

Different types of networks

Distinction between regional/cross-sectoral and intra-sectoral networks

	Cross-sectoral	Intra-sectoral
Contents	Power efficiency, simple process optimization, legal processes, concepts	Technically very advanced
Type of cooperation	Energy managers, climate managers and, in the case of SMEs, also management functions exchange information and ideas	Technicians on detailed issues, energy officers on processes exchange information
themes	In particular, the cross-sectional technologies and legal framework energy	Especially process specific issues like pumps, network losses
Oranisazion	Knowledge transfer and the creation of incentives as well asThe focus is on tours of the company's operations.	Knowledge transfer on specific approaches are in the foreground. Company visits very helpful at the beginning; later very detail-based
specific	All industries can network. Attention should be paid to the composition of the companies.	Industries that are not subject to natural competition (network operators, water suppliers, wastewater disposal companies).Other industries taking antitrust law into account can also exchange information.

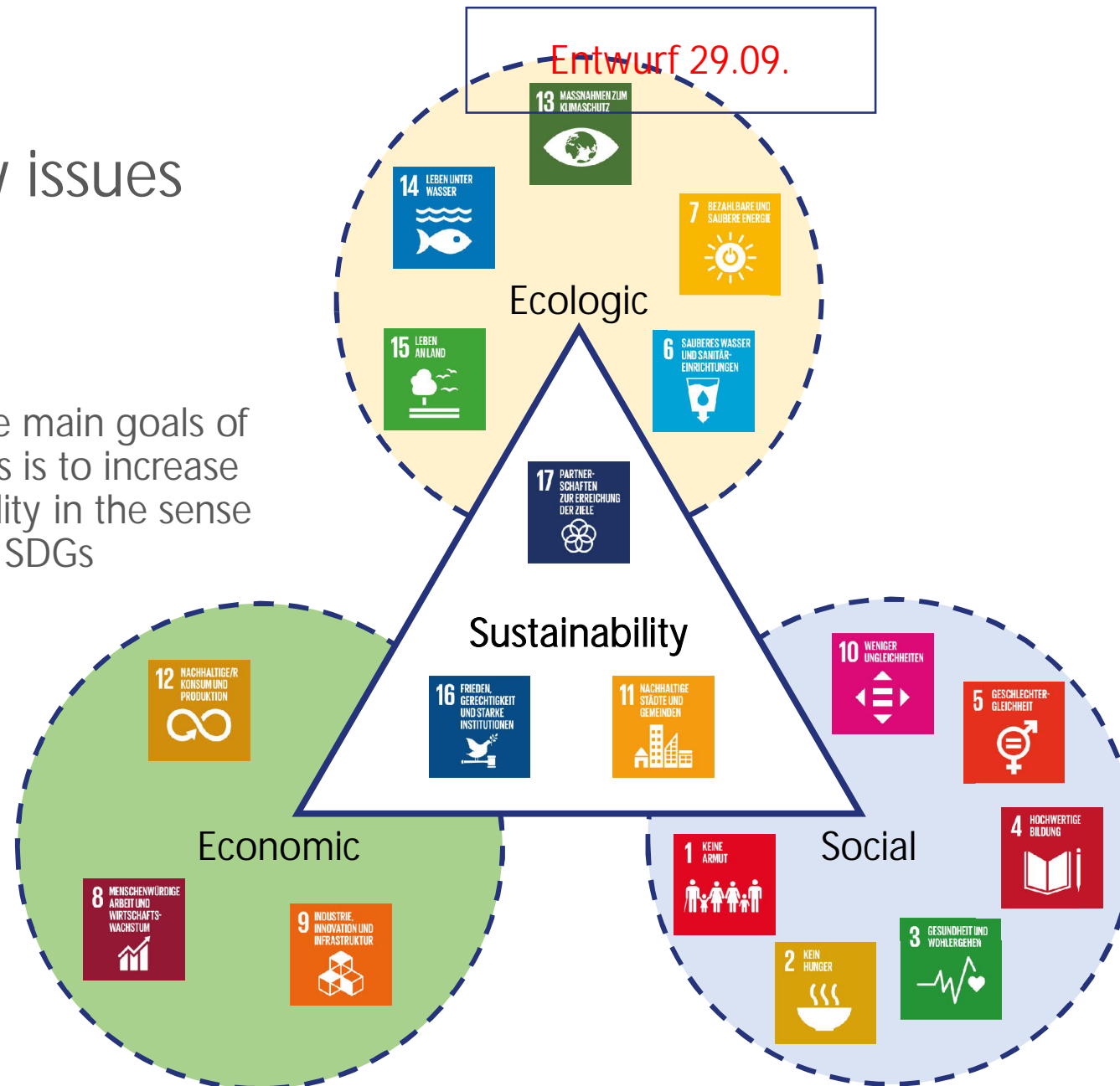
Why companies participate?

- An energy audit is often the first step towards energy savings
- The continuation of the process in energy management systems is the goal of innovative and future-oriented companies
- The resource "human" is often scarce - the ideas and the practical implementation drive of energy saving measures often depends on individual innovators in the company
- Continuous improvement (CIP) becomes more and more difficult with an increasing degree of penetration of implemented measures
- (Political) visibility and (public) recognition both internally (within the company) and externally
- Use of subsidies much more efficient in the exchange of the network
- The exchange among colleagues from other industries with a focus on energy can open the "blinders" and help to always be one step ahead.
- Low-hanging fruits are often already implemented in the companies and therefore a deep mutual process understanding is necessary to leverage further efficiency potentials.

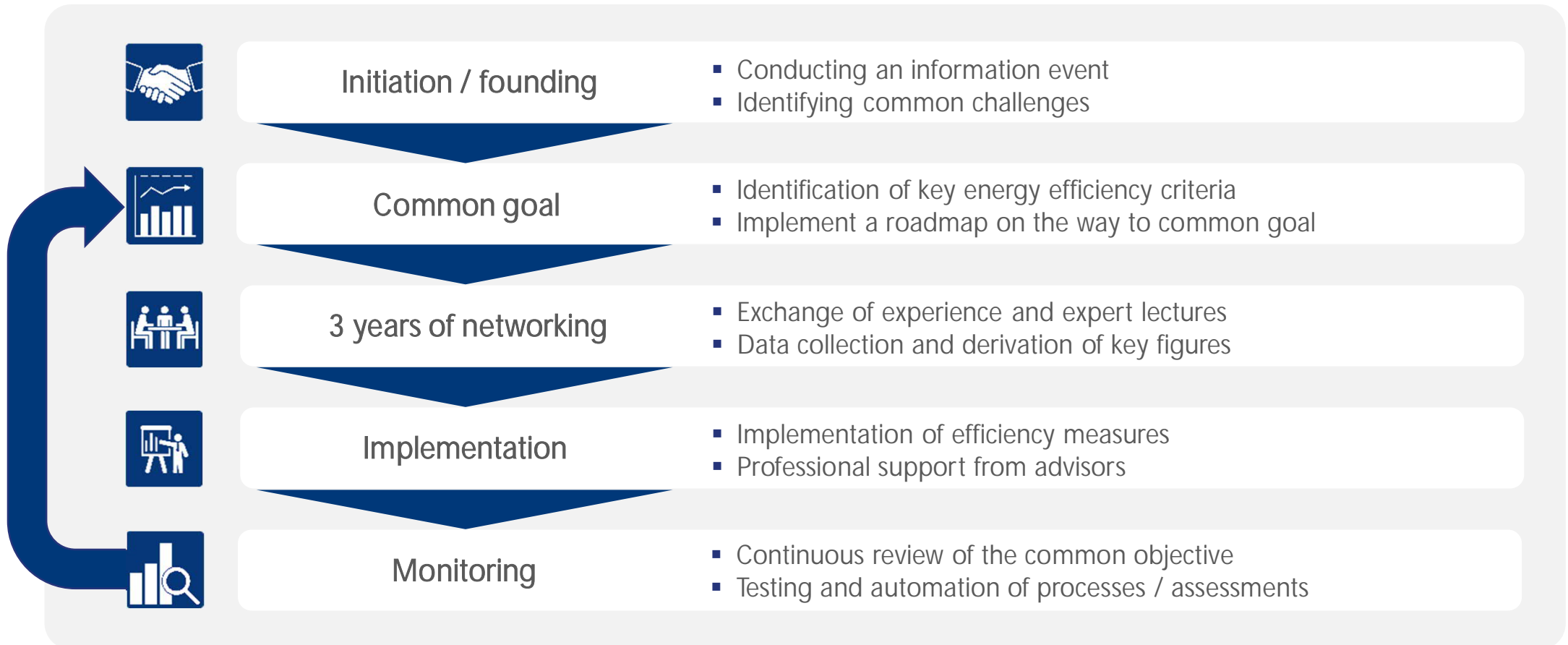
Sustainability issues

Entwurf 29.09.

One of the main goals of companies is to increase sustainability in the sense of the UN SDGs



How do networks operate



requirements to participate in a network

Data collection and knowledge about processes and energy consumption is the best way to optimize the energy efficiency

- Data collection within a technical audit or an energy management system
 - Governmental energy register
 - ISO 50001
- Awareness that energy efficiency is the easiest way to optimize the business and economic situation of companys
- Awareness that the exchange of information between companys is positive for all parties
- Awareness that setting a common goal can incentivate the „sportive“ ambition within all parties
- Awareness that energy efficiency is a continous process that needs to be implemented strategic

Still looking for
new participants

next phase for energy efficiency networks in Kazakhstan

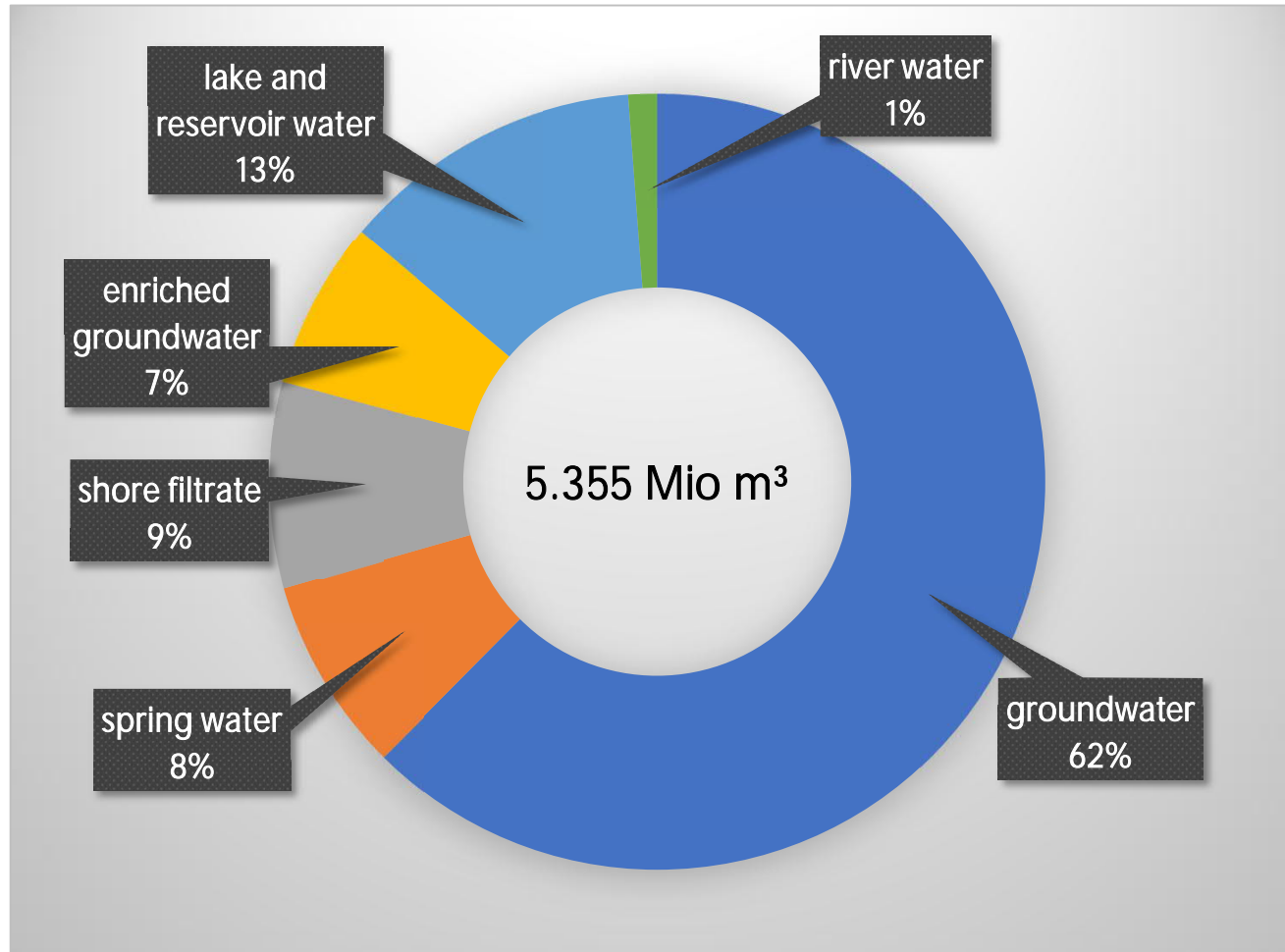
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Started in September 2023 – workshops to set the basis for networks

- 13.09.2023 first workshop: energy efficiency networks in Germany; advantages and contents of inter-sectoral networks in Kazakhstan
- 27.09.2023 second workshop: set up a quantitative common network goal; basis and requirements
- KW 43 third workshop: analysis of energy data of the pilot companies to set a common network goal
- 10.11.2023 presentation of a common goal within the V. International forum of energy efficiency
- KW 48 workshop no.4: verification of energy efficiency actions within the network progress
- 2024 start the process of new energy efficiency networks in Kazakhstan

Please contact
dena oder EEDI

Water supply in Germany, data 2019



Source: Umweltbundesamt, 2022

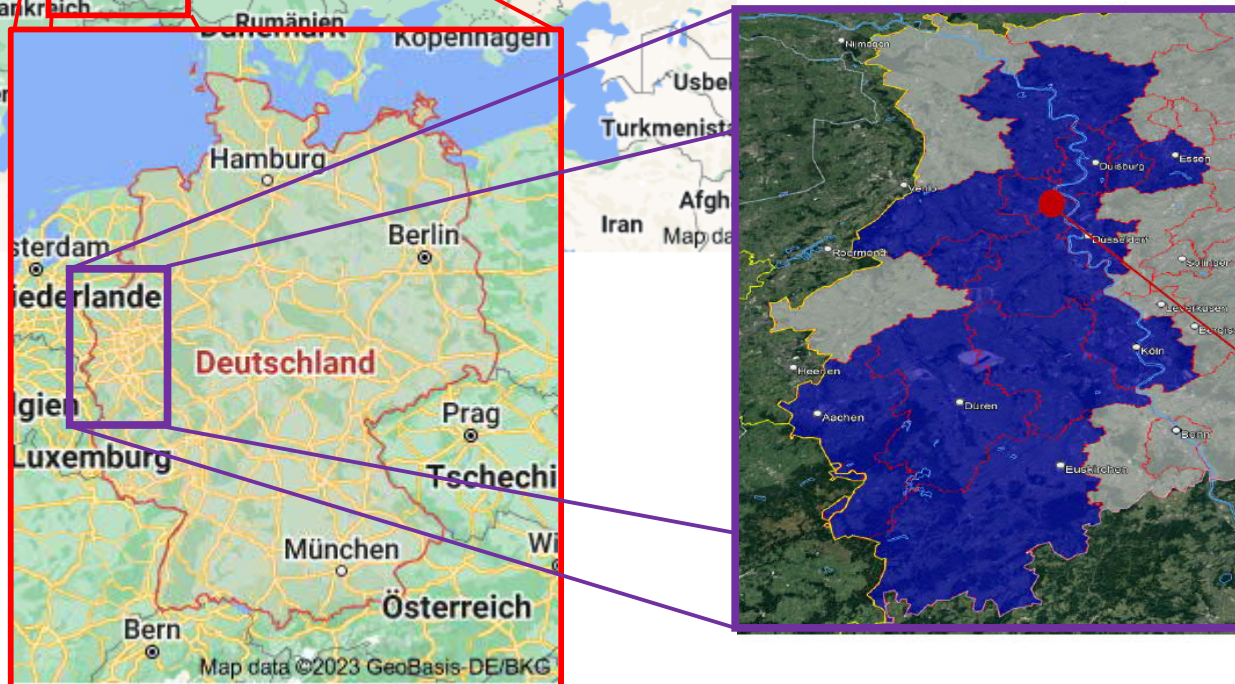
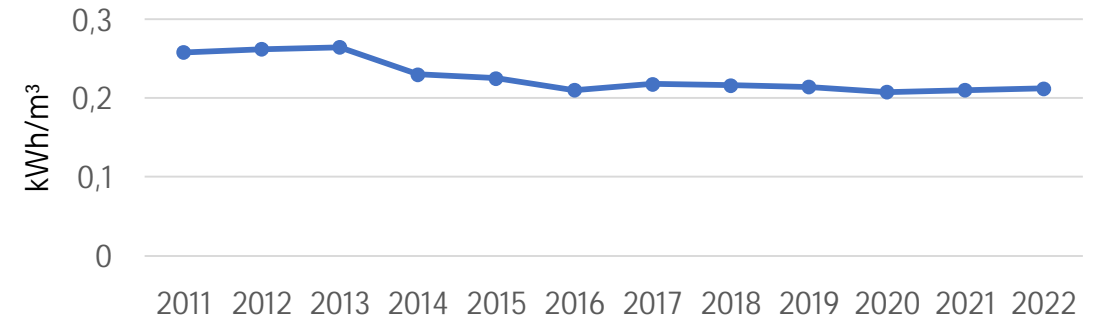
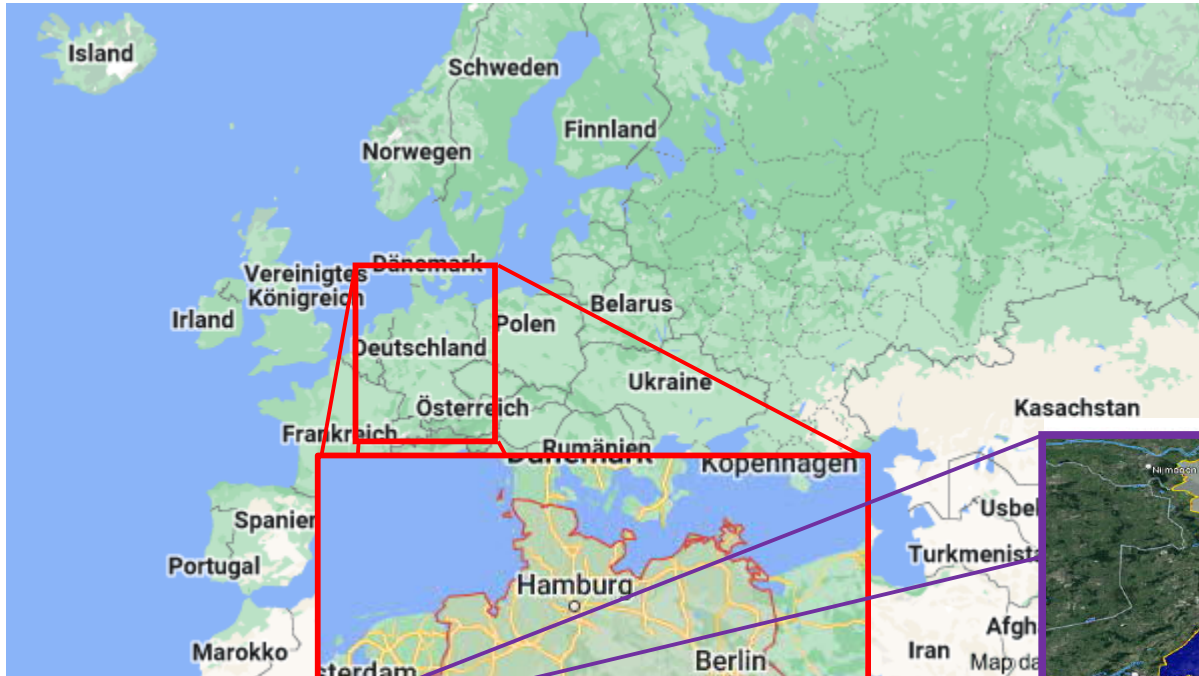
Key facts:

- 5,3 bn cbm produced water
- ~ 8 % water loss
- 4,7 bn cbm used water
- 544.000 km pipelines

Energy facts:

- 2,4 bn kWh electric energy
- → 0,45 kWh / cbm produced water

Wasserverbund Niederrhein GmbH (WVN)



WVN overview – technical plants

Water plants Moers-Gerdt and Binsheim

Water processing 2.500 m³/h

- Moers-Gerdt mit 6 Doppelstockfilter á 300 m³/h
- Binsheim mit 3 Doppelstockfilter á 250 m³/h

Water storage 19.000 m³

- Wasserwerk Moers-Gerdt: 12.000 m³
- Wasserwerk Binsheim: 3.000 m³
- Hochbehälter Rheurdt: 3.000 m³
- Station Nieukerk: 1.000 m³

Water distribution; 70km; 22 pumps; loss < 1%

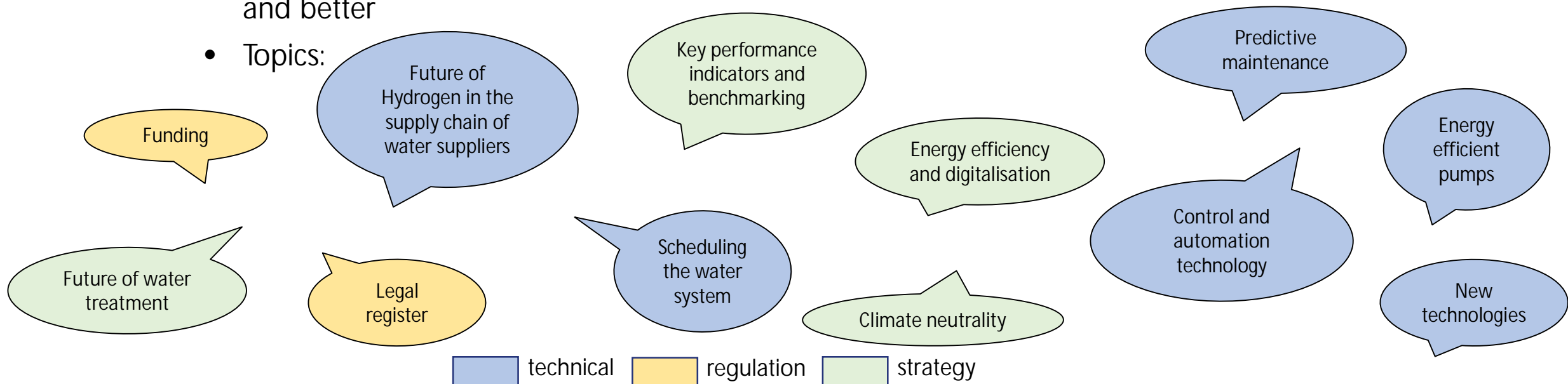
- Transportleitungen: ca. 70 km von DN300 bis DN1000
- Pumpstationen: 7 Stationen mit 22 Pumpen
- Druckzonen: nördlicher Ring 2,2 bar ; südlicher Ring 7,5 bar
- Fließzeiten zum Endkunden von 1 bis circa 25 h
- Wasserverluste < 1%

Water plant Moers-Gerdt

intersectoral networks for water suppliers – gr-EEN VKU Wasser I + II

Gr-EEN VKU Wasser I

- started: March 2019; ended: 2022 → continued from March 2023 as gr-EEN VKU Wasser II
- 8 water suppliers from northern Westphalia and lower saxony
- water suppliers with an implemented energy management system or energy audit
- water suppliers with advanced energy efficiency rate looking for new ideas to become faster and better
- Topics:



Why do WVN participate?

Advantage of intersectoral networks

- Everyone within the network knows what others are talking about
- Very deep process knowledge in water supply, pumps, energy management, key performance indicators and technical details
 - UV-Filtration
 - Water storage
 - Water loss
 - Fountain
 - regulation
- Getting new ideas
- Prevent repetition of mistakes



Source: WVN



Source: Innoaqua



Source: city of Ahlen



Source: AllebaziB / Fotolia