developing green and open spaces are also supported. The aim is to encourage the availability of urban green spaces for all user groups with the goal of social equality. One condition for this was strengthened in 2015 in the administrative agreement on urban planning support and the new urban planning support programme “Future urban green spaces” from 2017 onwards. In the programme “Social city”, urban planning investment to reduce burdens on the environment can also be subsidised to improve environmental justice (Article 4 of the administrative agreement: “Increasing environmental justice”). This can involve the design of urban green spaces to support the social and health effects on local residents. The Federal Government will encourage the states to implement these measures.

Good examples of such practices can be found in the brochure “Environmental justice and the social city”. Furthermore, the Federal Government provides federal funds for investment in communal and civic facilities with its new support programme, the investment package “Social integration in neighbourhoods”. This refers especially to public educational facilities, day care centres, community centres and district

centres. The construction, preservation and qualitative extension of green and open spaces connected to those measures can also receive support funding.

Ensuring the fair distribution of green spaces in different social areas

Urban park and green areas make a significant contribution to people's health. They are places to experience, encounter, exercise and enjoy recreation. Socially disadvantaged districts often have poorer access to green spaces. The Federal Government will work to significantly increase the amount of green spaces in settlements by 2020, including green spaces near housing, and to close the gap as far as possible between disadvantaged residential neighbourhoods and the overall urban average with respect to urban green spaces. The Federal Government therefore supports the development of a toolbox for environmental justice in municipalities. It will include a recommendation for social-spatial and health-related environmental monitoring to identify areas with a low amount of available green spaces that also have a low social index. The aim is to precisely assess the demand for green planning improvement measures and to set priorities for investment in green spaces. The value addition of such measures must be taken into account to prevent unwanted effects on affordable housing.

Making public green spaces safer

One important condition for the widespread use of public green and open spaces is a sufficient sense of safety. That comprises several aspects such as public

safety for trees, the safety of playing facilities and ground surfaces. Good maintenance and the cleanliness of green spaces are key to a sense of security and good-quality recreation. Designs for green spaces, mobility and recreation areas that prevent crime, for instance through special lighting concepts or visual relationships, can be combined with high use frequencies to encourage social control, prevent fears and substantially improve the sense of security. Residents should be involved even in the planning stage. Suggestions for measures to prevent crime in urban planning are provided by various states in cooperation with the police. Funds for investment and preparation for investment measures can be provided by urban planning support programmes.

Achieving barrier-free open spaces

The guiding theme of the Convention on the Rights of Persons with Disabilities is “inclusion”, so public green and open spaces should be made accessible and usable without limitation. Based on the 2016 “Guideline on barrier-free building”, the Federal Government will develop nationally applicable regulations on the requirements for the barrier-free design of open spaces. It will also examine to what extent requirements on the barrier-free design of green spaces requiring renovation or new design can be supplemented on the basis of s. 8 (5) German Equal Opportunities for Disabled Persons Law (BGG).

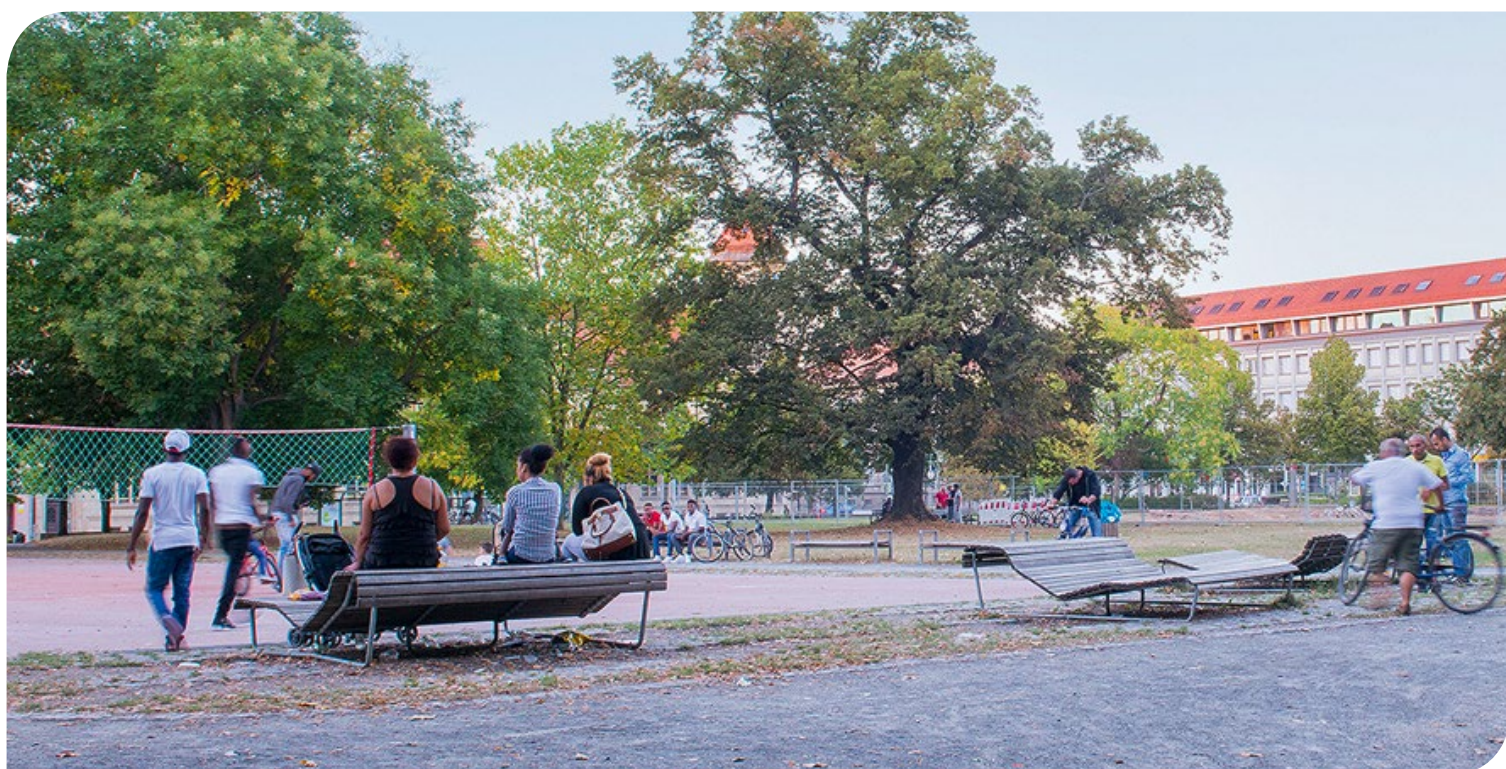
The support programmes “IKK – Low-barrier city” and “IKU – Low-barrier city” by the Kreditanstalt für

Wiederaufbau help municipalities, municipal companies and social organisations in reducing or removing barriers and the age and family-compatible conversions of municipal and social infrastructure. The conversion of public parks and green-space facilities is included in funding measures.

All measures should ensure that they do not undermine aspects with respect to barrier-freedom. This conforms to the aims of the Alliance for Affordable Housing and Building, in which neighbourhood-related demographic concepts are recommended to supplement existing programmes to support low-barrier cities.

Exploiting the potential of urban gardens

Urban gardens represent a major resource of urban green spaces and fulfil important overall communal, social and ecological functions. In addition to classic allotment gardens, communal gardens have been emerging in recent years, many of which are accessible to the public as semi-public spaces. In future, gardens should be networked more strongly with green spaces or integrated into them. New use concepts are required to further develop affected allotment grounds according to requirements. Thus, the first allotment parks are currently being created. Unused plots are qualified for semi-public uses such as neighbourhood gardens, school gardens and beekeeping. The Federal Government will examine the model of the “allotment park” as part of its pilot initiative in Experimental Housing and Urban Planning (ExWoSt) and communicate best



practice examples. Models to densify existing allotment gardens must be increasingly implemented in agglomeration areas to allow more people to enjoy gardening in view of changing use demands, but also to demonstrate sparing use of the resource of land. Allotment gardens are legally protected by federal allotment law. In the case of communal gardens, the Federal Government recommends that municipalities reach agreements between landowners and users on use periods. The action guideline “Communal gardens in neighbourhoods” offers suggestions and recommendations to municipalities on how to improve underlying conditions for allotment gardens.

The Federal Government will also strengthen allotment gardens and communal gardens in their social and ecological functions and is committed to their near-natural management and the preservation of cultured plants, species and cultured vegetation diversity. To that aim, the Federal Government will initiate a dialogue process with the interest groups of allotment gardeners and communal gardeners, as well as the responsible municipal authorities, in so far as this does not undermine the economic use of federally owned land.

Stronger connections between urban green spaces and health

The healthy effects of urban green spaces are considerable. Thus the Federal Government is striving for a better connection between urban green spaces and the health sector. Experiences from Scandinavian countries, for example, provide valuable indicators.

Pilot projects will be used to show how the healthy effects of green spaces can flow into programmes and strategies for preventive health care and support and how they can be economically assessed. The Federal Government aims to take the field of urban green areas into account appropriately in programmes for health support and prevention policy. The future focus of health care support on day care centres, schools, municipalities, companies and care facilities should also be developed, taking special account of green open spaces.

With appropriate equipment and maintenance, especially in disadvantaged districts, this provides significant healthy infrastructure that can increasingly be used for preventive measures and projects that can encourage participation.

Federal policy approach:

Qualifying urban green spaces for more environmental justice

The Federal Government will:

- Support the development of a tool for municipalities to achieve environmental justice, including a recommendation for socially and health-related environmental monitoring on a small scale
- Commit to providing all citizens with as barrier-free, high-quality and safe green and spaces as and wherever possible in the vicinity of their neighbourhoods
- Strengthen urban gardens with respect to their communal, social and ecological functions
- Examine allotment parks using pilot initiatives



5. Making built structures greener

Built structures provide considerable potential for networking urban green areas. That not only includes buildings, but also streets, canals, rainwater retention basins, bridges, tunnels, supporting walls and noise insulation walls. In addition to their primary functions and uses such as living, working, education, supplies, disposal and transport, such structures can also assume additional socio-cultural and climatic functions, as well as supporting ecosystem performance and biodiversity. Green building façades, roofs and courtyards, as well as other surfaces in streets and squares, can reduce the consequences of climate change, such as heat and heavy rain, while also alleviating problems such as fine particle pollution. Green structures can contribute to noise protection and have a positive effect with respect to life-cycle assessment. Green interior spaces in public and commercial buildings also have additional positive aspects: they absorb pollutants, ensure a more pleasant indoor air quality, provide noise insulation, improve people's health and enhance the performance of those using the rooms.

Generally when selecting the type of vegetation, attention should be paid to the allergenic potential of plants, in order to prevent negative health consequences. The Federal Government is committed to more green structures in cities and communities, while developing rooftops, among others, as usable open spaces and communal gardens. Taking aspects of structural physics and building maintenance, as well as follow-up costs during the use period into account, multiple use, multicoding and design aspects of greenery in and on structures can become increasingly significant. Thus, overall economy must be taken into account. That especially applies to housing development. Measures may not obstruct the development of affordable housing for all social strata in Germany.

Strengthening measures to make built structures greener

Green built structures have an influence on the climate of cities. Today, there is relatively little awareness of such environmentally effective consequences on the city's climate using green roofs and façades. Thus the Federal Government will analyse the effects of green façades and roofs in inner-city neighbourhoods and develop a guideline for builders, owners and tenants on the possibilities of green structures. The building technology used to implement them will be supported by best-practice texts and maintenance instructions. It will also be shown how green structures can contribute to reducing the effects of heavy rain or to evaporation and cooling, how they can provide a habitat for various forms of life and thereby strengthen biodiversity, and be combined with solar-thermal or photovoltaic systems. Ways of creating green street structures such as noise insulation walls, bridges and thoroughfares should also be taken into account, if their technical function allows it. It should however be noted that these measures cannot undermine the durability, transport safety and load-bearing capacity of the structures and that the regularly required close-up building inspections in accordance with DIN 1076 cannot be impaired.

Integrating green built structures into certification systems

Green elements of built structures can have a positive effect on the value of a building, especially if they do not appear in isolation and instead characterise the overall appearance of the surroundings. The Assessment System for Sustainable Building (BNB)

for federally owned buildings contains a comprehensive set of indicators to assess the quality of building measures with respect to clear sustainability criteria. The connected certification process is becoming increasingly recognised among public and also private clients as a quality standard. The Federal Government will assess the further development of the BNB, considering the definition of additional sustainability criteria such as the proper use of vegetation adapted to climate change and the location, climate adaptation and resilience.

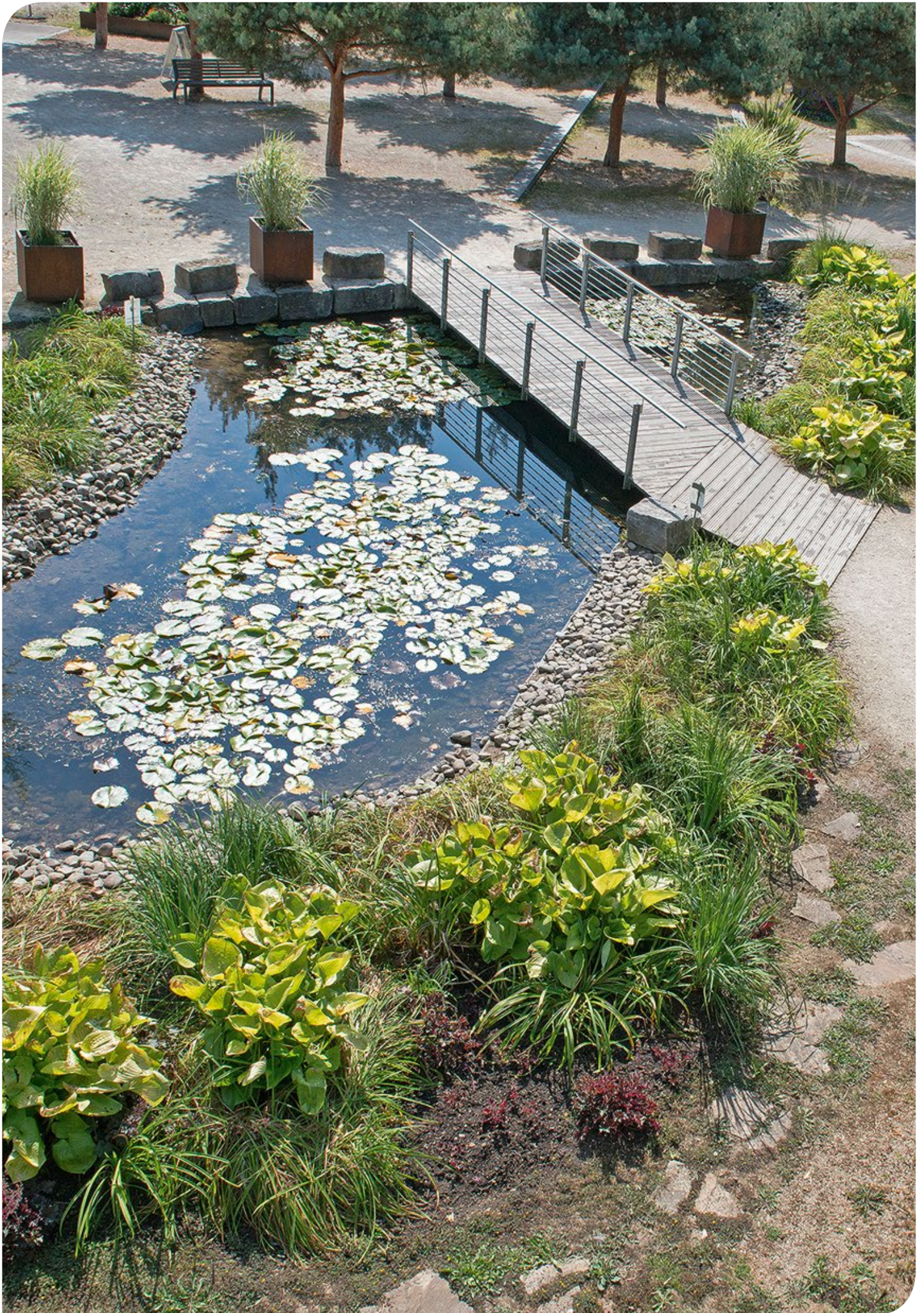
Enhancing streets as green habitats

There is great potential for green structures along streets. The development of innovative forms of mobility and changed mobility requirements mean that in some places, transport infrastructures are by now too large. Innovative street space design and new transport concepts can make a significant contribution to reducing the size of transport areas in favour of more green spaces and improved conditions for people spending time there. The Federal Government will develop a guideline on the "Qualification of green spaces along transport routes". It will present legal, content and funding possibilities to municipalities for converting, partially desealing and recultivating ground areas, as well as making street spaces greener. The Federal Government will order a feasibility study on urban planning potential in this field.

Federal policy approach: Supporting quality green structures

The Federal Government will:

- Develop a guideline on the possibilities of creating green built structures
- Develop quality standards and consider additional sustainability criteria for the further development of the Assessment System for Sustainable Building with respect to federal construction
- Develop a guideline to qualify green spaces along transport routes
- Order a feasibility study on the urban planning potential of reducing the size of transport infrastructures



6.

Proper planning, creation and maintenance of green spaces

Demands on urban green spaces are growing continuously – due to climate change, through inner urban densification, through the necessity of balancing out psychosocial burdens and to alleviate people’s lack of exercise. All this calls for more quality and more maintenance. At the same time, the means available for the maintenance and upkeep of green spaces are declining. A turnaround is required to reduce the gap between requirements and possibilities. This is a key precondition for people to continue to feel well in cities and wish to remain living there.

Proper handling of plants is a basic condition of high-quality green spaces and greenery in urban spaces. Highly structured, diversely shaped green spaces are attractive areas for the population to gather, while providing living space for species that are typical to the city, some of which are endangered. They also make it possible to experience nature in the city. The high quality demands on green spaces and their plants with respect to function and performance must therefore be preserved in the long term. The Federal Government regards itself as a partner of municipalities in shaping high-quality open and green spaces that serve people’s recreation and develop the local biodiversity, while improving the urban climate.

To safeguard the often high initial investment in plants in the long term, the use of healthy, vibrant and resistant plants that are compatible with the location is as important as sustained, proper maintenance. The aim is also to ensure appropriate growth areas, both under and over the ground, intact soil and the provision of water and the necessary nutrients. Thus the requirements of maintenance and life-cycle costs must already be taken into account in equal measure when conceiving areas as part of good green space management, as well as the wishes of the population, examining location and soil conditions and providing qualified personnel. This especially applies to historical green spaces.

Developing a label for green urban spaces

The project “Urban green spaces – rich in species and diverse” is part of the federal “Biodiversity” programme and is aimed at motivating cities, towns and communities to design and maintain green and open spaces in near-natural ways. As part of this project, the Federal Government supports the development of a label for urban green spaces with the aim of establishing uniform ecological standards for handling green spaces. In this way, municipalities can be rewarded for paying attention to urban green spaces, managing their green spaces in an especially sustainable way and encouraging biodiversity. A practice-orientated guideline of action and a national campaign will support the programme.

Stronger focus on location communities

New and invasive plant diseases and pests, poor selection of plant species and types, insufficient places for growth, the destruction of root space, pollutants in the ground and compacting of the soil through heavy pedestrian burdens represent increasing risks to urban green spaces. Often already during planning for green concepts, typical regional types and different location qualities and characteristics are not sufficiently taken into account. The Federal Government will therefore develop a monitoring system for municipalities. By recording and assessing regional data and using guidelines and parameters, the risk potential for the healthy maintenance of plants can be recognised early on, making long-term planning strategies more secure. The selection of plants adapted to the location and sustainable maintenance management can also be ensured in this way. Furthermore, the Federal Government intends to provide the guideline “City-Climate-Plants” for using plants that are compatible with the location and adapted to climate change.



Ensuring the maintenance of urban green spaces

Sustainable planting and maintenance concepts geared towards resilience are becoming increasingly significant. When planning green spaces in a sustainable way, the expected future maintenance and upkeep should always be included in calculations (life-cycle costs). The Federal Government recommends only selecting plants that are sufficiently resistant to urban stress factors or can be kept vibrant and healthy in the long term through appropriate maintenance measures. The maintenance and upkeep of public green spaces requires forward-looking planning and is in many cases a cost-intensive and time-consuming task that burdens municipal budgets. Creating awareness of this long-term task among municipal decision makers should be encouraged. As part of the proposed action guidelines, concepts are to be produced that combine aesthetic appeal and planting that is valuable to the urban ecology with underlying conditions of low maintenance costs to achieve cost transparency.

Strengthening historical urban green spaces with social, tourist and ecological functions

Historical gardens, parks, green systems, avenues, promenades, urban squares, cemeteries, botanical and zoological gardens and special old estates with

individual urban trees are both quantitatively and qualitatively a significant part of urban greenery and make a considerable contribution to the quality of life in our towns and cities. These areas not only have a high social and cultural significance as garden monuments, but are also important for local recreation, tourism, biodiversity and above all the urban climate.

Thus the monument-preservation value of these areas and the entailed ecological and tourist significance must be assessed, protected and communicated. Due to future requirements for instance through climate change or transforming urban structures, concepts must be developed and implemented to preserve, properly maintain and further develop historical green spaces. To this aim, the Federal Government supports research, planning and implementation measures and is committed to qualified maintenance. Furthermore, it supports the structural preservation of valuable national garden monuments.

The welfare effects due to the improved quality of life are also significant, as are economic aspects such as location factors for the real estate industry and tourism. The state administration of castles and palaces has in-depth experience with respect to the proper maintenance, repair and restoration of historical gardens. Its research has an exemplary character, taking monument preservation methods, cultural and historical studies, ecology and nature conservation into account in an interdisciplinary way. This insight



must be pooled comprehensively and jointly applied and developed further as a strategy – also together with users – to preserve cultural garden heritage.

Supporting knowledge transfer

There are many good examples of designing and maintaining urban green spaces. The Federal Government compiles this know-how and makes it available to municipal and other actors using the platform www.gruen-in-der-stadt.de. The planning specifications and legal regulations on ground,

groundwater, water and nature conservation will be, if not already done so, produced and provided on the platform. Equally, successful models will be presented to involve the population in the planning, design and maintenance of green spaces.

Federal policy approach:

Improving the quality of green spaces through proper planning, implementation and maintenance

The Federal Government will:

- Develop a guideline of action for the sustainable management of green spaces and biodiversity enhancement, supported by a campaign
- Develop monitoring to gather data on location communities for plants
- Provide the guideline “City-Climate-Plants” with respect to using plants that are compatible with the location and adapted to climate change
- Support the preservation and further development of cultural garden heritage
- Communicate best-practice examples as well as producing and providing information in a practically orientated way



7. Gaining actors, involving society

Urban green spaces play a very important role for the population. That is also reflected in the results of the 2015 Nature Awareness Study. 94 percent of those asked believe that nature should be accessible in all parts of the city wherever possible. However, providing sufficient high-quality public green and open spaces means considerable costs for municipalities, which is a great challenge, especially in times of tight budgets. Nevertheless, there are many good examples where private actors and civil society assume responsibility and design and maintain green and open spaces.

Urban planning funding is already supporting existing on-site resources and networks. For instance the programme “Social city” primarily provides funds for overall measures that agree on cooperation with third parties for supplementary measures in the funded areas. Furthermore, the “voluntary ecological year” makes a valuable contribution with its approx. 2,700 participants a year. Almost 300 volunteers are engaged in the field of environmental and nature conservation and act as multipliers in their circle of friends and acquaintances. In this respect, the Federal Government aims to use further measures to support networking, activation and information between actors and create financial incentives.

Providing space for private initiatives and civil social engagement

Public green spaces are generally the responsibility of municipalities. However, they are already being supported in maintaining and preserving green spaces by the real estate sector, societies and foundations, as well as citizens. Increasingly, these actors assume patronages, care for tree grates or carry out urban gardening.

In future, developing open spaces will increasingly require the testing of processes for a new planning culture that encourages cooperative open spatial development. The management of actors (activation of cooperation partners, inclusion of stakeholders, civilian participation) is a new task of planners that should be defined as such and proactively pursued using appropriate personnel resources. That includes the development of innovative solutions for a “culture of participation” and active contribution of citizens in “their” open spaces. The integration of private actors and civil society in planning and maintenance measures increases residents’ identification with their spaces and thereby helps to design and preserve green spaces according to requirements. This is connected to the hope of lowering maintenance costs since less soiling and vandalism takes place. However, the maintenance of urban green spaces will in future be mainly ensured by trained, professional personnel. The Federal Government will develop a guideline to ensure a closer partnership and cooperation between municipalities, private initiatives and civil society.

Strengthening citizen-science approaches

The term “citizen science” is connected to the programmatic concept of using the insight and curiosity of the local population to answer questions raised by scientific research. With respect to urban green and open spaces, this for instance applies to small-scale nature observation at a specific location. For example, residents of a neighbourhood can be motivated to generate knowledge through observation, counting and mapping, thereby contributing to research. At the same time, the measure consolidates the population’s identification with the green and open spaces in the residential environment.

The Federal Government is examining whether the “Guideline on funding citizen science projects” by the Federal Ministry of Education and Research (BMBF) should be supported by a thematic tool for municipalities. It uses good examples to present municipal approaches to supporting “citizen scientists”. The Federal Government will also examine more closely current and future federal research projects relating to green spaces with respect to possibilities to connect them with citizen science approaches.



Activating private actors using legal instruments and financial incentive

Many commercially used areas offer great reserves for increasing their green proportion due to the large amount of sealed ground and their low environmental quality.

The Federal Government is encouraging municipalities to use their existing legal framework to achieve higher quality green spaces also in private areas. These include open space design regulations, landscape plans and programmes (such as biotope area factors), urban planning contracts for private investment, the definition of private green spaces in development plans and municipal bylaws for sustainable ground regulations.

Creating legal certainty for opening private areas

Many companies, private real estate owners and municipalities have high-quality green and open spaces on their properties that could be very valuable to the population in view of their dimensions and quality. However, these spaces are generally inaccessible, often due to legal uncertainties: the key conditions for opening such places are therefore the clarification of legal questions. Some companies nevertheless act in an exemplary fashion – with great advantages for the urban population. To strengthen that trend, the Federal Government will develop a guideline for municipalities and the real estate industry that presents the legal conditions for opening

private property and its connection to public green spaces, as well as their communal use and maintenance. Above all, questions of public safety must be clarified and the creation of a connection between private and public green spaces achieved. The guideline will be supplemented by information on legal, spatial and financial requirements of joint maintenance. Specialist municipal personnel must provide support and supervision to ensure continuity and maintenance standards for the private management of green spaces (patronage).

Strengthening and networking public actors

In many towns and cities, public actors such as zoological and botanical gardens represent green islands with a very high biodiversity with respect to protected indigenous and non-indigenous species. They are public cultural assets and are often visited by large parts of the population. The further development of partnerships between these actors and with the Federal Government contributes to implementing the biodiversity strategy.

Showing the value of ecosystem performance

Urban green spaces provide a wide range of services to society. Various studies with financial support from the Federal Agency for Nature Conservation, especially the urban report published in May 2016, entitled “The Economics of Ecosystems and Biodiversity – TEEB.DE”, show that the ecosystem performance of green spaces can also be assessed in monetary terms. They are therefore not only a factor for greater quality of life, but also an economic aspect and location advantage. Awareness of the importance of urban green spaces in connection with climate adaptation should also be increased among private actors. The Federal Government will achieve this through information and events as part of the biodiversity strategy.

In a pilot initiative, the Federal Government will investigate “The ecosystem performance of urban green infrastructure” with the aim of developing decision-making and practice-orientated arguments for high-quality urban green spaces, especially to support municipal planning and environmental authorities.

Federal policy approach:

Urban green spaces are a joint task of the Federal Government, states, municipalities and civil society according to respective responsibilities

The Federal Government will:

- Develop a guideline for cooperation between municipalities, private initiatives and civil society
- Examine the potential of connecting with citizen science approaches for structural and future greenery-related research projects
- Produce argumentation aids and working tools to help public and private actors in increasing the proportion of green areas
- Develop a guideline on underlying conditions for opening private green spaces
- Raise the awareness of private actors with respect to the importance of urban green spaces
- Implement pilot initiatives on the ecosystem performance of green urban infrastructures



A wide range of disciplines work on the theme of “green spaces in the city”. They include urban and spatial research, landscape architecture, landscape design, social, health and environmental sciences, biology, vegetation technology, chemistry, medicine, sports and activity studies, climatology, soil science and geography. Often, research approaches are limited to a narrow professional or sectoral aspect. However, the complexity of the field requires transdisciplinary research to recognise systemic connections between the disciplines and thereby expand the scope of potential action for green spaces in the city.

Establishing the research cluster “Green spaces in the city” as part of the “City of the Future” innovation platform

In view of the diversity of research projects on the theme, early and constant exchange of information is important. This can be supported by the inter-departmental innovation platform “City of the Future” operated by the Federal Ministry of Education and Research (BMBF) and the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB). It records, presents and pools the planned, prepared and current research projects on the theme of “green spaces in the city”. The extended innovation platform “City of the Future” firstly enables forward-looking coordination, adjustment, cooperation and networking between researchers, municipalities, the economy and civil society, while also contributing to support for interdisciplinary research. Secondly, the platform is used to communicate results and transfer knowledge to municipal practice. In doing so, attention is paid to the application-orientated presentation of research.

Current research projects on green spaces in the city should be presented and pooled in the research cluster “Green spaces in the city” for better networking.

They will include projects such as the BMBF “City of the Future” flagship initiative and pilot initiatives on support for compact, multifunctional, green urban structures.

Integrated research on different aspects of green spaces in the city

Research initiatives must develop an underlying research basis for the various handouts and guidelines on qualifying urban green spaces.

- Using and expanding green area resources in the city: to this aim, the Federal Government will establish a transdisciplinary research and development programme to study how area resources in the city can contribute to green infrastructure and what role interdepartmental work can play.
- Green built structures: in the coming years, there will be significant demand for the renovation, conversion and new development of streets, bridges, canals, waste water facilities and inner urban flood protection systems. These should be regarded as an opportunity for more green areas. The Federal Government will use research projects to study how elements of built infrastructure can also become part of green infrastructure.
- Creating the basis of compact and multifunctional green urban structures: with the BMUB programme “New ways of living together in the city” published in October 2015, the goal is linked to gradually implementing a guideline for the compact, integrated and environmentally compatible city. The central aim is to achieve a level of urban density that is acceptable for people and the environment. The Federal Government will use a research project to study how compact and multifunctional urban structures can be shaped with a high degree of open spaces and good-quality places for people to gather.
- Taking the cooling performance and climate-protecting function of the ground into account in spatial planning: developing recording, assessment and forecasting tools to integrate the cooling performance of the ground into spatial planning and supporting best-practice examples on a municipal level.
- Implementing green infrastructure in urban spaces: testing innovative approaches in a combination of research and practice. Aims and required measures



must be formulated starting with existing structures of administration and questions of governance.

- Encouraging and upholding planting and maintenance concepts: healthy urban plants decisively depend on sustainable planting and maintenance concepts. The Federal Government will support research projects that develop sustainable greenery concepts for urban green spaces, for instance to be able to encourage and select vibrant plants and vegetation that are adapted to the urban climate.
- Researching the effect of urban green spaces on human health: the Federal Government will study trend themes such as “improving health and urban green spaces” more strongly with respect to their significance to people and the environment. Future research should also address individual negative effects such as allergenic effects.
- The city and food: models of overall city plans for the urban production of food should be developed. In doing so, civil society projects, allotments and

municipal priorities (for instance the “edible city”) should be focused upon.

- Developing the value of urban green spaces: analysis of the value-adding quality of urban green spaces to motivate owners more strongly to make appropriate commitments.
- Investigating transforming allotment gardens: preserving allotment gardens and adapting them to changed use behaviour is highly relevant to the Federal Government and municipalities both from the perspective of social issues and in view of ecological aspects. Thus the BMUB will order the study “Transforming allotment gardens”. The study should investigate current and future challenges in allotment gardening, provide possible solutions and recommend measures for municipalities and allotment garden societies and associations.



Testing new forms of use and types of open spaces

New social trends in leisure behaviour, sporting activities and spatial use entail transforming creative and also more intensive forms of use with respect to urban green and open spaces. New types of open space use are also gaining attention, such as the concept of the “edible city” and urban gardening projects, as well as the conversion of cemeteries. To test innovative

approaches to open and green spatial development, the BMUB is carrying out the pilot initiative with the title “Green Urban Labs” as part of the Experimental Housing and Urban Planning (ExWoSt) project.

Federal policy approach:

Coordinating research and science for qualified urban green spaces

The Federal Government will:

- Expand the “City of the Future” innovation platform to include the research cluster “Green spaces in the city”
- Implement research and pilot initiatives on the different aspects of urban green spaces



9.

Consolidating the Federal Government's exemplary role

One of Germany's largest real estate owners is the Institute for Federal Real Estate (BImA), which has property with an overall size of around 490,000 hectares and around 38,000 apartments. It also manages more than 18,000 properties. Deutsche Bahn AG also has over 13,000 buildings. The Federal Government therefore has a special responsibility to develop its own real estate in a sustainable way. Many properties, including housing and commercial buildings, as well as rural and forestry buildings, have a high proportion of green spaces. Activities of the Federal Government can therefore develop a visible exemplary role.

Exemplary use of a limited resource

The Federal Government strives for a holistic and efficient land-use development for its properties, while taking the effect of measures on the urban climate and other ecological requirements into account. Its underlying aim is to keep measures to urban green spaces to a minimum or avoid them completely. The Federal Government has a tool that ensures sufficient green exterior spaces on its own real estate and can develop it in a sustainable way with the guideline "Sustainable building", which contains concrete provisions for exterior grounds around buildings. On existing properties, active land recycling is carried out, while existing open spaces are preserved. In the long term, the land for parking spaces for private cars should be reduced and desealed where the stock of vehicles is reduced, and new land developed. More secure bicycle stands should be created, also with charging stations for pedelec users.

Taking the requirements of biodiversity into account in adapting to the climate and maintaining green spaces

Sustainable and proper, long-term maintenance and upkeep of green spaces on federal real estate should already be developed and ensured at the planning and conception stages. A sustainable overall balance (profit concept) must be considered over the entire life cycle and ensured through appropriate maintenance budgets. In the case of necessary renovation work, attention is paid to improving the green balance and quality. The Federal Government will therefore develop a maintenance strategy that can also be applied to public spaces in municipalities. The aims of the National Strategy on Biological Diversity should also be applied to public landowners. The "Federal Government Strategy for the

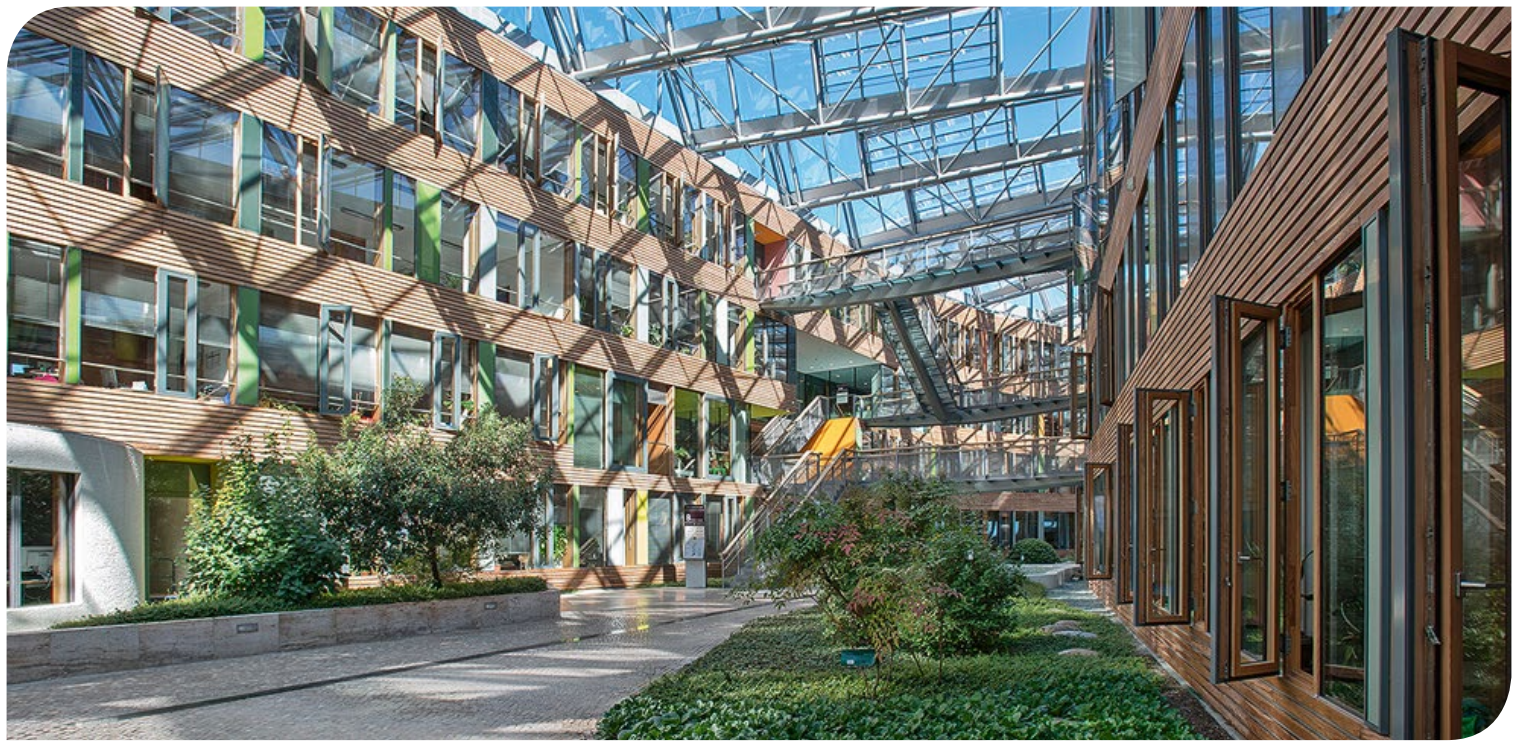
Exemplary Consideration of Biodiversity on all Federal Property" (StrÖff) also stipulates that the BImA must take the following aspects into account by no later than 2020 for the management of exterior grounds of federal civil service properties: using locally indigenous wood on properties in open landscapes and wood that is compatible with the location for interior real estate, fundamentally refraining from pesticides and chemical-synthetic fertilisers, refraining from products containing peat in upkeep measures, and reducing light emissions (selecting lamp types to reduce light pollution/using lighting with low attraction for insects). These aspects of biodiversity have been integrated into the BImA LUMAS® environment management structures for implementation by 2020 in the key field of "Natural environment".

Qualified design using "green architecture"

"Green architecture" is sustainable, since façade, roof and interior greenery is taken into account during the planning and design stages. The development of "green architecture" in towns and cities can be supported by exemplary measures on federal properties. In doing so, greater attention should be paid to the development of a green infrastructure, focusing on building culture, than has hitherto been the case. The aim is to address the theme of "green architecture" more clearly, implement pilot projects and advance the development of guidelines.

Developing exemplary green transport routes and waterways

Railway escarpments, waterway banks and green spaces along major federal roads or in inner-urban areas and by cycle paths are often connected linear



structures. They can form an important part of green and open spaces in the context of a green infrastructure and networking the cities, towns and the surrounding regions. Within the bounds of its responsibilities, the Federal Government will optimise green spaces along inner-urban transport routes and thereby also take into account the importance of combined biotopes and the potential of reducing the negative consequences of climate change. Since large amounts of the Federal Government's technical infrastructure will be renovated and renewed in the coming years, this represents a considerable opportunity with respect to optimising their potential for more green spaces. In coordination with the responsible administrations, with respect to forthcoming renewal, replacement and extension measures, the Federal Government will strive to take into account the functional objectives of combined biotopes, the federal programme "Blauess Band", the federal programme to renew networks and the federal concept of green infrastructure, while improving and strengthening the quality of green spaces and their quality of stay.

Achieving consistent waterways

In accordance with the EU Water Framework Directive, the (re-)establishment of consistent, openly guided waterways is an important aim. In combination with flood protection measures, synergies can be achieved to improve the condition of waterways and at the same time create larger retention volumes.

The Federal Government supports the development of waterway concepts that take these various requirements into account and strengthen cooperation between cities and their surrounding municipalities.

Qualifying conversion land and areas along railway lines

Conversion land and areas along railway lines can represent important elements of expanding combined biotopes and connected open space systems in towns and cities. These large-scale, linear connections are important for networking green land. Thus the Federal Government will hold talks with Deutsche Bahn AG to activate the potential of spaces along railway lines.

Developing, securing and maintaining greenery on built structures of federal properties

Greenery on buildings increases the amount of green spaces in towns and cities and thereby creates habitats for animals. In appropriate cases of new construction, renovation and maintenance of federal real estate, buildings should receive greenery or have their existing greenery improved, taking into account the optimisation of investment and subsequent costs (economy principle in life-cycle consideration). During building measures by 2020, life-cycle related biodiversity aspects will be taken into account systematically and implemented at an early stage and in all planning processes. In this way, users can be offered high-quality

ecological solutions and the protecting potential for biodiversity can be used in a better way. Possibilities to protect and support biodiversity are positively appraised in the analysis of the Assessment System for Sustainable Building (BNB).

Above all, the existence of structures that serve as habitats for animals, or nesting or hiding places, or support the protection of biodiversity, as well as the prevention of invasive plant species in newly planted vegetation, are addressed. Equally, attention is paid to appropriate new vegetation with respect to the location and function, taking into account the location's important characteristics (ground, climate, water, overground and underground development space, exposition, use density and browsing by game). In amending the Building Regulations of Existing Building Documentation (BFR GBestand), the Federal Government will examine the possibility of recording and documenting greenery measures to built structures.

Making green spaces more openly available to the public

Within the scope of the means allocated in its budget and financial plan, and under the proviso that the security and official nature conservation regulations permit it, the Federal Government strives to make open spaces on its properties in densely populated urban areas more accessible as publicly usable spaces. Furthermore, the Federal Government will ensure that spaces already used as public green areas on federal property remain accessible in the long term. To that aim, target agreements are closed with towns and cities. The Federal Government will assess whether

gardens in properties that are subject to high security regulations can be temporarily opened to the public and whether they can participate in regional initiatives (such as the Garden Open Day).

Planning, implementing and certifying sustainable green areas

With the Assessment System for the Sustainable Building of Exterior Spaces on Federal Real Estate (BNB_AA), the Federal Government formulates concrete requirements for planning, building and operating exterior grounds around federal buildings. In addition to the concluding certification of exterior grounds, the system represents a valuable communication tool for all actors in the entire planning process down to the maintenance of exterior grounds. The aim of the Federal Government is to plan and implement sensible sustainability requirements going beyond the existing regulations for the new construction of exterior grounds, also in the case of modernisation. Furthermore, the system provides a valuable basis for the further development of systems for public and non-building related exterior grounds, or simplified application for instance for private building clients.

Federal policy approach:

Federal real estate supports the aims of integrated urban and green development

The Federal Government will:

- Qualify green spaces on its real estate, also with the aim of strengthening biodiversity
- Develop a maintenance strategy for federal real estate that can also be applied to municipal areas
- Strengthen, within its scope of responsibility, green spaces along transport infrastructures and optimise waterways to reduce the consequences of climate change
- Increase the importance of “green architecture”



The value of green spaces in the city and the visions and future fields of a green city can only be conveyed, explained and strengthened through comprehensive communication and information, including educational measures. Both the specialist public and interested members of the general public must be informed on current developments through targeted public relations work and events.

Organising competitions

Competitions are an important instrument of improving the quality of building culture in the construction industry and also a means of communication between all participants. They are also an appropriate tool with which to reward and appreciate engagement.

Thus the BMUB will announce the national competition “Green spaces in urban development”. Partners such as foundations and supporters will be canvassed for that purpose. Award winners could be nominated for the Entente Florale Europe competition.

Every four years, the Bundesverband Deutscher Gartenfreunde and the Federal Ministry for the Environment and Building organise the national competition “Gardens in urban planning”. The competition merits special urban planning, ecological, garden culture and social achievements with which allotment garden societies send positive signals to neighbourhoods beyond the boundaries of the allotments. In future, the Federal Government will reward such great commitment with prize money.

The Peter Joseph Lenné Prize is presented by the State of Berlin and consists of a biennial competition of ideas for garden and landscape architecture and the planning of open spaces and landscapes. From its next announcement onwards, the Federal Government will subsidise this prize and thereby contribute to supporting young landscape architects and urban planners.

Strengthening and expanding public relations work

In its Urban Development Report, which is produced every four years, the Federal Government will in future report on the white paper’s implementation and regularly address the theme of “urban green spaces” in its public relations work. That includes a stronger focus

on garden design and green structures in publications on new federal real estate in Germany and abroad, as well as measures to make built structures greener.

Launch of the initiative “Developing green spaces in integrated urban development”

Constant discourse and exchange on the theme of “urban green spaces” is important for all actors. Thus the Federal Government, in cooperation with associations and societies, will initiate a dialogue forum that meets once a year to exchange information. The forum is aimed at communicating the positive effects of urban green spaces and the advantages of integrated planning to actors involved with urban development.

Improving ecological awareness in allotment gardens

The important social and ecological function of allotment gardens must be enhanced further. Together with the Bundesverband Deutscher Gartenfreunde, the Federal Government will work towards improved ecological standards in allotment gardens. It will provide funds for ecology courses to encourage the training of specialist consultants and multipliers.

Improving environmental education to raise awareness of urban green spaces

Awareness of the significance of green and sustainable cities must be improved. The green paper “Urban green spaces” and the urban report “The Economics of Ecosystems and Biodiversity – TEEB-DE”, among others, have made important contributions to that aim. Furthermore, the Federal Government is participating in the five-year UNESCO world campaign for sustainable development. The aim is to firmly

anchor sustainable thinking and action in all fields of the educational system. The Federal Government will encourage education on ecology and awareness by strengthening existing strategic alliances and developing new ones. Examples include the constant further development of educational concepts for experiencing nature in schools, as well as zoological and botanical gardens, and the communication of biodiversity in cities. To improve children's and young people's access to nature in cities, the Federal Government supports conceptual further development on spaces where nature can be experienced. It intends to include such spaces as a new category of green spaces in German Building Law. The long-term aim is to anchor environmental and awareness education as tasks in all fields of federal policy measures.

The themes of continuous (further) education also include offers that communicate quality criteria and quality standards for practical implementation and controlling. To that aim, the Federal Government will examine whether cooperation between its departmental research institutions with universities can subsidise university doctorate projects. This is connected to the question whether and to what extent university and extra-university educational institutions studying the field of "green spaces in the city" can be supported. That includes the assessment of possible adaptation to vocational training regulations and the possible establishment of new disciplines. At the same time, it must be examined whether already existent professional fields can be supplemented by targeted additional qualifications.

Developing training and further education

Good professional training and further education forms the basis of sustainable measures by all actors. Thus it is important to make the current status of applied research in the fields of environment, planning and garden planning research available to everyone, including practical experience. The Federal Government will therefore join with associations, chambers and universities to examine how expertise on the theme of "green spaces in the city" in training and further education can be expanded to include urban vegetation and maintenance strategies and concepts.

Federal policy approach:

Creating awareness of urban green spaces through public relations work and education

The Federal Government will:

- Help improve the significance of green spaces in the city through competitions
- Strengthen public relations work
- Support the exchange of information and dialogue between actors with a dialogue forum
- Strengthen existing and new alliances for teaching on the environment and awareness
- Examine in dialogue with associations, chambers and universities how expertise on the theme of "green spaces in the city" can be expanded

Glossary

Agenda 2030 for Sustainable Development

The United Nations Agenda 2030 for Sustainable Development was ratified on September 25, 2015. The agenda's aim is to shape global development in a socially, ecologically and economically sustainable way and thereby give future generations the chance of a fulfilled life. A catalogue with 17 aims with the primary guiding principles of humanity, planet, welfare, peace and partnership form the agenda's focus.

Alliance for Affordable Housing and Building

The Alliance for Affordable Housing and Building brings together the Federal Government, states, municipalities, housing and building sectors, the Deutsche Mieterbund, trade unions and other relevant actors to meet challenges on the housing market. The aim is to work together to improve the conditions for building and modernising good-quality housing, preferably in the affordable market segment, and to increase the amount of available housing in urban agglomerations where there are housing shortages.

Assessment System for Sustainable Building (BNB)

The Assessment System for Sustainable Building (BNB) supports taking sustainability aspects into account in planning and implementing federal buildings based on the Guideline on Sustainable Buildings produced by the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety. It serves to enable the detailed description and assessment of implemented sustainability qualities.

Assessment System for Sustainable Building, Exterior Grounds (BNB_AA)

Supplements the BNB for the new development of exterior grounds.

Biodiversity

The diversity of life on this planet (aka biodiversity) comprises the variability of living organisms and the ecological complexes they have created. This includes the following three levels: 1) the diversity of ecosystems and symbioses, habitats and landscapes 2) the diversity of species and 3) genetic diversity within different species. The underlying basis of ensuring and developing biodiversity in Germany

is provided by the 2007 "National Strategy on Biodiversity".

BMBF pilot initiative "City of the Future"

The BMBF pilot initiative "City of the Future" is part of the 3rd framework programme "Research for Sustainable Development" (FONA³). It includes research on three major fields: the development of sustainable towns and cities in Germany, the interaction between urban and rural areas with respect to demographic change and the development of urban centres from a global perspective. For more information, see: www.fona.de

Building culture

Building culture describes the production of the built environment and the approach to it. That includes planning, building, conversion and maintenance measures. Building culture is not only limited to architecture, but also equally includes civil engineering measures, urban and regional planning, landscape architecture, monument preservation and "art in architecture" on buildings and in public spaces. Building culture is an important element of sustainable urban development policy.

Building Guidelines on Documenting Existing Buildings

The Building Guidelines on Documenting Existing Buildings (BFR GBestand) contain regulations on the systematic recording, production and maintenance of digital stock data. The geometric and alphanumeric stock documents are aimed at providing a representation of the entire life cycle of the actual built stock. These form the basis of the commercial, infrastructural and technical facility management.

Building inspection in accordance with DIN 1076

To record and assess the condition of civil engineering structures with respect to their stability, transport safety and durability, regular inspections of such structures are necessary in accordance with DIN 1076.

Citizen Science

Citizen Science is an especially active form of citizens' participation in research work.

Conversion

Conversion of urban spaces for different utilization

Ecosystem performance

Ecosystem performance denotes the direct and indirect contribution made by ecosystems to human welfare, i. e. performance and goods that achieve a direct or indirect economic, material, health or physical benefit.

Environmental justice

As a positive guiding principle, environmental justice is aimed at preventing and reducing the concentration of health-related environmental pollution in social spaces and ensuring socially just access to environmental resources. The term addresses the issue of often uneven (unjust) distribution of environmental pollution (such as noise and air pollutants) and uneven access to environmental resources (such as parks and playgrounds). A lack of environmental justice can lead to uneven health developments.

Experimental Housing and Urban Development

The Federal Government uses the research programme “Experimental Housing and Urban Development” (ExWoSt) to support innovative planning and measures on important urban planning and housing policy themes by means of research fields, studies, initiatives and pilot projects. The experience derived from them should provide insight for the further development of urban planning and housing policy, as well as supporting the transfer of knowledge.

Federal Government Strategy for the Exemplary Consideration of Biodiversity on all Federal Property (StrÖff)

The “Federal Government Strategy for the Exemplary Consideration of Biodiversity on all Federal Property” (StrÖff) implements important aims of the National Strategy on Biodiversity, which was passed by the Federal Government in 2007. The strategy applies to all federal property, including federal forests, federal real estate, federal waterways, major national roads, Deutsche Bahn railways and land for military exercises. It comprises measures and programmes to help the respective federal authorities to protect, preserve and support biodiversity in the coming years.

German National Sustainable Development Strategy

On April 17, 2002, the Federal Government passed the National Sustainable Development Strategy: Prospects for Germany. It was updated at regular intervals. The most comprehensive further development of the

strategy is the new 2016 German National Sustainable Development Strategy, which contains measures to implement the 17 sustainability goals of the United Nations Agenda 2030 for Sustainable Development. The strategy is aimed at achieving economically effective, socially balanced and ecologically compatible development, whereby the planetary limits of our Earth and the aim of all people living in dignity form the absolute benchmarks of political decision-making.

German Strategy for Adaptation to Climate Change

The 2008 German Adaptation Strategy (DAS) creates a framework for adaptation to the consequences of climate change in Germany. The new German Strategy for Adaptation to Climate Change was introduced in 2011. The Adaptation Action Plan (APA) of the German Strategy for Adaptation to Climate Change was developed within that strategy. It supplements the DAS with specific activities and connects them to other national strategy processes. A progress report presented in late 2015 contains concrete steps for the further development and implementation of the DAS.

Governance

The term “governance” is used in the field of regional planning and policy to describe ways of steering and coordinating measures on regional and urban spaces. Governance is characterised by cooperation between political and social actors and broad participation by non-state actors from the economy and civil society.

Green infrastructure

On an EU level, green infrastructure defines a strategically planned network of valuable natural, near-natural and design spaces and other environmental elements that provide important ecosystem performance and contribute to protecting biodiversity. In an urban context, all types of vegetation and water-dominated areas, as well as individual elements of (urban) green infrastructures, can form or become green infrastructure, regardless of their use, the history of their creation and their ownership situation. Sealed and developed areas can also be qualified as part of green infrastructure through desealing, vegetation and plantation with trees.

As socially, economically and ecologically sustainable urban development, green infrastructure can support a wide range of social goals. It makes a key contribution to quality of life and public services.

Integrated Environment Programme 2030

The BMUB Integrated Environment Programme 2030 formulates key objectives and proposals such as ways in which key fields of policy, the economy and society can be shaped to be environmentally compatible and sustainable. It contains proposals for environmentally compatible economic and financial policy, to strengthen federal environmental policy, for a new concept of welfare and to support sustainable action by citizens and corporations.

Leipzig Charter on Sustainable European Cities

The Leipzig Charter contains common principles and strategies of European urban development policy. These principles are aimed at supporting sustainable, integrated and socially compatible urban development. The Leipzig Charter was signed by EU ministers in Leipzig on May 24, 2007 at an informal meeting on the subject of urban development.

Life-cycle assessment

Life-cycle assessment in the context of urban green spaces is their holistic assessment including planning, implementation and maintenance.

LUMAS®

LUMAS® is the name of a three-part concept developed by the Institute for Federal Real Estate (BImA). The sequential modules LUMA (Real estate-related environmental management approach), LUMAS (Real estate-related environmental management and auditing system) and LUMASPlus (Expanded real estate-related environmental management and auditing system) regulate the form of environmental management within the framework of real estate managed by the BImA.

Multicoding

The term “multicoding” describes a new conceptually usable understanding of the possible functional allocation of areas and built structures. Functions are no longer regarded as a series of individual uses. Instead, the focus lies on sensible overlapping and connections between different functions, such as climate adaptation, rainwater management, cooling with recreational potential, uses for games and sport and the requirements of plants and animals. Multicoding strategies not only refer to green and open spaces, but also to transport areas, waterways, building land etc. Thus multicoded spaces are always products of social processes in which a large number of actors from the fields of urban society, politics, administration and the economy are involved.

National Climate Protection Initiative

The National Climate Protection Initiative (NKI) has been used by the Federal Ministry for the Environment since 2008 to initiate and support numerous projects that make a contribution to reducing greenhouse gas emissions. The programme and projects of the NKI cover a broad spectrum of climate protection activities: including the development of long-term strategies, concrete help and funding support programmes. The National Climate Protection Initiative contributes to anchoring on-site climate protection. It benefits consumers, corporations, municipalities and educational institutions alike.

National Strategy on Biodiversity

The Federal Government's National Strategy on Biodiversity (NBS) is an ambitious programme for the whole of society with forward-looking visions, over 300 concrete goals and over 400 different measures. It is a strategy for which the entire Federal Government is responsible, the success of which can be regularly assessed using indicator tests and statements of account. The NBS was introduced in 2007.

National Urban Development Policy

The National Urban Development Policy is a joint initiative by the Federal Government, states and municipalities. It has implemented the content of the Leipzig Charter on Sustainable European Cities in Germany since 2007. It focuses on establishing integrated urban development that addresses forthcoming economic, ecological and social challenges in cities, towns and municipalities in an interdisciplinary way.

New Urban Agenda

United Nations joint policy agenda for its member states' urban development. The New Urban Agenda was ratified in October 2016 at the UN “Habitat III” conference on housing and sustainable urban development in the capital of Ecuador, Quito.

Orientation values and indices

Indices are a quantitative value, mostly a ratio value, that serve to quantify and measure a size or indicator. Indices have no legal authority, but provide orientation and set standards.

Periurban

Periurban spaces describe interim zones between urban and adjoining rural areas that experience change due to the effect of urbanisation processes.

Resilience

The ability of a system to absorb external influences and reorganise in periods of change to maintain key structures and functions

Retention areas

Absorption areas, flood plains in the case of flooding

Strategic environmental assessment

Strategic environmental assessment (SUP) is an integral element of public processes to establish and modify specific plans and programmes. Taking environmental aspects into account at an early stage ensures a high level of environmental protection, also on the level of planning decision-makers. SUP involves the early, systematic and transparent investigation, description and assessment of environmental consequences of a plan or programme, including planning alternatives and the participation of the public, as well as authorities responsible for environmental and health aspects. SUP results must be taken into account in developing and accepting or amending plans and programmes. The SUP thereby supplements the Environmental Compatibility Assessment (UVP) related to plans and programmes.

TEEB

The Economics of Ecosystems and Biodiversity (TEEB) is an international study initiated by Germany during its G8 Presidency in 2007, together with the EU Commission and was implemented with the help of numerous institutions under the patronage of the Environmental Programme of the United Nations. The aim of the TEEB study was to assess the economic value of the performance of nature, to evaluate the economic effects of damage to ecosystems and, based on those findings, to highlight the costs of taking no action. It also presents possible action to better integrate the values of nature into decision-making processes.

Urban green spaces

Include all forms of green open spaces and green buildings. Urban green spaces include parks, cemeteries, allotment gardens, brownfields, playing areas, playgrounds, sports grounds, greenery along streets, street trees, greenery in settlements, green areas around public buildings, nature reserves, forests and other open spaces that must be developed, preserved and maintained. Private gardens and agricultural use spaces are an important part of urban green spaces; furthermore, green areas on built structures with green façades and roofs, green interior spaces and plants on infrastructure facilities. All forms of urban green can also be described as “green infrastructure” since – compared to “grey infrastructure” – they provide a range of economic, social and ecological performance.

Urban planning funding

Since 1971, the Federal Government and states have provided funds as part of urban planning support programmes for investment in the renewal and development of cities, towns and municipalities. To this aim, the Federal Government provides financial support in accordance with s. 104b of the German Constitution. The financial support is supplemented by funds from states and municipalities. The measures are aimed at strengthening cities and towns as economic and residential locations and sustainably remove deficiencies and urban planning or social inadequacies. Federal financial support is provided to the states on the basis of an Administrative Agreement (“VV Städtebauförderung”).

Further information:

www.gruen-in-der-stadt.de



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