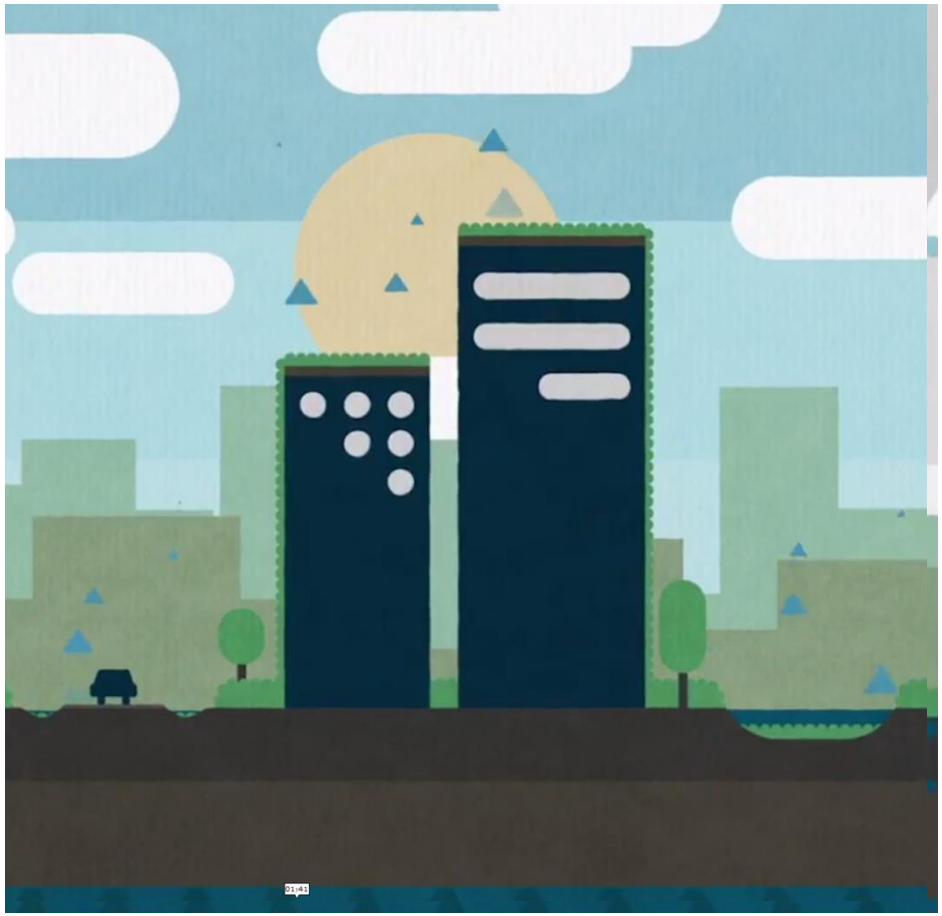
Sustainable Stormwater Management in Berlin – The Sponge City Concept

The Sponge City Concept

- Natural environment
  - Wet periods: infiltration and soil storage
  - Dry periods: evaporation from soil&plants
- Drained urban areas
  - Wet periods: high peak flows
  - Dry periods: heat island effect
- Sponge city concept
  - Wet periods: store water locally
  - Dry periods: evaporation with green infrastructure



Source: „Berlin is becoming a sponge city“ Video on Bloomberg Businessweek 2017

Sustainable Stormwater Management in Berlin

- Many good practice examples

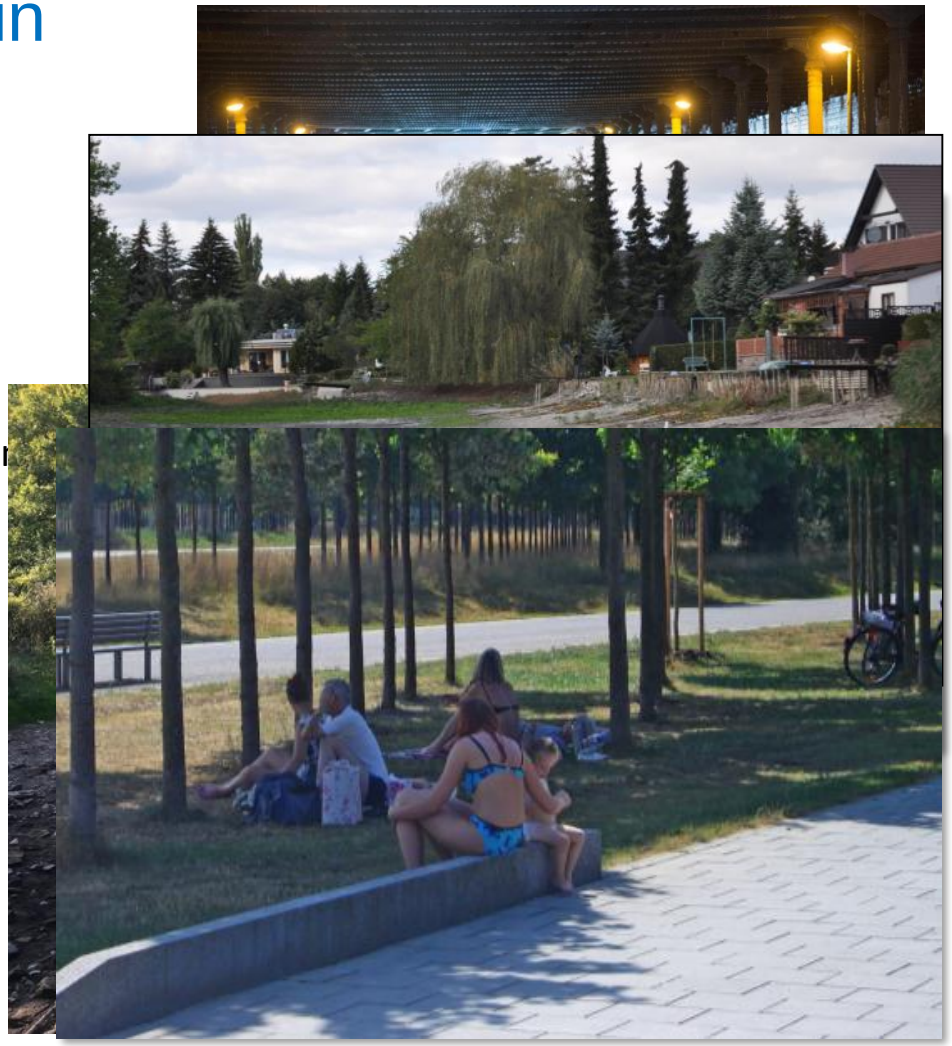
- Rummelsburg
  - 130 hectare residential area
  - Build since 1997

- Hoppegarten
  - 160 hectare commercial area
  - Build since 1994

- Adlershof
  - 400 hectare science park
  - Build since 1999

Benefits for the city of Berlin

- Flood reduction
  - Severe flooding in 2017
- Treatment
  - Stormwater runoff can be polluted
  - Nature-based systems offer good treatmer
- Cope with drought
  - Severe drought in 2018 and 2014-16
  - Dry creeks and lakes/ponds
- Improve urban climate
  - Reduce heat island effect



Recent Developments

- Political decisions
  - All new residential developments shall use “sponge city concept”
  - Area connected to combined sewer system shall be reduced by 1% per yr. => “Disconnection”
  - “Rainwater agency” will support this process

- Innovations
  - TreeDrain®: use stormwater to irrigate urban trees
  - Use rainfall forecast to control small storages e.g. green roofs

Discussion points

Central Question: What are the opportunities and benefits of nature-based systems / sponge city concepts?

- What need to be done or what steps would be necessary to promote the further implementation of the sponge city concept?
- Can the sponge city concept be used profitably in developing countries? Which requirements must be met?

We would like to welcome you in our discussion group!