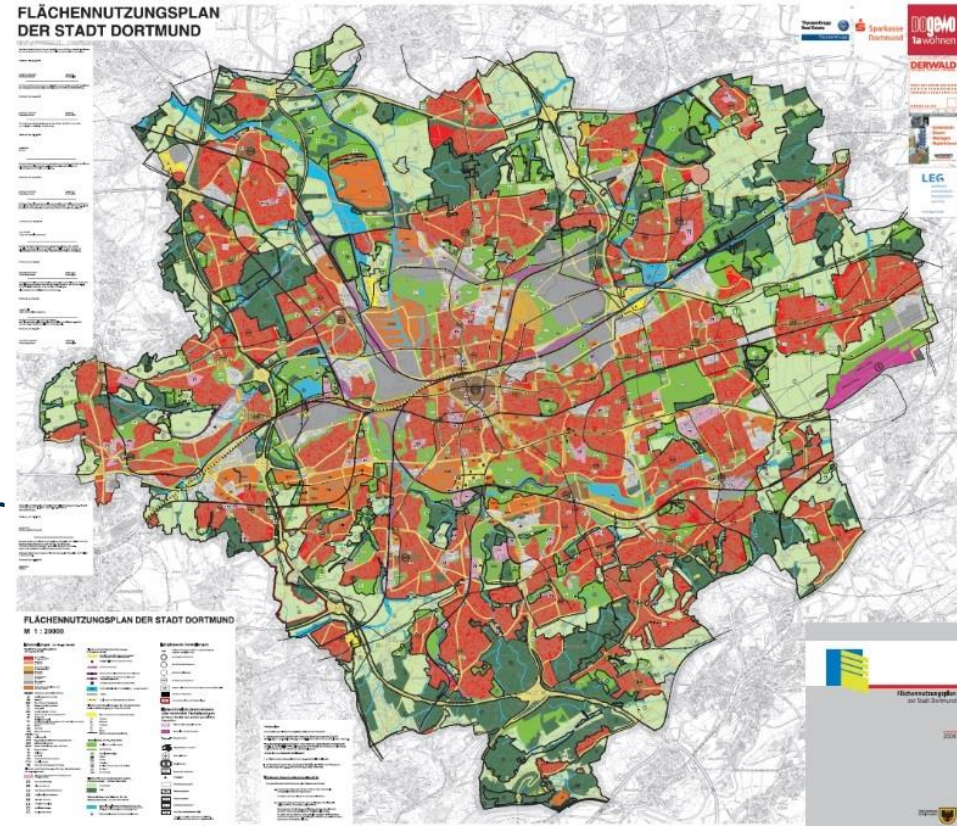


# How does green roofing get into town

- Legal regulation: Political decision by the community council
- Framework: National settlement policy, Legislation and instruments of urban planning and environmental planning
- Reform approach: so far there is no national binding legislation for climate change adaptation programs
- Actors/stakeholders involved: Dortmund Municipality; Cities of Essen and Gelsenkirchen; Association of River Emscher Cities (Emscher-genossenschaft), Future Initiative "Water in the City of Tomorrow"



# Political mandate to implement green roofs in Dortmund

## Main challenge:

- to explain with which instruments the construction of private and commercial green roofs can be regulated more bindingly than before
- to show in principle the effects of a green roof on the environment, climate, urban climate, rain retention and water drainage

## Target:

- to develop a proposal for the settlement areas in which these instruments should be used in the future
- to find nature-based solutions for climate protection and adaptation to the impacts of climate change
- to increasing biodiversity, reduce insect mortality, to establish beekeeping in inner cities





# Coordination "Roof greening in Dortmund"

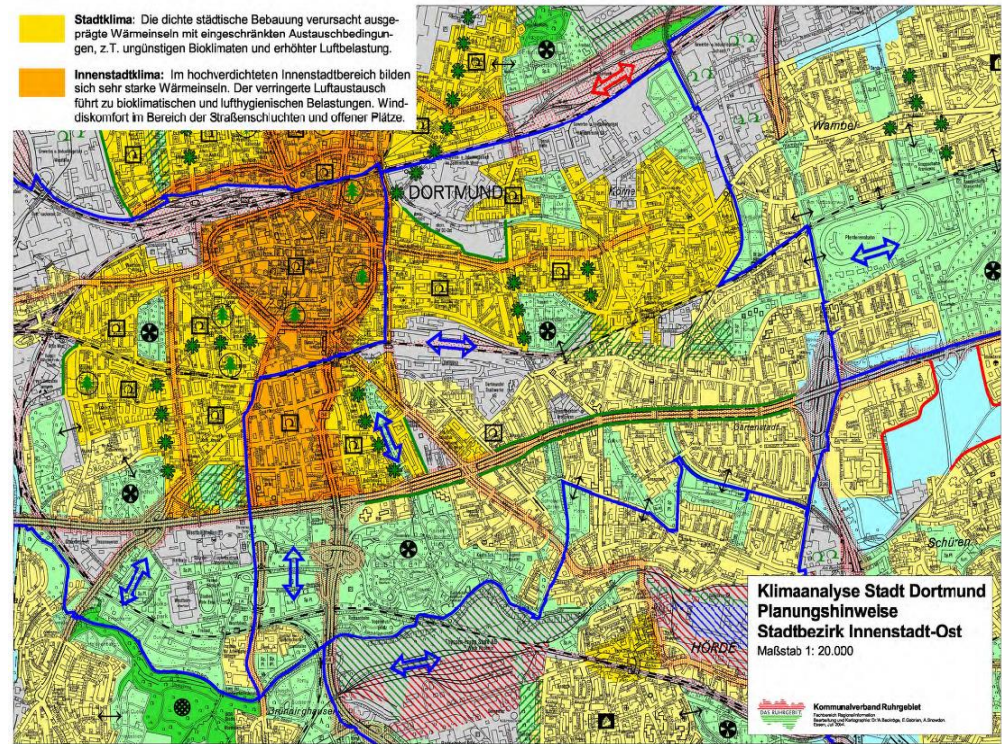
## Methods and Cross-cutting issues

- The future initiative "Water in the City of Tomorrow" was founded by the Association of River Emscher, the State of North Rhine Westphalia, and the River Emscher Cities.
- Within this future initiative, under the leadership of the City of Dortmund, a working group was formed to develop the strategy paper "Roof greening in the area" (other cities Essen, Gelsenkirchen).
- The focus is in particular on the improvement on climate change adaptation, flood protection, reduction of heat island effect, the urban appearance as well as the improvement of the living conditions in urban neighborhoods.
- A digitized microclimate analysis of the building of the planning administration in Dortmund was commissioned as a pilot study and was part of the scientific basis.



# Planning Guidelines

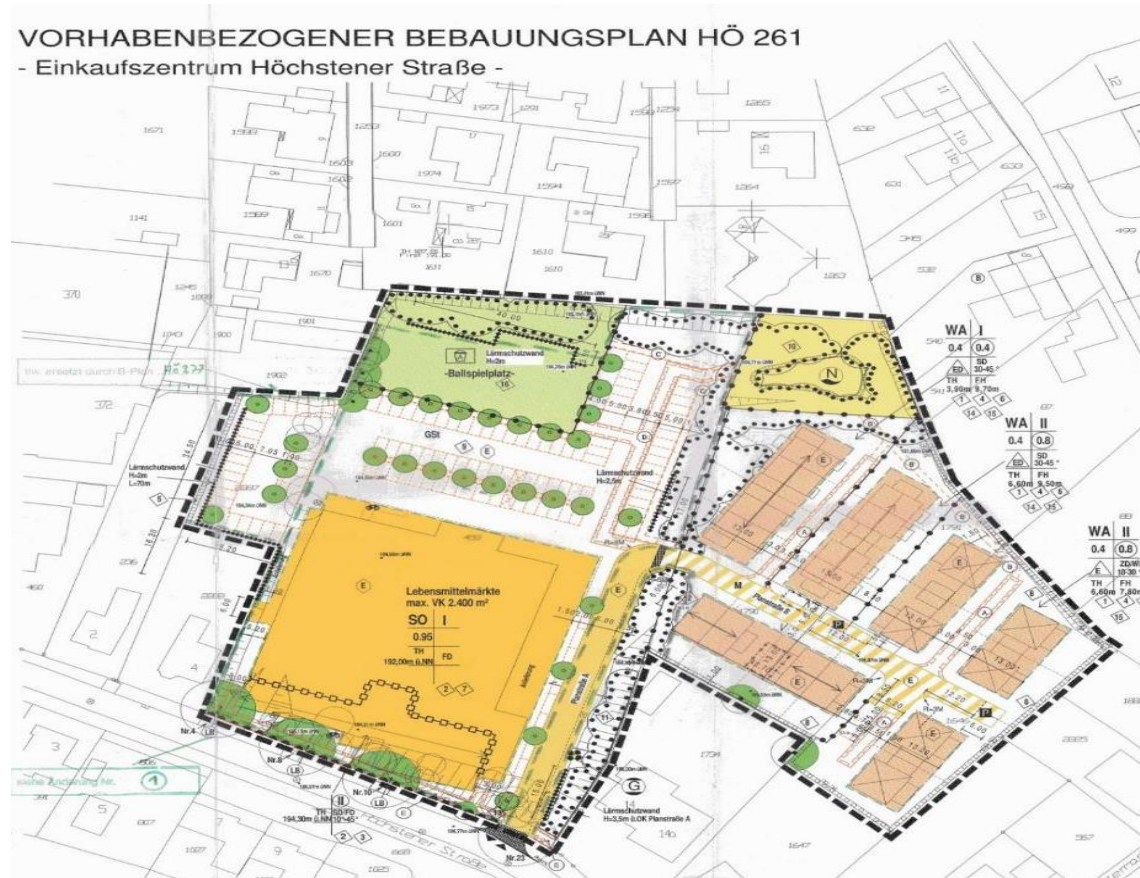
1. In the case of overplanning of already existing building areas, there is the possibility to add a "green roof" module to development plans as part of a simplified procedure. (150 existing and new development plans for the inner city)
2. In the unplanned inner city area there is the possibility to establish new simple development plans with the aim of green roofs
3. Both possibilities refer to heat islands in the urban area that have been determined by expert opinions.
4. The establishment of a roof greening takes effect in the case of newly constructed buildings or modifications subject to approval.





# Lessons learnt in Dortmund

- In order to establish a green roof strategy in Dortmund, a political decision of the municipal council and a legally consolidated change in the urban development plans are required.
- This itself requires a convincing scientific basis such as a climate analysis or a heavy rain risk map.



# Follow-up of new strategies in Dortmund



- Improvement of air quality and health by green roofs.
- Production of food by urban gardening on green roofs.
- Upgrading of the urban view through green roofs.
- Photovoltaic systems become more effective by green roofs, (lower ambient temperature through evaporation).

