Advancing Water Reuse in the Baltic Sea Region and Berlin: Insights from the WaterMan Project

Pia Schumann | Kompetenzzentrum Wasser Berlin gGmbH

Interreg Baltic Sea Region
Co-funded by the European Union
SUSTAINABLE WATERS WaterMan

Knowledge Exchange Event
Brussels, Belgium | 21 OCT 2025

KWB

Applied research on the urban water cycle since 2001.

Non-profit and independent.

> 50 projects & assignments

> 400 partners worldwide

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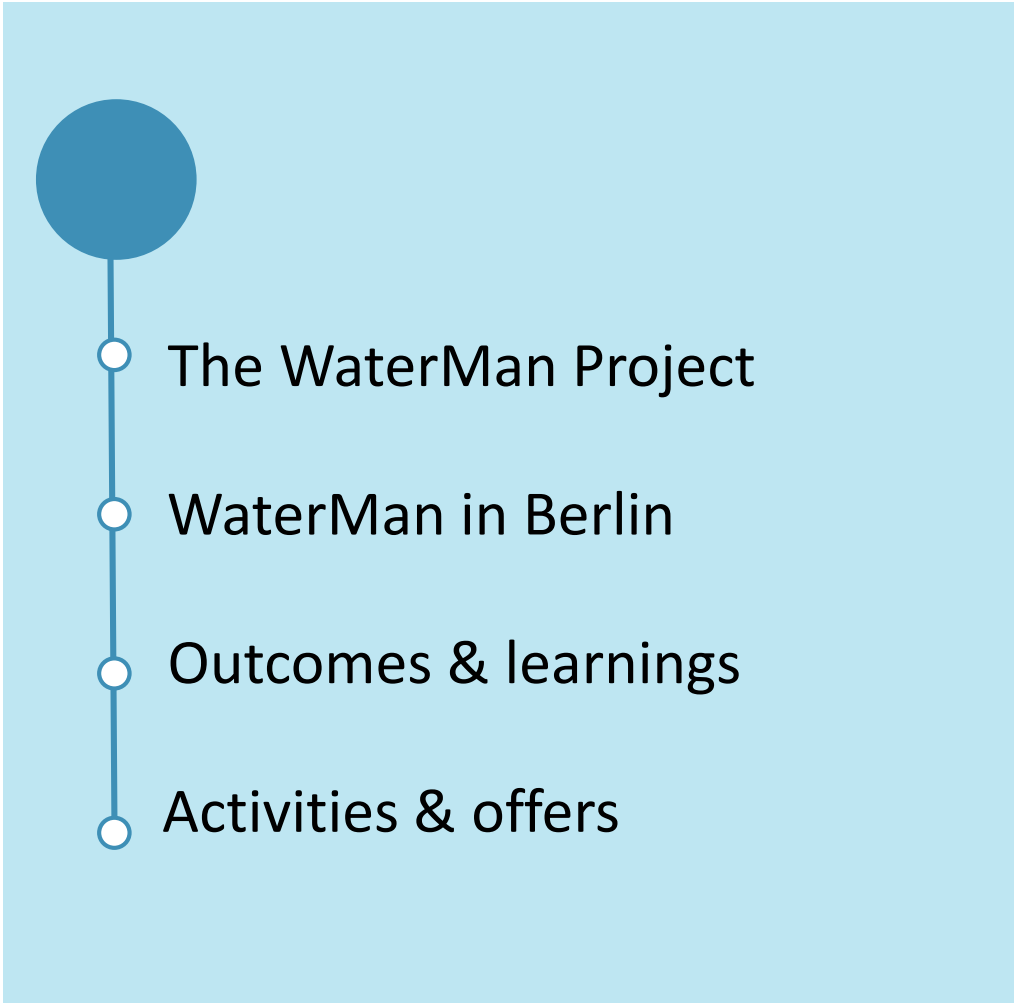
Content


The WaterMan Project
WaterMan in Berlin
Outcomes & learnings
Activities & offers

The WaterMan project

Duration: January 1, 2023 – December 31, 2025 (36 months)

Partner countries: Sweden, Denmark, Poland, Latvia, Lithuania, Germany

Funding: EUR 4.4 million (EUR 3.5 million EU co-funding)

Summary:
Promoting water reuse as a new element of local water management.



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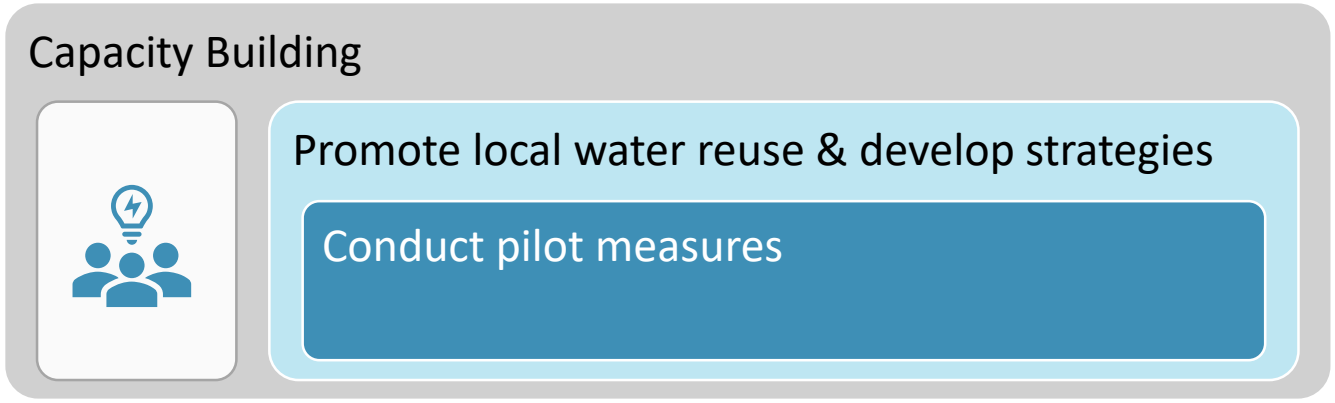




The WaterMan project



WaterMan Consortium

Region Kalmar län

Urząd Miasta Braniewa

Kalmar kommun

KLAIPĖDOS RAJONO SAVIVALDYBĖ

KURZEMES PLĀNOŠANAS REĢIONS

Saldus novads

Local authorities

Kalmar Vatten

BORNHOLMS ENERGI & FORSYNING

Water utilities

KWB Kompetenzzentrum Wasser Berlin

KLAIPĖDA UNIVERSITY

GDAŃSK UNIVERSITY OF TECHNOLOGY

Scientific institutions

Stowarzyszenie Gmin RP Euroregion Bałtyk

ASOCIACIJA KLAIPĖDOS REGIONAS

Izba Gospodarcza WODOCIĄGI POLSKIE

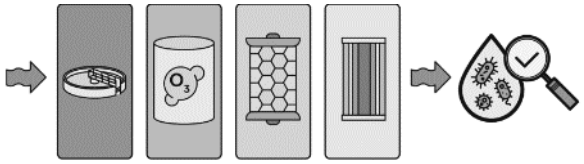
NGOs

The WaterMan project

Capacity building among project partners



Risk



Treatment solutions

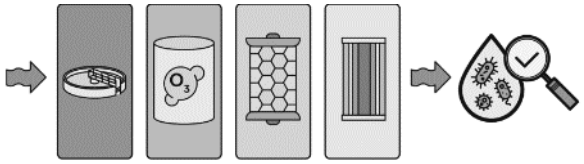


The WaterMan project

Capacity building among project partners



Risk



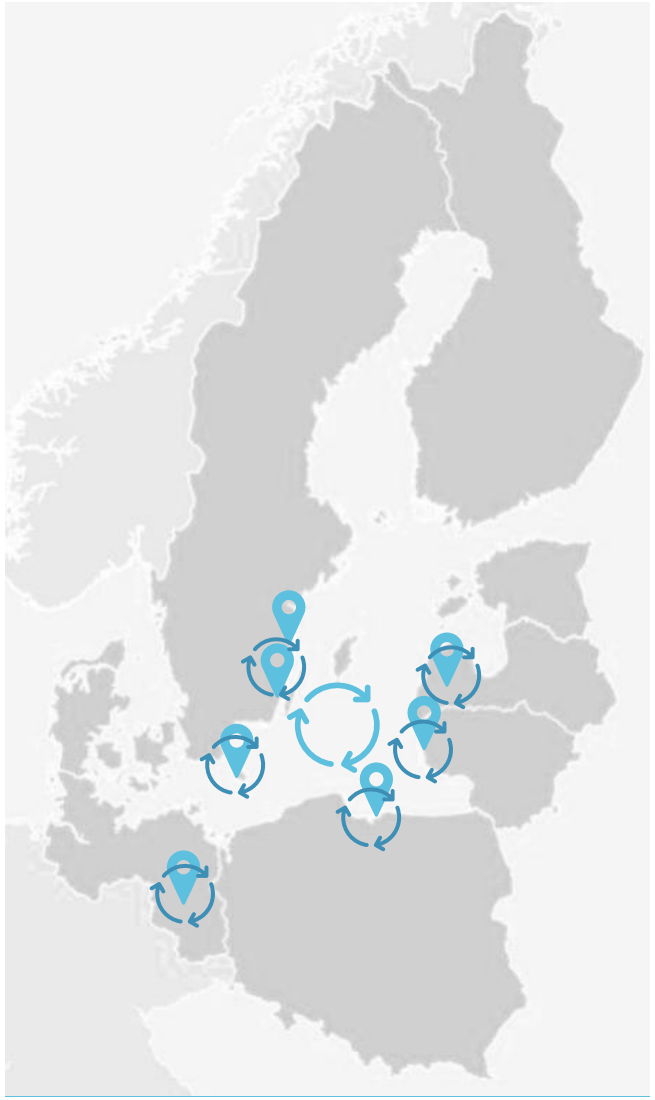
Treatment solutions

Capacity building among local and regional and stakeholders



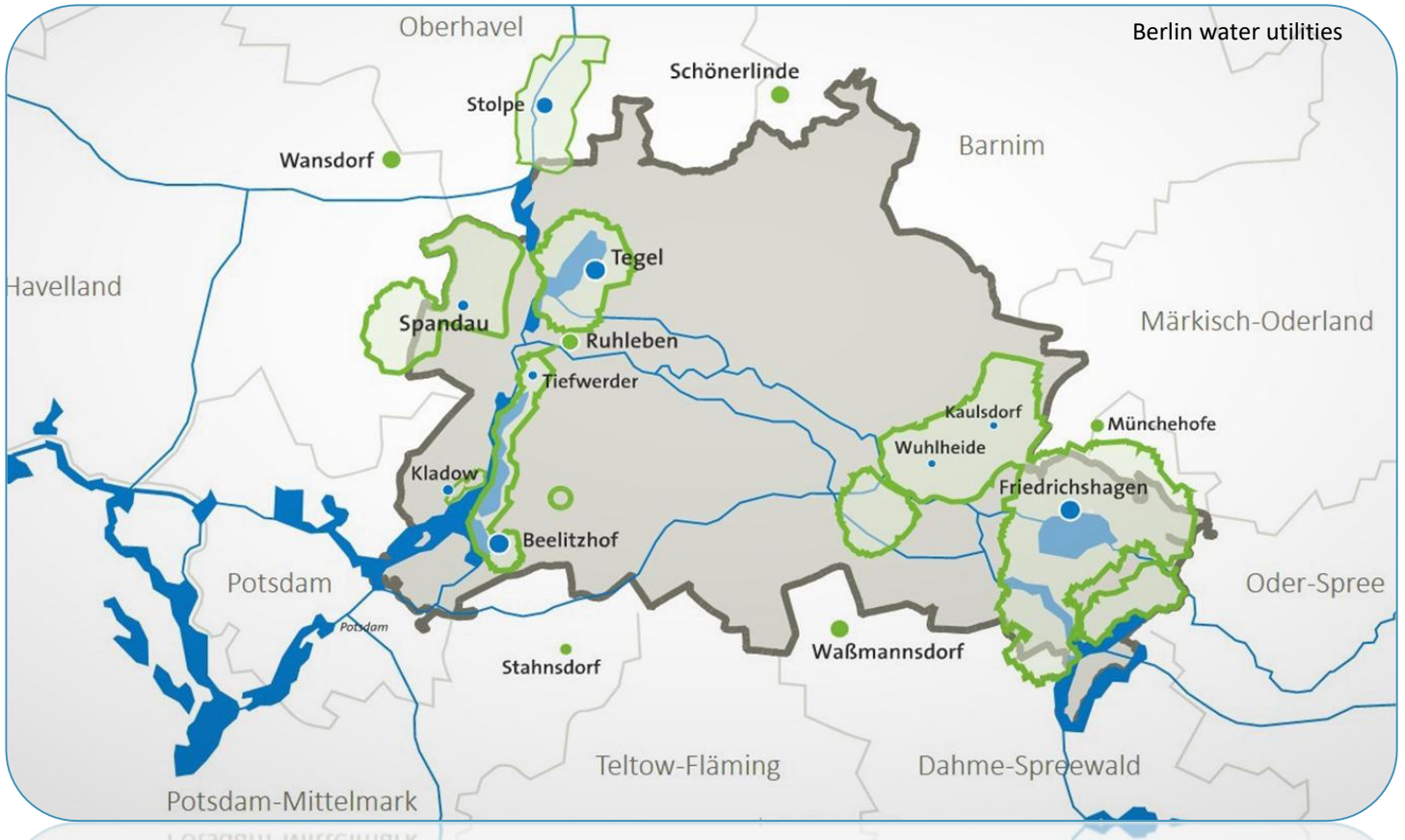






WaterMan in Berlin: The challenge

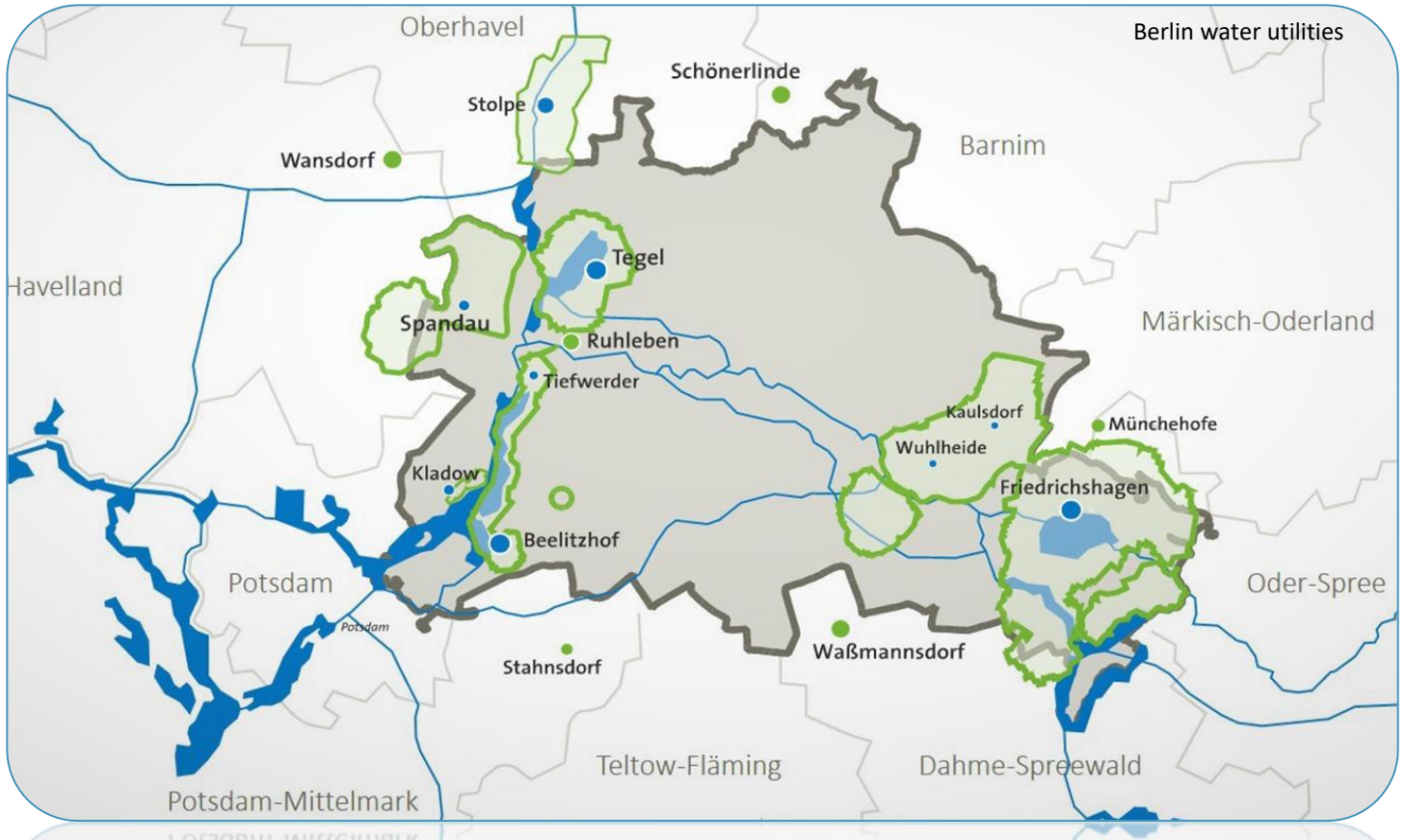
Future challenges of water supply in the Berlin Brandenburg Metropolitan Region



WaterMan in Berlin: The challenge

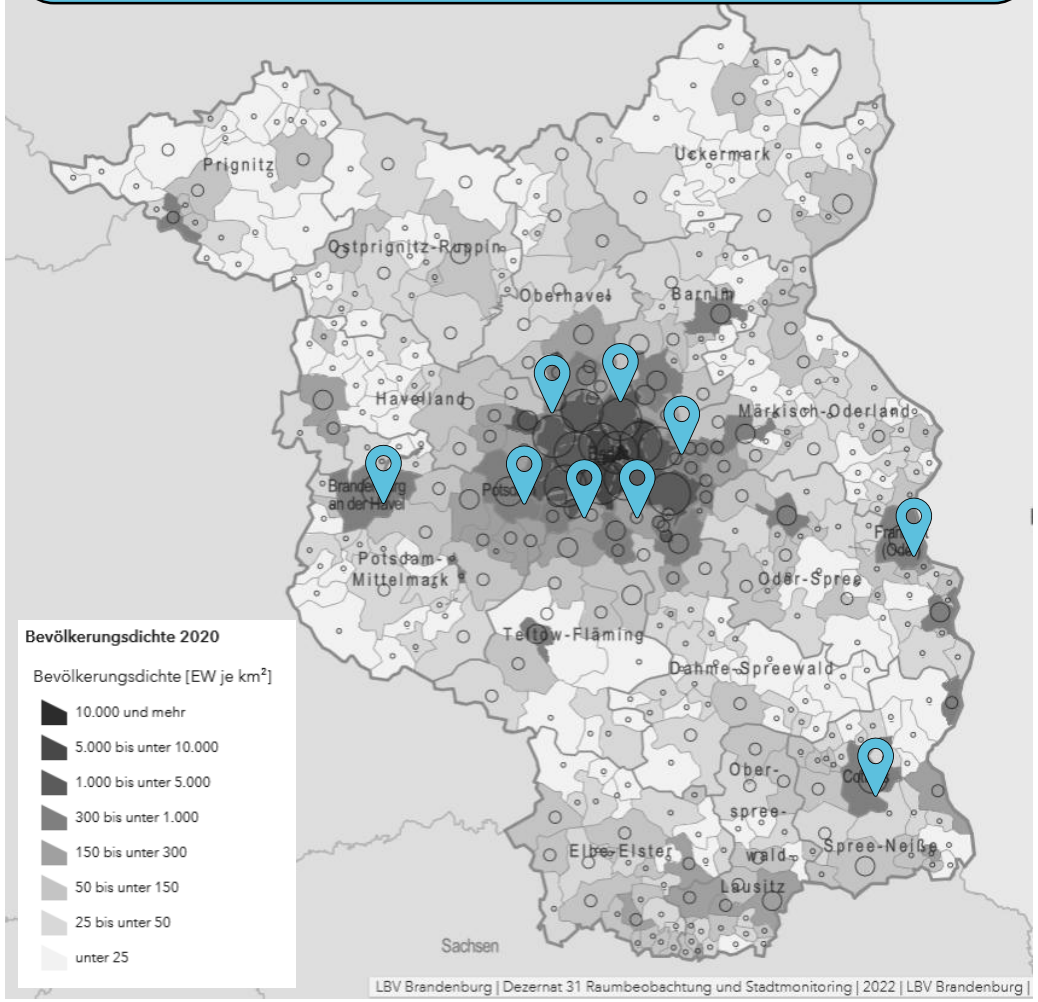
Future challenges of water supply in the Berlin Brandenburg Metropolitan Region

- Population Growth: Rising demand due to increasing population
- Climate Change: Reduced water availability (e.g., the dry five-year period 2018–2022)
- Decline in Spree River Flow: End of lignite mining and related mine drainage inflows
- Decline in Havel River Flow: Lower precipitation levels



WaterMan in Berlin

9 wastewater treatment plants in Brandenburg > 100,000 p.e. accounting for > 70% of the wastewater volume[1]



[1]Kommunale Abwasserbeseitigung im Land Brandenburg – Lagebericht 2025

WaterMan in Berlin

EU Water Reuse Regulation (EU) 2020/741: risk-based approach to ensure protection of human health and the environment

- Microbial risks: fixed limit values + routine monitoring + validation
- Chemical risks: context-dependent assessment + preventive management

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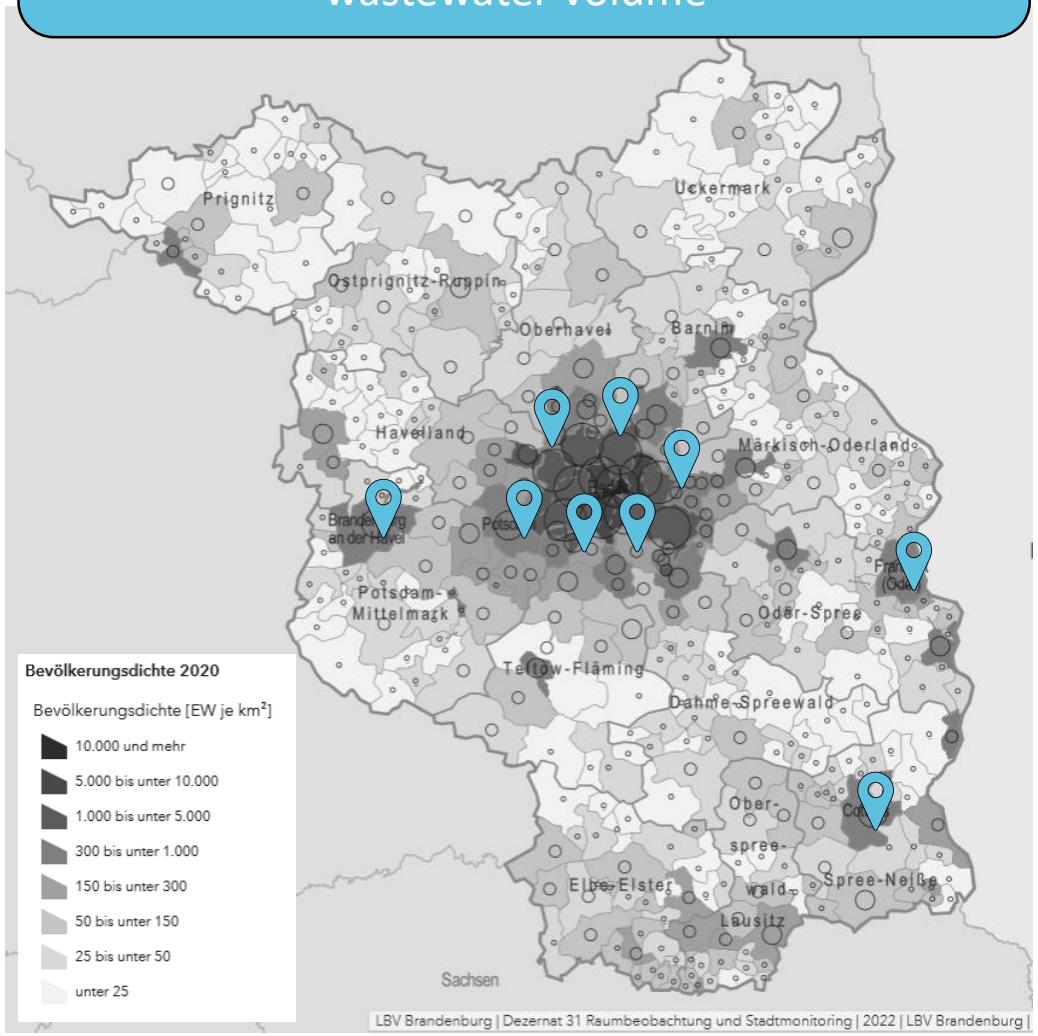

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Strong synergies between the novel urban wastewater treatment directive & chemical risk mitigation in agricultural irrigation

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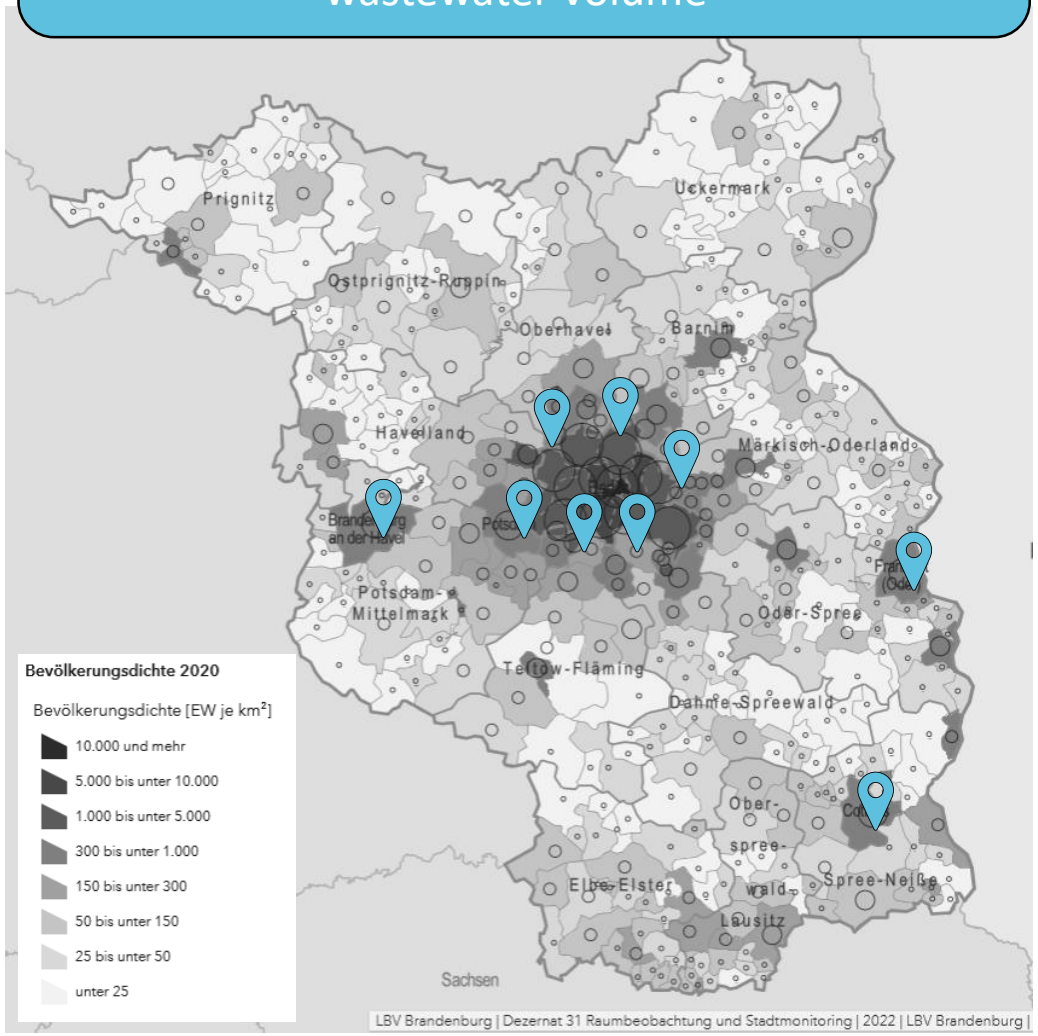

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WaterMan in Berlin

Wastewater treatment plant Ruhleben

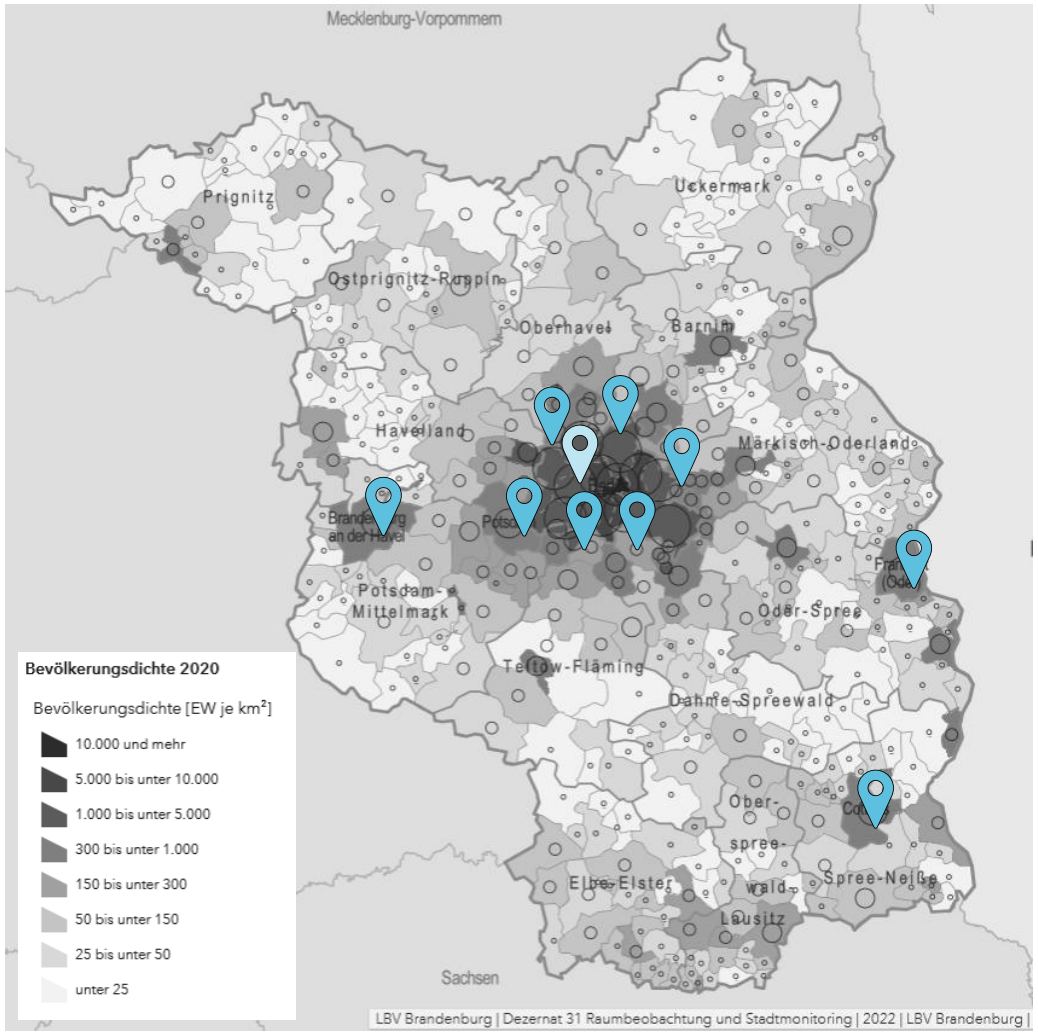


Industry



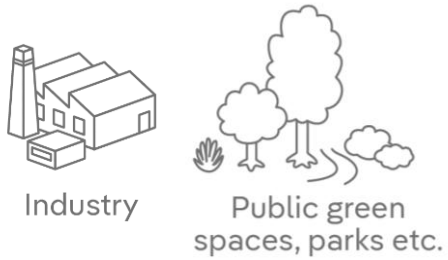
Public green spaces, parks etc.





WaterMan in Berlin

Wastewater treatment plant Ruhleben





Is there potential for

a) commercial / industrial water reuse or

b) for water reuse for urban irrigation?

WaterMan in Berlin

Wastewater treatment plant Ruhleben





- 189 business and industries (predominantly small) located within 5 km radius
- Limited current interest from local industrial and commercial stakeholders
- Identified reuse opportunities: two car wash facilities and a cooling tower at a large-scale power plant
- Overall potential assessed as low at present

WaterMan in Berlin

Wastewater treatment plant Ruhleben





- Green areas within 5 km radius: ~8.6 km² (e.g. parks, cemeteries)
- Irrigation demand per year:
  - 20-year average: ~60,000 m³
  - drought year (2018): ~200,000 m³
- Indication of promising reuse potential

WaterMan in Berlin

Wastewater treatment plant Ruhleben

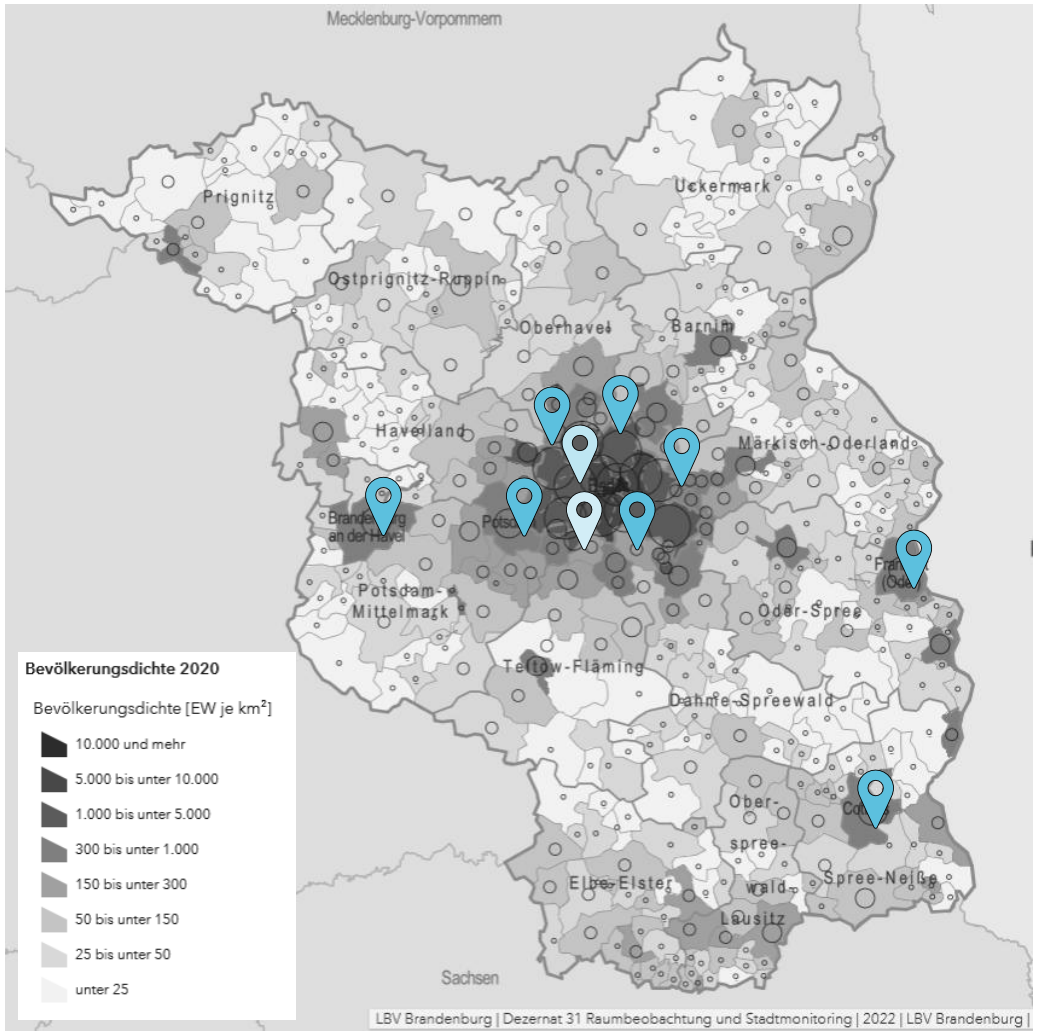




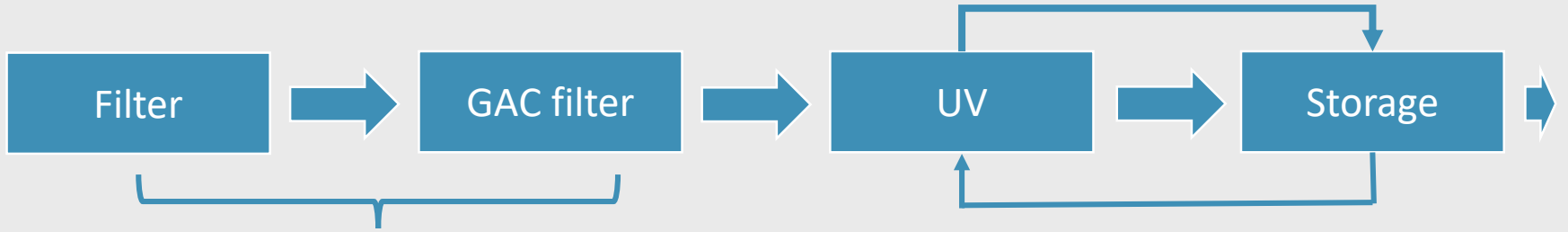
Wastewater treatment plant Stahnsdorf







Technical Solution



- Agricultural irrigation
- Urban irrigation
- Process water for WWTP
- Discharge

Treatment capacity:
Q = 115 m³/h
Number of filters:
first stage = 2
Second stage GAC filter = 4

Treatment capacity:
Q = 115 m³/h

Storage:
V = 8000 m³
Number of storage tanks:
4 tanks

Wastewater treatment plant Stahnsdorf





a) **What is the best technical solution**
b) **Is agricultural reuse an economically viable option?**

Economic viability

Agriculture



	unit	Potatoes		Wheat	
		Average year (2012-2022)	*Drought year (2018-2019)*	*Average year (2013-2023)*	*Drought year (2018-2019)*
Yield, without irrigation	dt/ha	296	183	61,9	52,25
Revenue, without irrigation	€/ha	4950	3051	1034	873
Additional yield by irrigation	**%**	**38**	**53**	**41**	**77**
Irrigation quantity	dt/ha	130	200	155	190
Yield, irrigated	dt/ha	371	348	87	92
Revenue, irrigated	€/ha	6525	6128	1536	1627
Reel irrigation					
Added economic value	€/ha	1089	2437	-386	136
Linear irrigation					
Added economic value	€/ha	1247	2672	147	360

Economic viability

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The Water Recycling Toolbox & Helpdesk

https://www.eurobalt.org/waterrecyclingtoolbox/

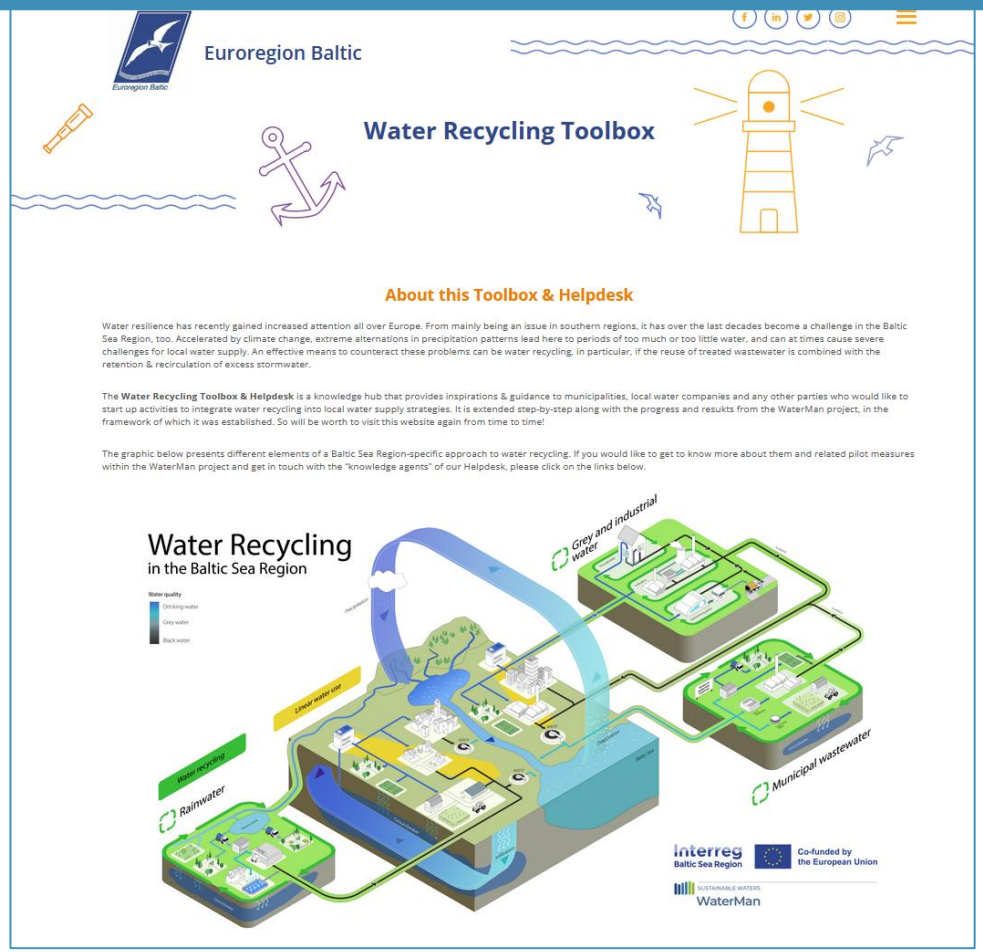
Purpose:

- knowledge hub supporting municipalities, local water companies and other parties
- Facilitates integration of water reuse into local strategies

Approach:

- Provides inspiratation, step-by-step guidance, case studies and direct contact information

A practical entry point for implementing water reuse on a local level.

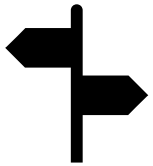


Conclusions



Awareness and knowledge of water reuse vary greatly across Europe

Water scarcity and excess often coexist and should be addressed jointly



Begin with low-complexity measures (e.g., stormwater and runoff reuse)

Get inspired by other regions

Upcoming WaterMan activities & offers

6 Nov 2025:

2nd Roundtable Discussion in Brussels

25-27 Nov 2025:

Euroregion Baltic (ERB) Water Forum & Final Conference in Kalmar / SE



QUESTIONS?

Water Reuse Europe

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