

# Urban Development Plan Climate 2.0

Summary



Senate Department  
for Urban Development,  
Building and Housing

**BERLIN**





# At a glance

## A NEW STEP CLIMATE PLAN. WHY?

In 2011, the Senate approved the climate urban development plan (StEP for short) and five years later expanded it with the practice and measures-based “StEP Klima KONKRET” plan. Much has changed since then: Berlin has grown and continues to do so, more people live in the city and the need for buildings and infrastructure is increasing. The Berlin Energy Transition Act stipulated that Berlin must become climate neutral as quickly as possible. The Senate emphasised this goal when it declared a climate emergency in 2019. All of these factors pose new challenges for urban development.

The COVID-19 pandemic also showed the enormous importance of sustainable urban development. During the pandemic phases, with its at times massive disruptions in public and private life, it became clear how crucial the urban structure is for the functioning of society and the economy. What matters in the pandemic is also relevant in climate change: short distances to retailers, grocery stores, etc., robust public spaces, a variety of open spaces near homes, and a Berlin-wide balanced mix of uses and functions.

## WHAT ARE THE TASKS OF AN URBAN DEVELOPMENT PLAN?

Urban development plans are spatial plans for the whole city. They facilitate the integrated settlement and traffic and transport development and explain the information and illustrations in the land use plan in greater detail. They allow Berlin’s growth to be controlled so that the technical and social infrastructure is utilised optimally, the distances between home, work, centres and recreational spaces are as short as possible and are therefore in line with traffic-reducing settlement development, and the existing landscape and open spaces are preserved. This approach to urban development is per se a contribution to climate protection.

## WHAT IS THE RELATIONSHIP BETWEEN CLIMATE CHANGE AND URBAN DEVELOPMENT?

For Berlin, climate change means more heat, increasing drought, more frequent and heavier rainfall and thus probably more floods. All this affects people as well as buildings, infrastructure, nature and open spaces. If urban development does not react, the consequences of climate change can get worse. Long periods of heat affects the quality of life and can cause health problems. City trees, green spaces and bodies of water suffer under increased drought. If they lack water, they cannot evaporate enough on hot days, or not at all, and thus no longer cool the city.

## WHAT ARE THE LONG-TERM GUIDELINES?

Seven guidelines describe the fundamental agenda of the StEP Climate 2.0. One goal links them all: to develop Berlin into a forward-looking, sustainable and socially balanced city.

- Compact and green, comfortable, convenient and liveable: Continue to develop Berlin using intelligent measures and thereby cut CO<sub>2</sub> emissions
- Consistently use newbuild and expansion of housing, mixed use neighbourhoods and commercial areas for climate protection and adaptation
- Cool the city through the use of blue and green measures

- Qualify green spaces as climate-efficient for both day and night
- Secure and use water as a precious resource for the climate-optimised city
- Take precautions against flooding, reduce water pollution and create attractive and biodiverse water spaces
- Organise climate protection and climate adaptation on the regional level

## WHAT DISTINGUISHES THE STEP CLIMATE 2.0 AND WHAT IS NEW?

Climate protection and climate adaptation measures should play an even greater role in urban development. To this end, StEP Climate 2.0 makes spatially differentiated provisions for the period up to 2030 and beyond. It thus replaces the StEP Climate plan and specifies the contents of the “StEP Klima KONKRET” plan.

Analyses show where and how Berlin will be affected in the future by the consequences of climate change and where the city must take action to implement the necessary precautions. Based on this, the StEP plan identifies five courses of actions and allocates them to specific development areas. In these areas, measures should be combined to precisely match needs, in order to establish climate-effective, heat-mitigating and water-sensitive structures for a liveable city. This integrated approach of climate protection and climate adaptation pools strengths and utilises synergies.

Compared to the StEP Climate 2011, the updated StEP Climate 2.0 contains additional courses of action: Climate protection is integrated in spatial planning in more depth and the topics of climate protection and water sensitive development are more highly differentiated in relation to urban development. The background for this is an updated, small-scale climate projection. In addition, more urban structure types are illustrated with more detailed, compartmentalised measures, in order to convey specific information to users about what is important in the adaptation of the existing buildings and in new construction. The good examples, which specifically illustrate the topics and issues, are also new.

## WHAT ARE THE CORE STATEMENTS?

### Climate protection as an integral task of urban development planning

- Large quantities of CO<sub>2</sub> can be saved if compactness and mixed use measures are implemented in the easily accessible catchment areas around the stops of the public rail transport system.
- Urban development concepts and planning at the neighbourhood and building level should provide meaningful information on how the potential for renewable energy sources can be used and how a location or space can be designed to be as energy efficient as possible.
- Green and open spaces in the city and landscape can absorb and store lots of CO<sub>2</sub>. The same applies to woods and forests, moors, wet meadows, city trees and other forms of Berlin’s green spaces. Qualifying these areas is a promising approach to making a major impact on climate protection.

### Heat-sensitive urban development

- The climate forecast on which the StEP 2.0 is based shows that adaptation strategies are possible and necessary in order to mitigate and compensate for the rise in temperature.
- To prevent Berlin from “overheating”, the city is focusing on blue-green measures aiming at a more water-rich and greener city. This applies to both new construction and existing buildings. At the same time, there are differences in how these measures affect various urban structures during the day and at night. Determining the right measures for every location therefore requires specific concepts.



- StEP Climate 2.0 identifies spaces where the heat must be reduced for the population at night and during the day. It shows which green spaces must be qualified from a climatic point of view. It also describes where the accessibility of green spaces need to be improved and where climate action measures must be taken.

### Water-sensitive urban development

- A core condition for successful climate adaptation is to keep changes in the natural water balance as small as possible. In the future, rainwater should no longer be drained via the sewage system. A localised return to the water cycle is ecologically, economically and technically necessary in a time of climate change. Rerouting from the sewer to the surface ensures more water in the city and landscape. It also protects green areas from dry weather damage. Plants that are sufficiently supplied with water can evaporate more and thus cool the city. At the same time, the quality of bodies of water improves, because combined wastewater overflows occur less frequently.
- In the catchment area of the River Panke, flood precautions are particularly important in terms of urban development, because there is a lot of potential for new construction in the area. The increase in the runoff effect in areas and therefore the quantity of rainwater discharged into the river affects its flow. Local rainwater management makes it possible to prevent further exacerbation of the flood risk of the Panke.
- In newbuild, urban redevelopment and renovation, targeted rainwater management in the catchment areas of the small watercourses can achieve positive effects for these bodies of water. For the first time, StEP Climate 2.0 shows which areas should be activated for this purpose. This citywide assessment must be reviewed and detailed in the further project planning.
- If spatial urban development and preventive measures are converged, the damage and hazards caused by heavy rainfall can be reduced. StEP Climate 2.0 makes us more aware of these topics that are relevant Berlin-wide and provides information that enables the risks caused by heavy rainfall to be evaluated more precisely in existing buildings and in new urban planning projects.

## MEASURES AND GOOD EXAMPLES

Berlin's urban structures cover a large bandwidth. They range from detached, single-family housing areas through to perimeter block developments. Each structure has its own needs for action and potential for climate protection and adaptation measures. StEP Climate 2.0 therefore shows which measures are relevant for ten characteristic urban structure and area types, how they interact, and what instruments can be used to integrate them into planning.

To locate the ten urban structure and area types, a map shows their location and distribution in Berlin, including the new planning projects which are slated to be implemented by 2030.

Five particular topics are elaborated on in StEP Climate 2.0 using clear descriptive examples from Berlin: Neue Mitte Tempelhof, Obstallee neighbourhood energy concept, Buckower Felder urban neighbourhood, Hönower Weiherkette, and TXL (airport) – a new urban neighbourhood for urban technologies. These five examples are like detailed roadmaps that illustrate how innovative climate protection and climate adaptation measures can be integrated in different urban structures.

## INSTRUMENTS

Redeveloping and adapting the city entails many steps, and therefore requires a longer period of time. StEP Climate 2.0 specifies the stakeholders and instruments for this process.



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