

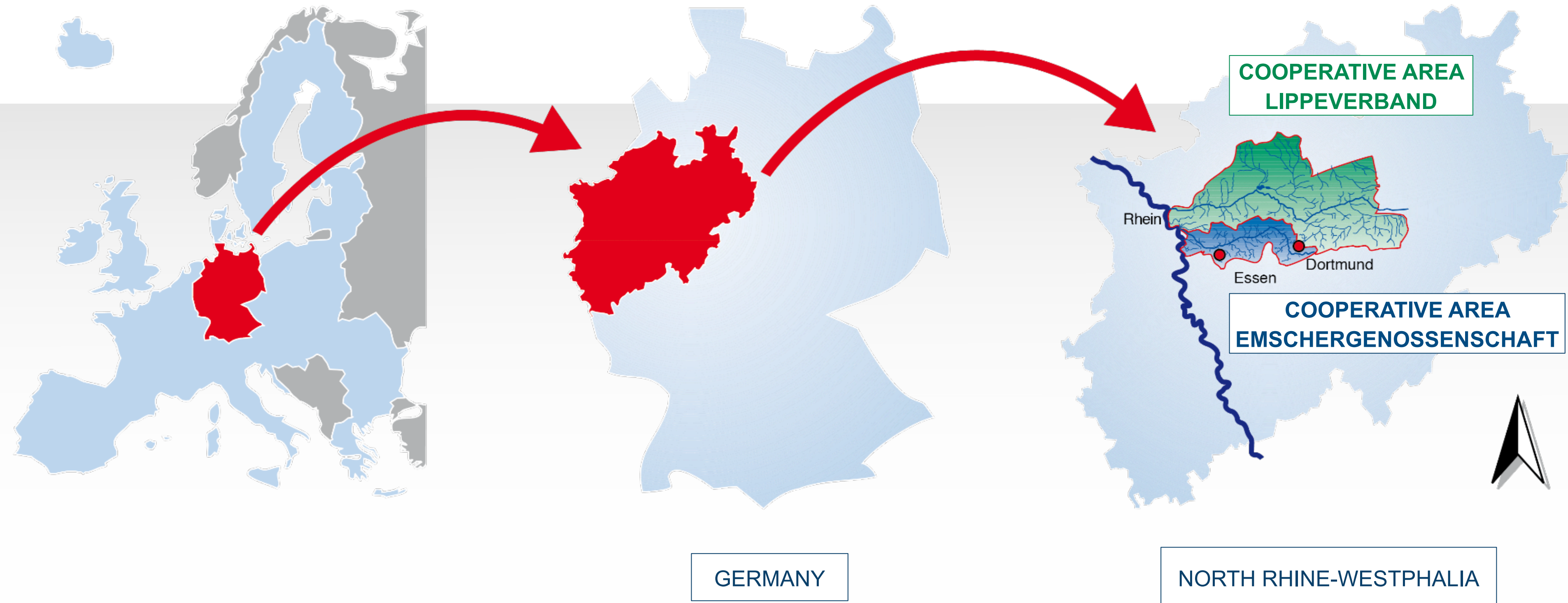
THE RE-BIRTH OF THE EMSCHER BASIN

TRANSFORMING A FORMER MINING LANDSCAPE INTO A SUSTAINABLE AND LIVEABLE REGION

Dr. Nadine Gerner
EMSCHERGENOSSENSCHAFT & LIPPEVERBAND, Department River & Landscape
Sept 30th 2020, Webinar „Toward a just transition: An opportunity for Minas Gerais”

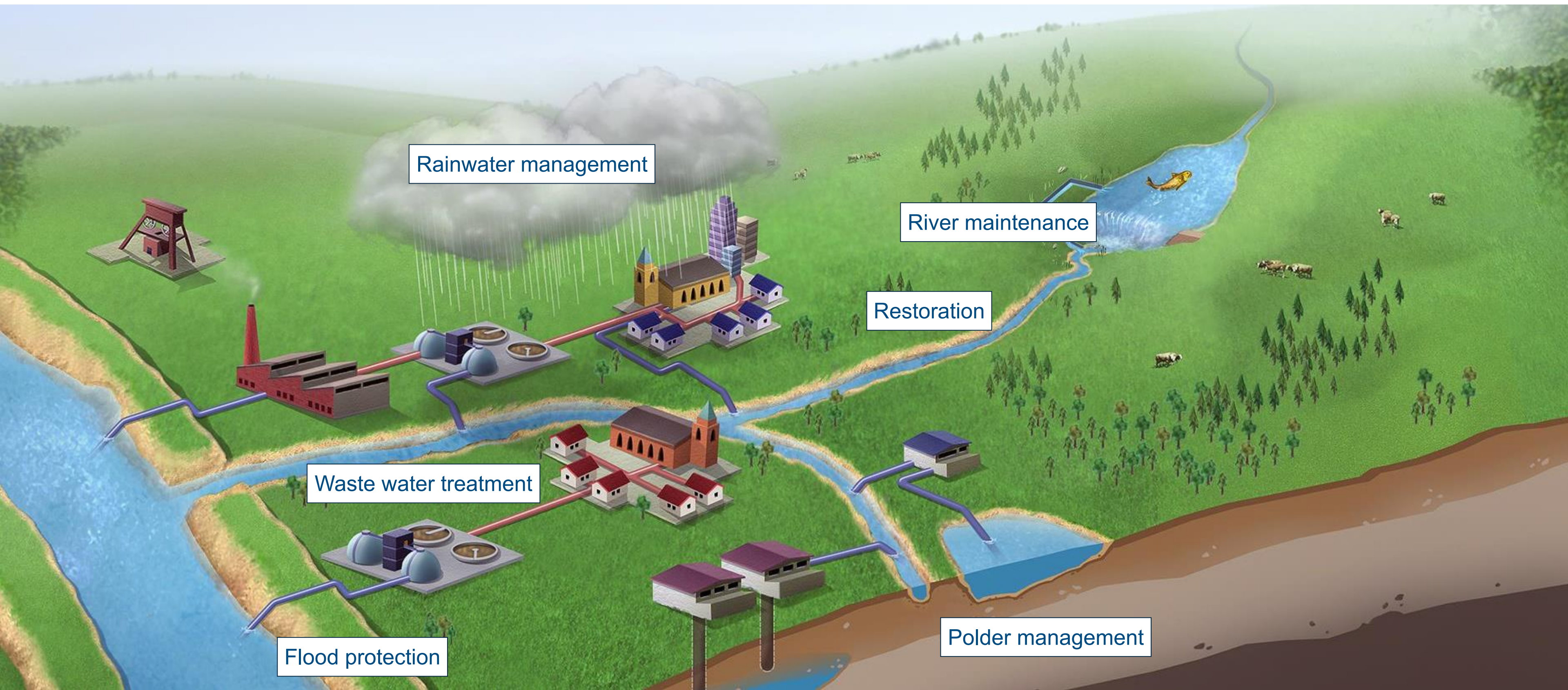
Emschergenossenschaft / Lippeverband

Joint public water associations for over 100 years



Our tasks

Integrated water management for the complete water cycle



Our Cooperation partner

The principle of „Genossenschaften“ (association/ cooperative)

Emschergenossenschaft

Municipalities

Mining industry

Commercial &
industrial companies



Genossenschaft = Cooperative

- Founded by law in 1899
- Self administrated
- Part of the public service, works for the welfare of the public
- Supervisory authority: Federal Environmental Ministry



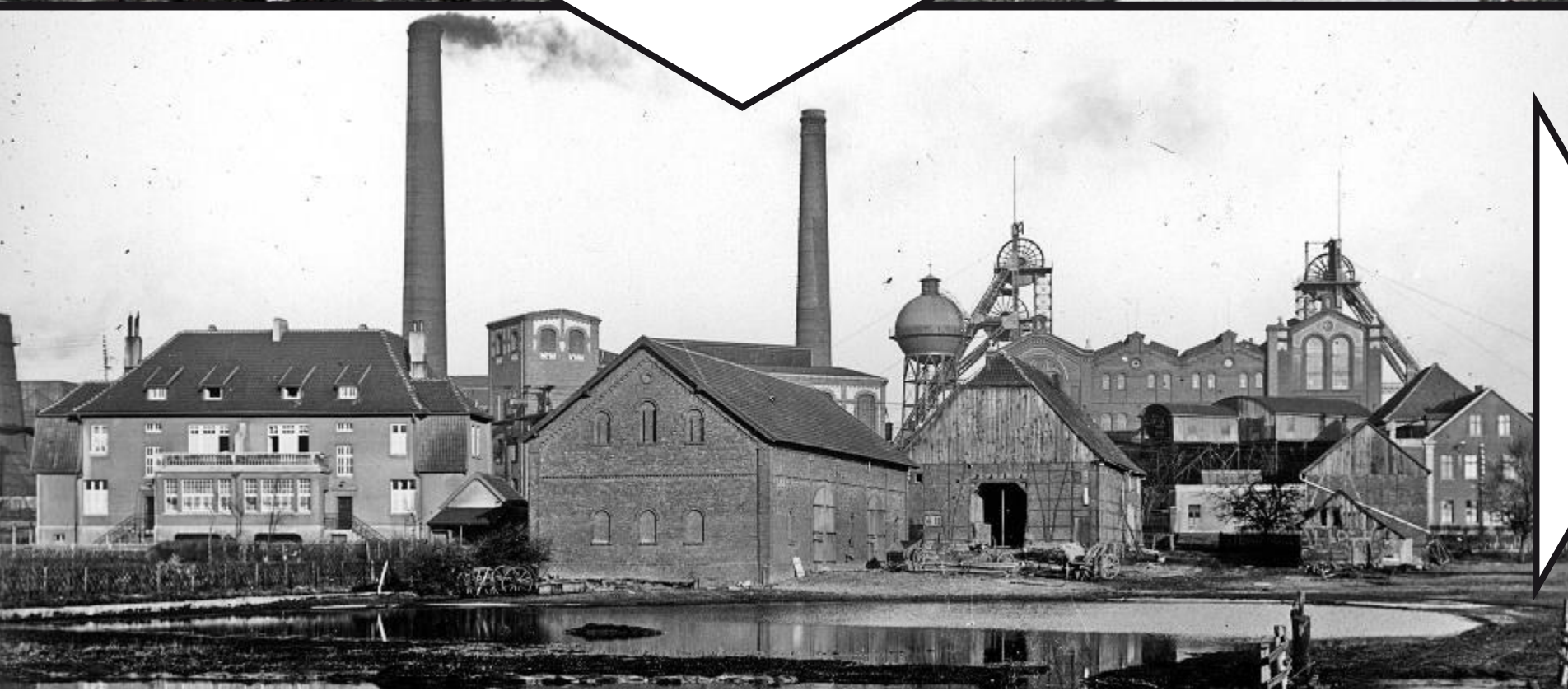
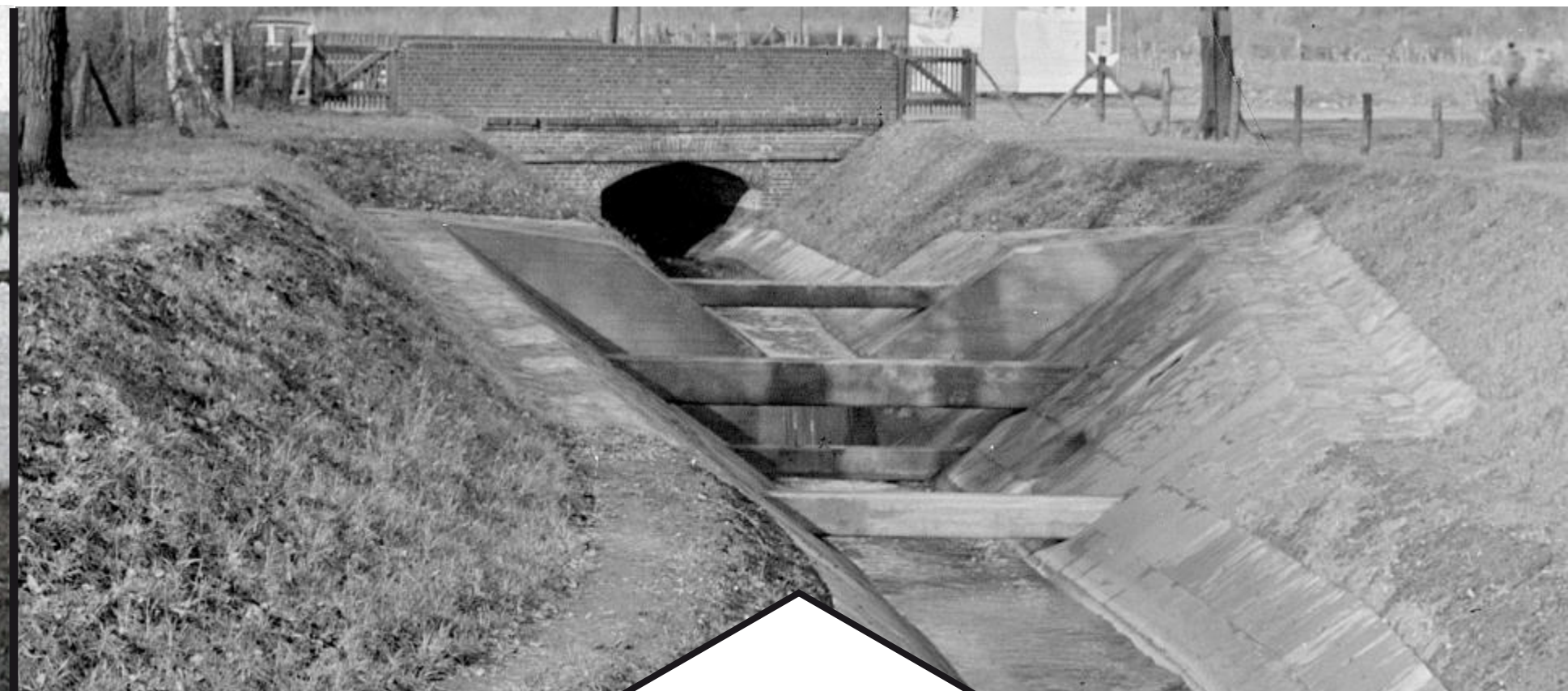
- Financing via the associates
- Additional funding from the federal state, national level and EU



FROM GREY TO BLUE: THE EMSCHER RESTORATION

The first Emscher conversion (~1900)

The „technical Emscher system“ during a century of mining



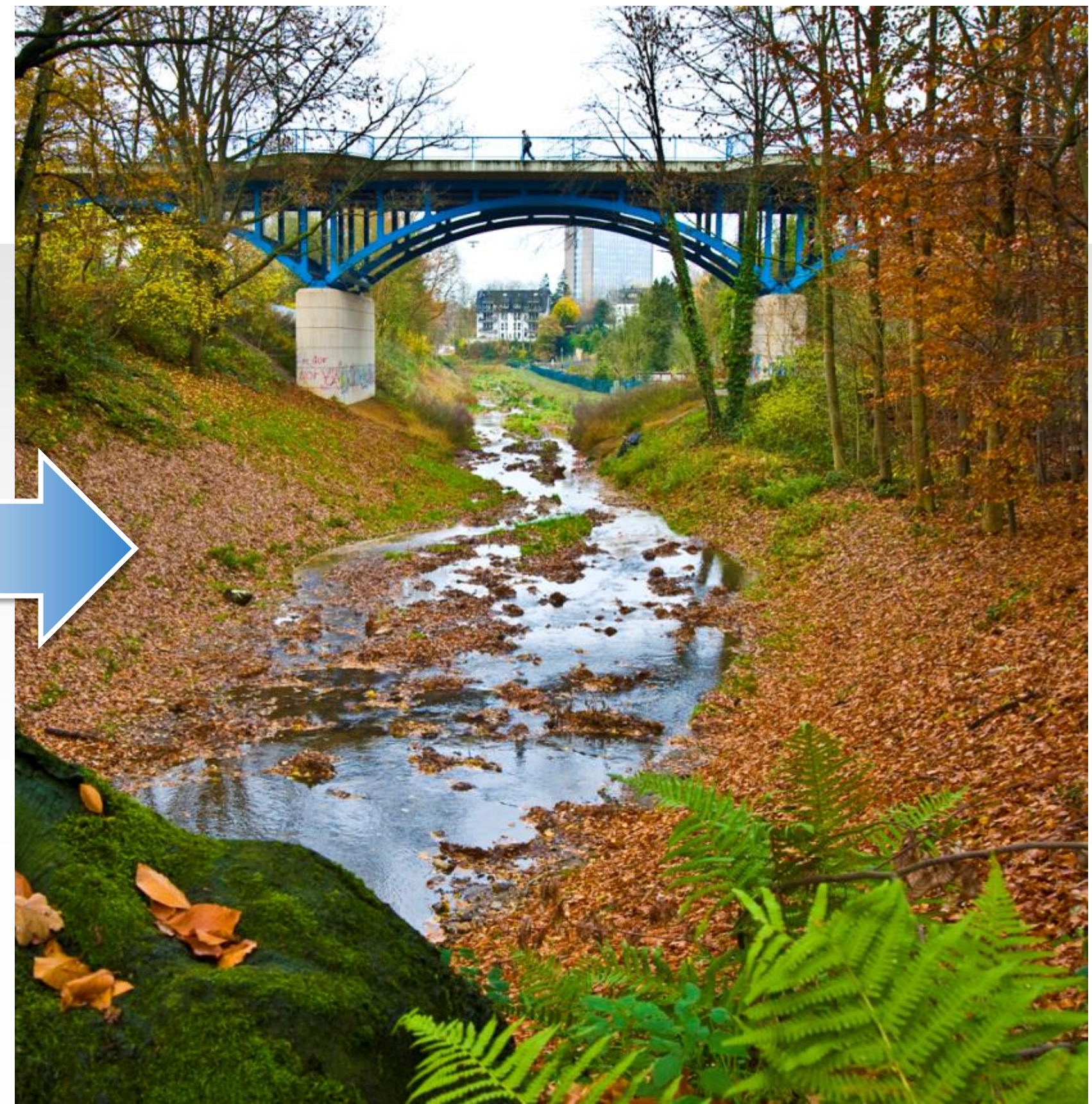
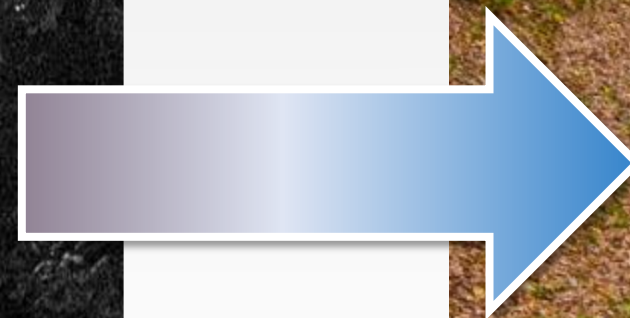
From Grey to Blue

The Emscher restoration



Restoring aquatic ecosystems

Tributary



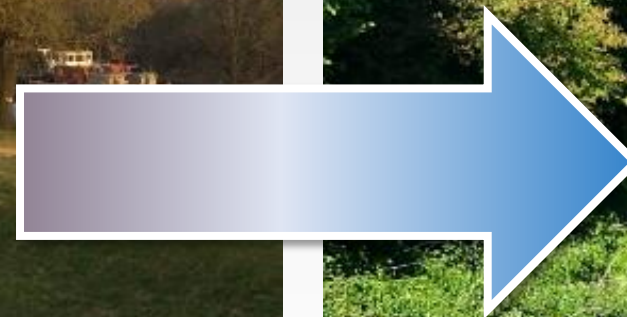
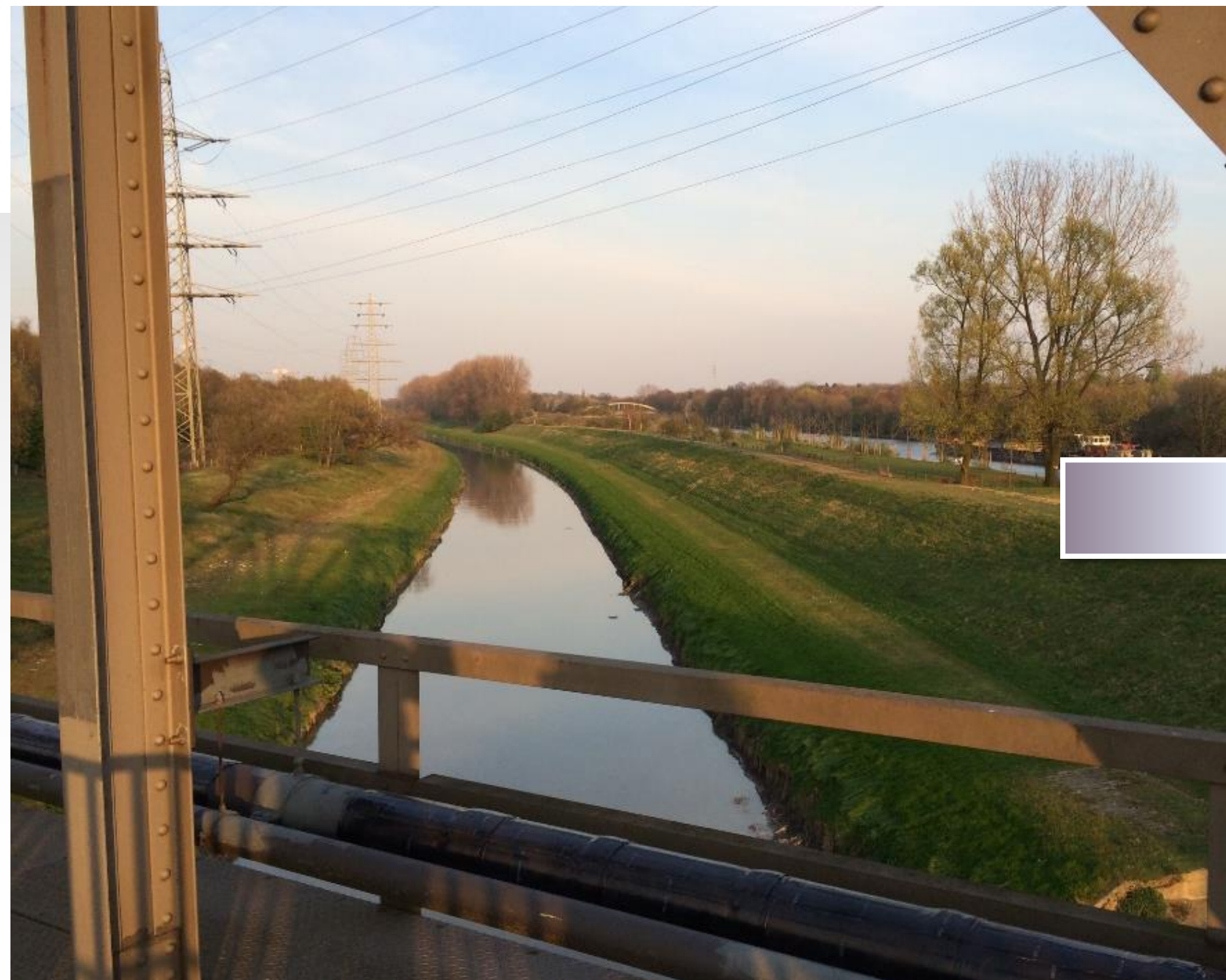
Restoring aquatic ecosystems

Tributary



Restoring aquatic ecosystems

Emscher main stem



Restoring aquatic ecosystems

Emscher delta



Recovery of biodiversity

...but nature needs time

+ 280

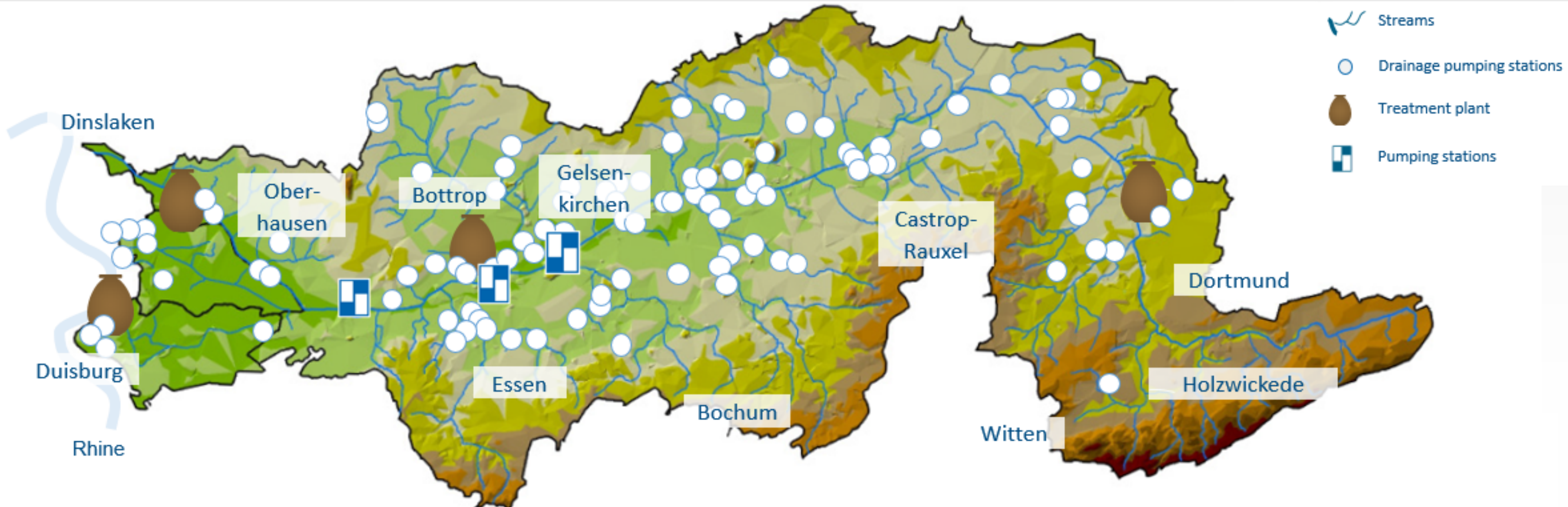
1990: **170 species**

2016: **450 species**



Progress made

- 4 / 4 WWTP built
- 379 / 436 km of sewers built
- 139 / 352 km of streams restored



The Emscher restoration

The largest river basin restoration project in Europe

- **Restoration costs and duration:**
 - > 5 billion Euros in > 30 years (1990-2021)
- **Aims:**
 - Conduct water and wastewater management conforming to national law
 - Improve water quality according to EU Water Framework Directive
 - Enhance biodiversity according to the EU Biodiversity Strategy for 2030
 - Improve life quality in and attractiveness of Emscher area



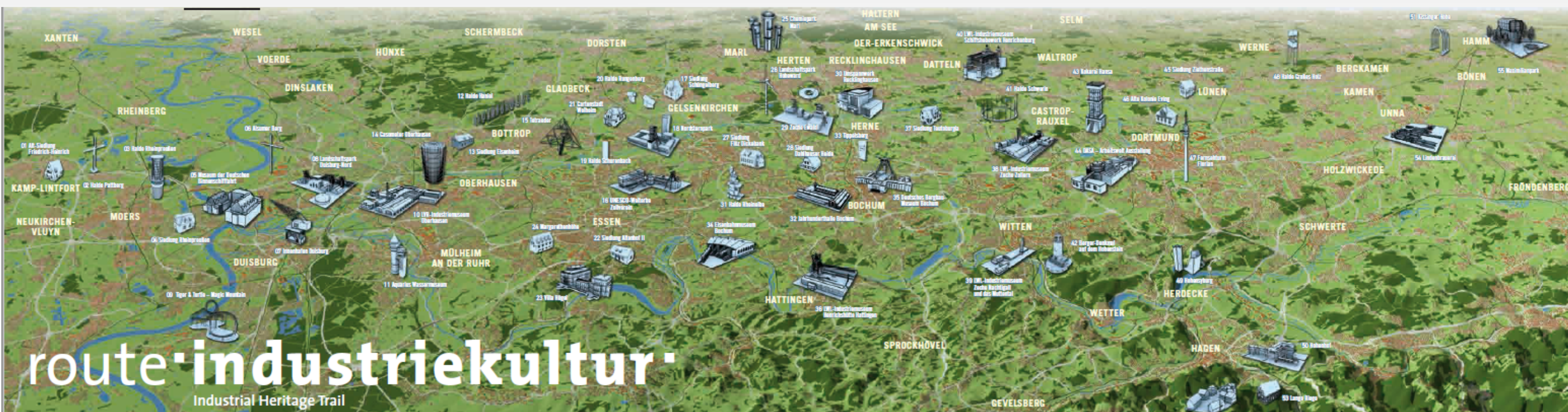


REVITALIZING URBAN AREAS

Driver for the structural change of the Ruhr area

International Architecture Exhibition (IBA) Emscher Park 1989-1999

- Investment: approx. 3 billion €
- 120 projects in 10 years of IBA
- Holistic: urbanistic, architectural, cultural, ecological and economic incentives
- Paradigm shift: “rust belt” → green, modern and wealthy metropolitan area



Impressions IBA Emscher Park

Landscape Park, Duisburg



Zollverein Coal Mine Industrial Complex, Essen



Welterbe Zollverein



Welterbedeutschland.de

The Masterplan Emscher-Zukunft

2884 single projects



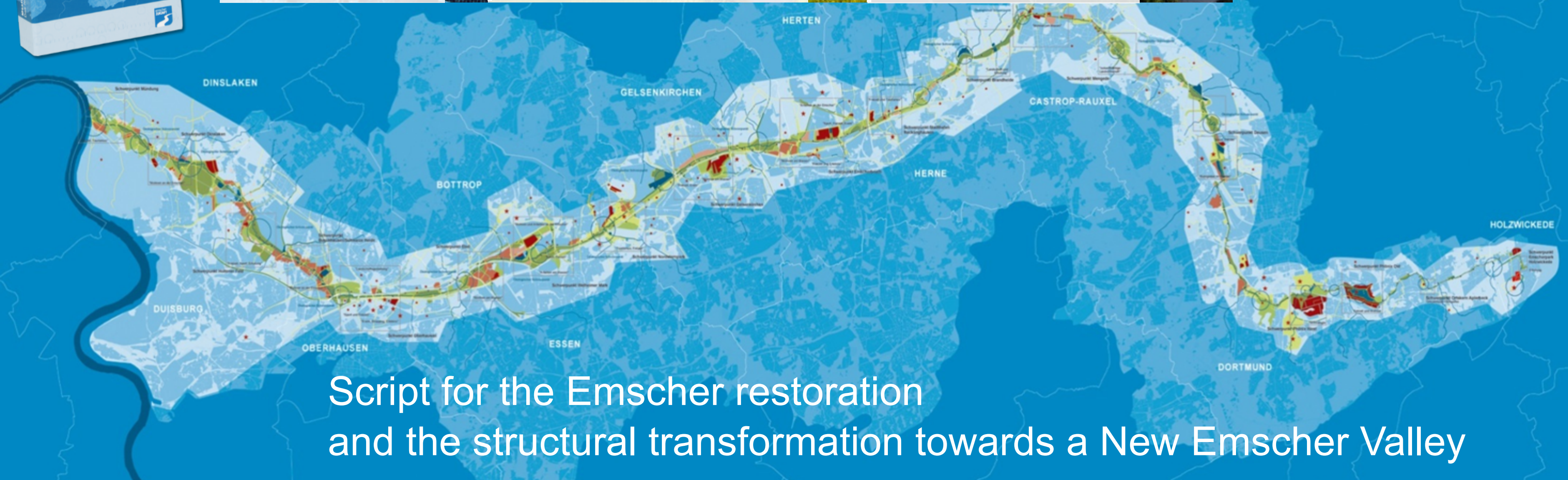
Water economy



Ecological restoration



Urban development



Script for the Emscher restoration
and the structural transformation towards a New Emscher Valley

Lake Phoenix in Dortmund

From steel works to an urban recreation and housing area



Lake Phoenix in Dortmund

From steel works to an urban recreation and housing area



- Floodwater retention basin for 250,000 m³
- Lake ecosystem, housing, leisure facilities



environmental

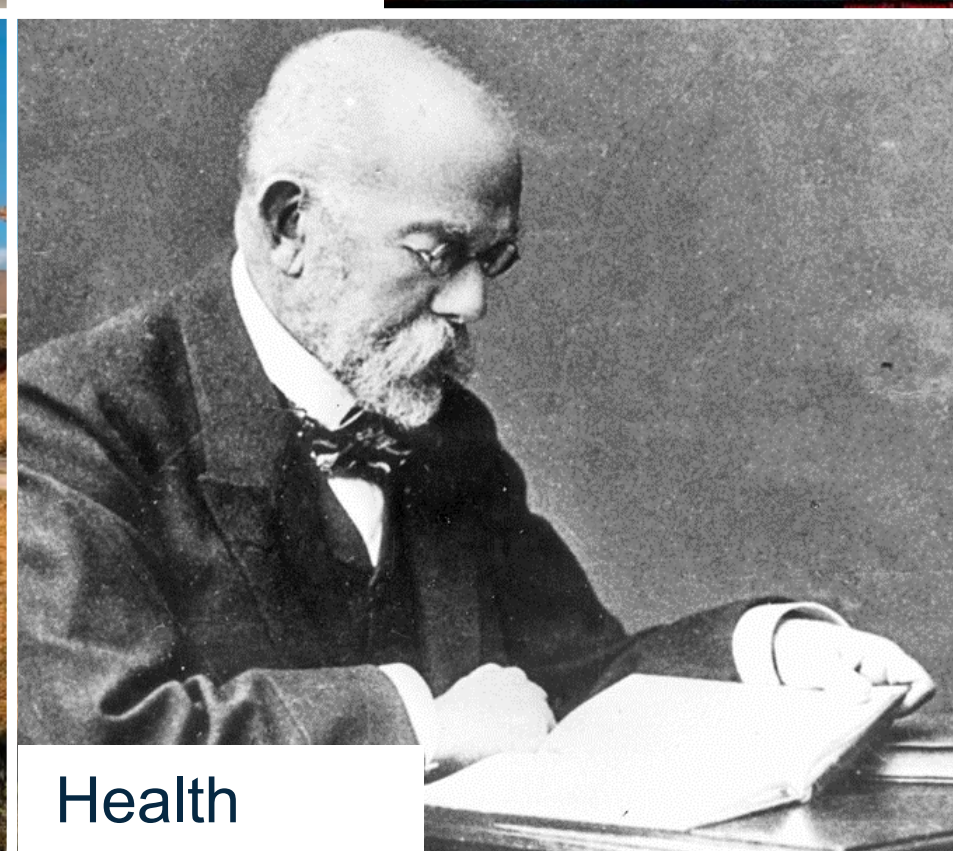
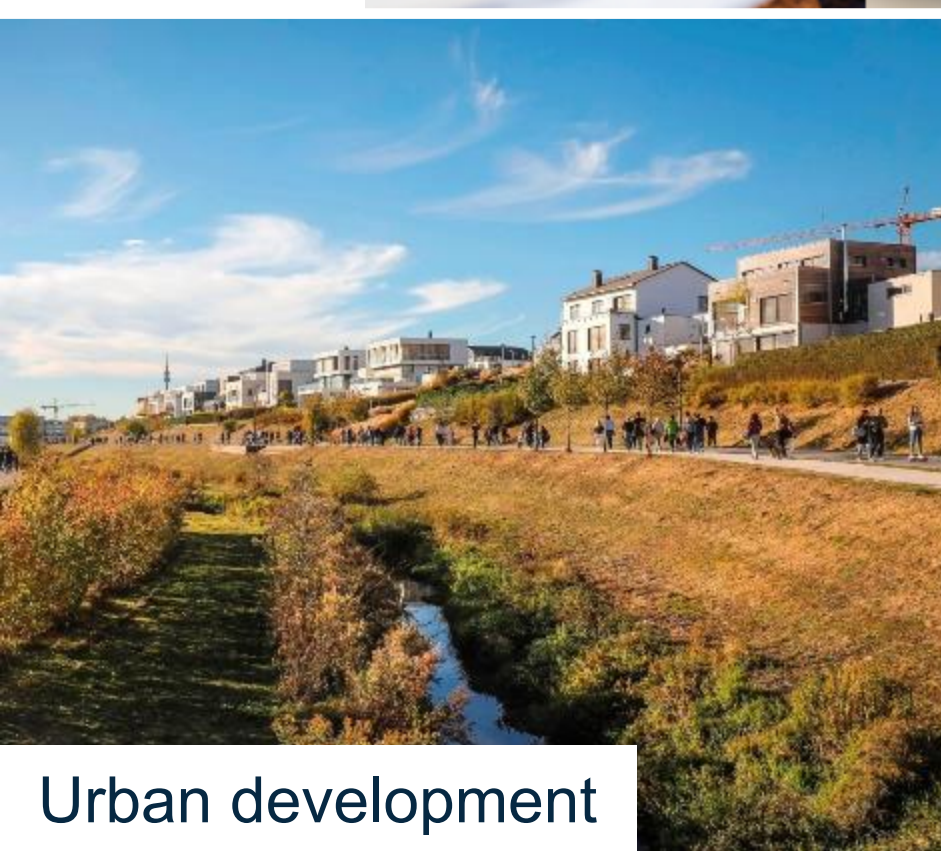
economic

social

REGIONAL CHANGE

River restoration as an impulse to the region

Important Ecosystem Services // Just Transition





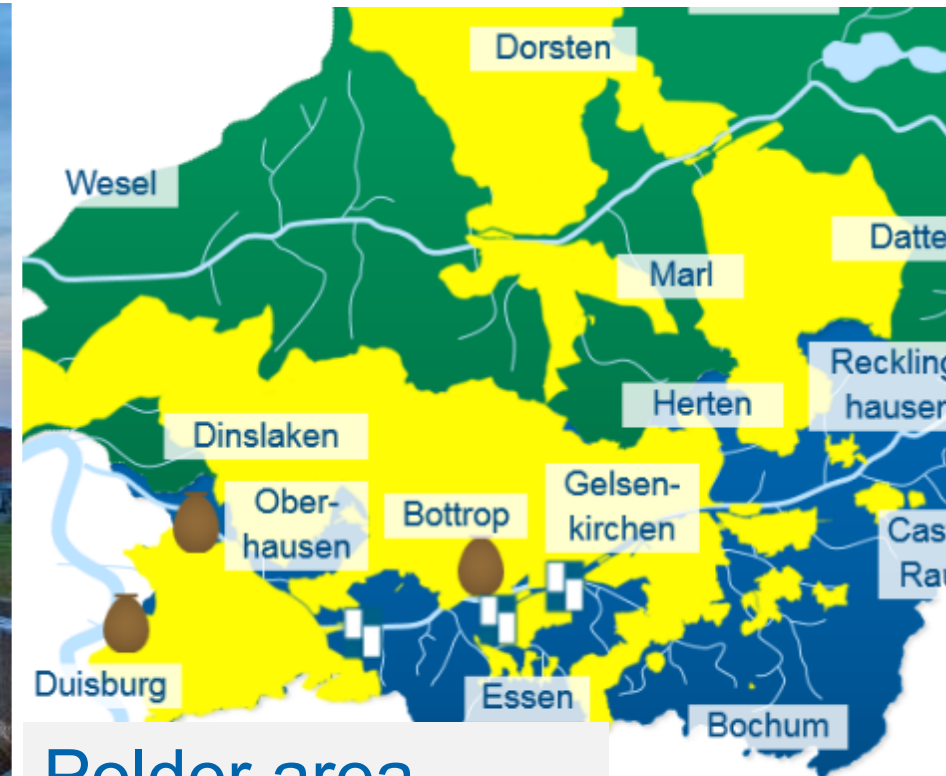
REMAINING AND NEW CHALLENGES



Continuous challenges and solutions



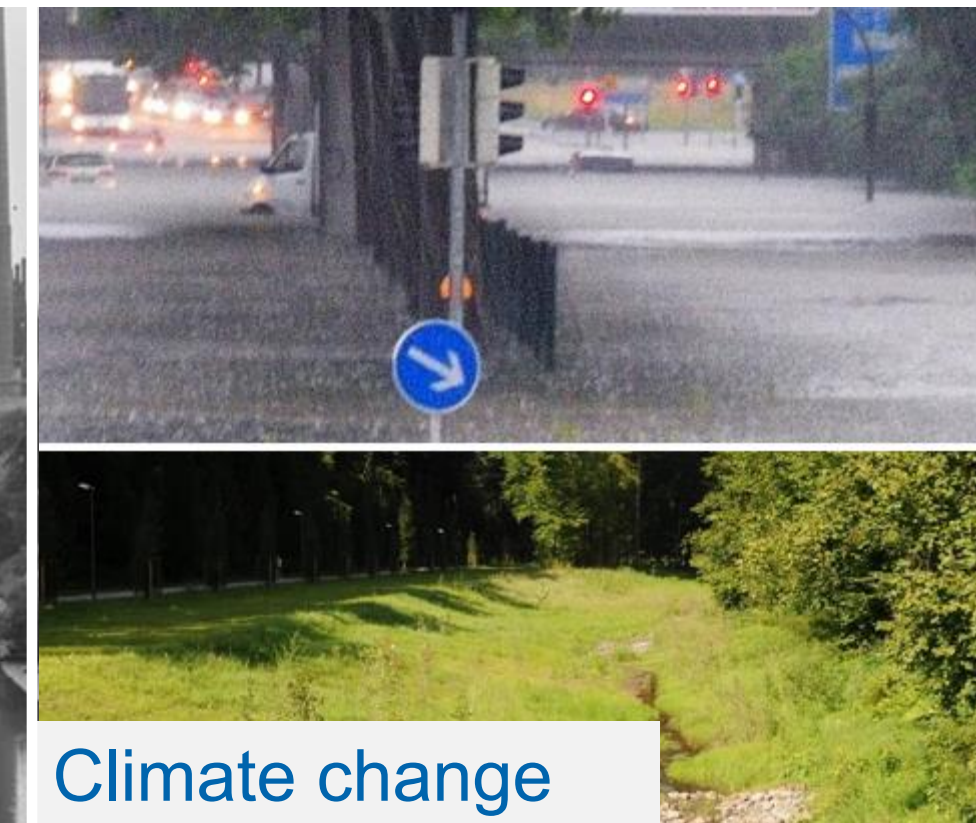
High wastewater load



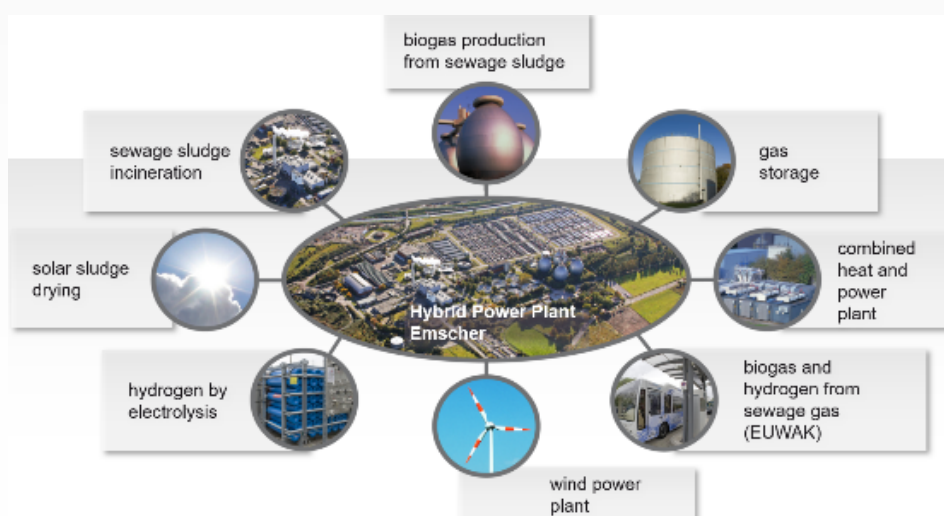
Polder area



Brownfield legacy



Climate change



Self-sufficient WWTP



Polder management,
eternal pumping costs



Treatment, removal,
capping, monitoring



Network and program
„Climate resilient region“

THANK YOU FOR YOUR ATTENTION!

Contact for further questions:
gerner.nadine@eglv.de