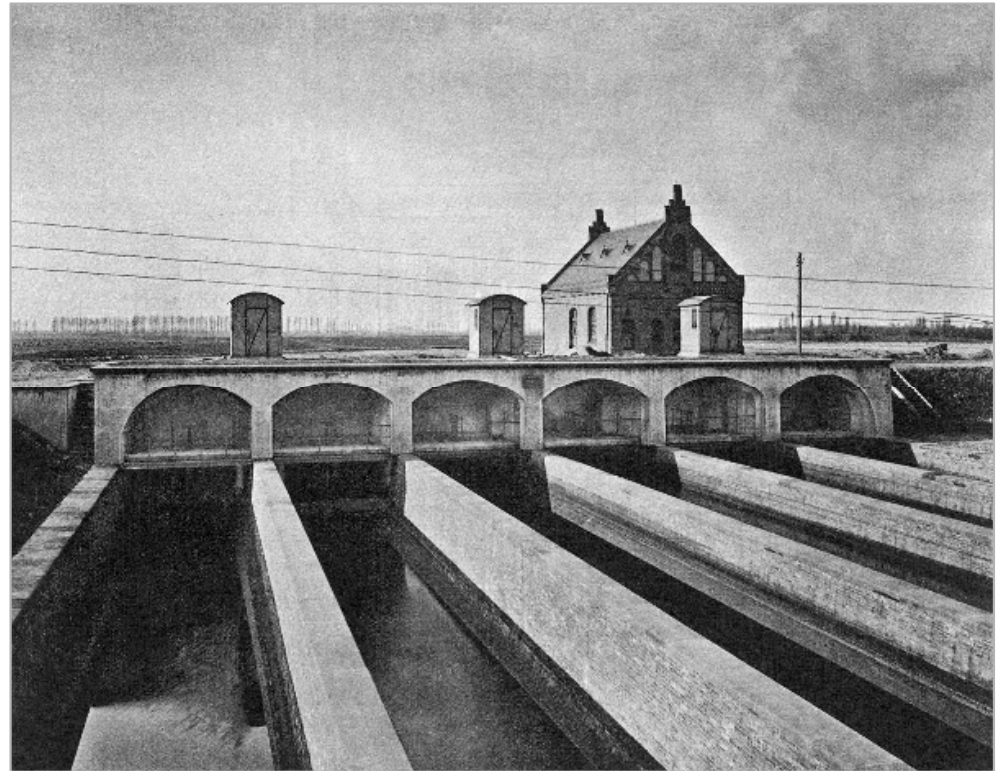


# 1. Institutional setting

- Municipality demands for public sewers in order to improve the health situation in the dense city
- Municipality demands for wastewater treatment facilities in order to improve the water quality in river Rhine
- Regular tightening of legal requirements
- Financed by sewage fees (today € 1,61 per m<sup>3</sup>)



1905; 164,000 inhabitants

## 2. Starting point/Project goal

■ City of Mannheim has been facing a number of challenges:

- Increase of population (1875: 46,000; today: 310,000)
- Bad hygiene conditions with many cholera diseases
- Growing industrialization (1900)

■ Project goals:

- Introduction of legal requirements (1892)
- Health care for the citizens
- Construction and expansion of public sewer
- Construction of wastewater treatment plant
- Affordable sewage fees for the citizens

# 3. Approach

- Decision of a wastewater regulation by the local council (1892)
- Connecting households to the public sewer (1932: 95 %)
- Construction of a mechanical wastewater treatment plant (1905)
- Construction of a biological wastewater treatment plant with post filtration step (1973, 1986, 2000 and 2016)
- Organization as owner-operated municipal enterprise (1997)
- Preventive maintenance and regular investments (847 km)
- Education and training of the staff (250 employees)



# 4. Outputs

- Transparent and affordable sewage fees (€ 1,61 per m<sup>3</sup>)
- Reliable infrastructure based on regular investments
- Implementation of ISO 9001 and 14001 in order to ensure quality and sustainability
- CO<sub>2</sub>-reduction based on high energy self production rate
- Confidence of the citizens in reliable urban services
- Health care for the citizens (99,9 % connected to sewer)





# 5. Lessons

- Regularly inform politics and the citizens in order to build trust
- Services of general interest must remain in public concern
- Promoting all kinds of cooperation at local, national and international level
- Preventive maintenance and regular investments ensure affordable sewage fees
- Creating a pleasant environment for employees



# 6. Follow up

- Financing of international cooperation to reach the SDGs
- Dealing with the dramatic lack of qualified personnel
- Further improvement of the purification performance
- Creating a framework to sell surplus self-produced energy
- Participation process for the development of the mission statement Mannheim 2030

