



Ecologic Institute
Science and Policy
for a Sustainable World

Digital water governance: Challenges associated with digitalization in the water sector

- Some lessons from digital-water.city

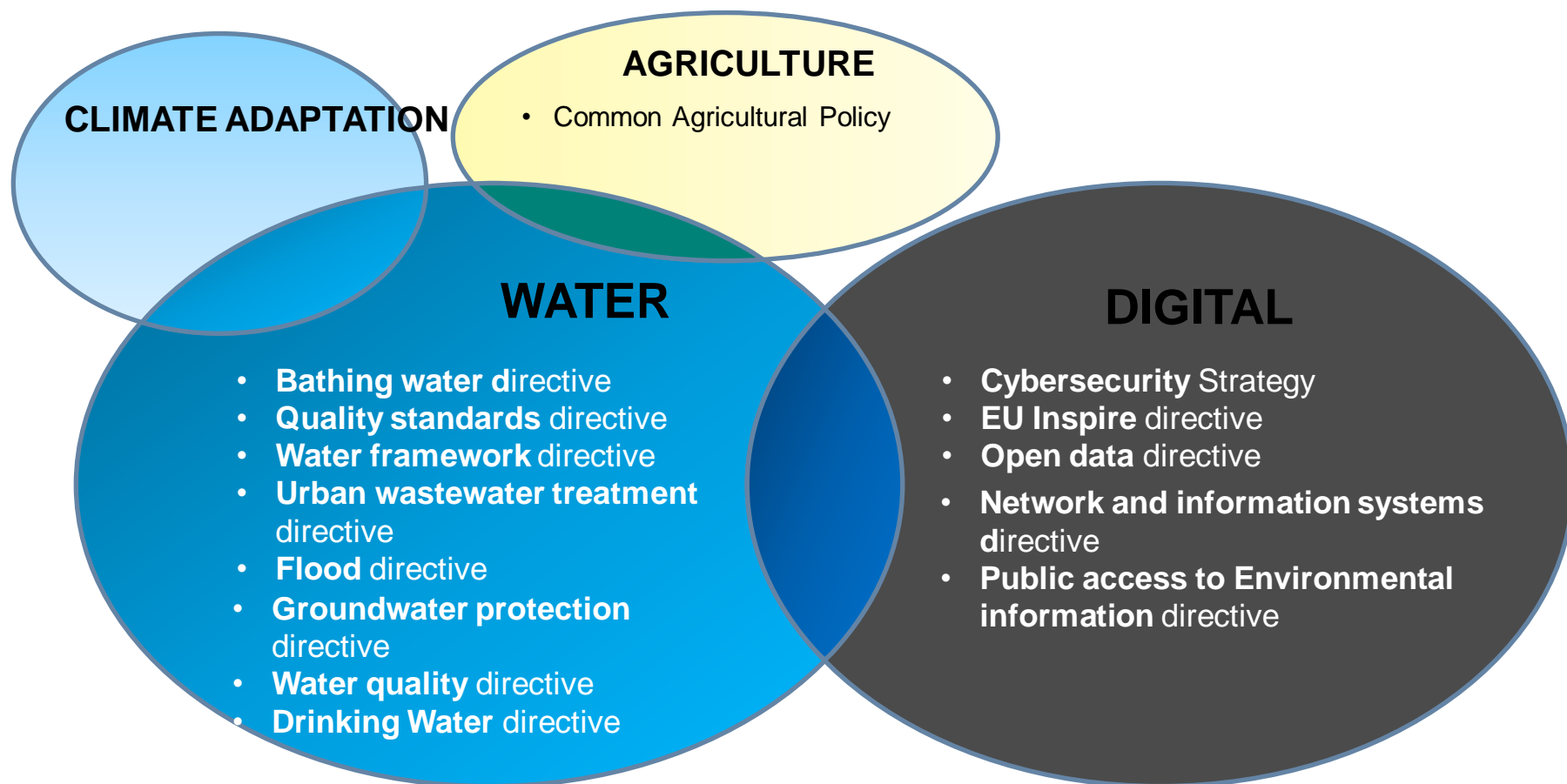
Blue Planet Berlin Water Dialogues - 25 February 2021

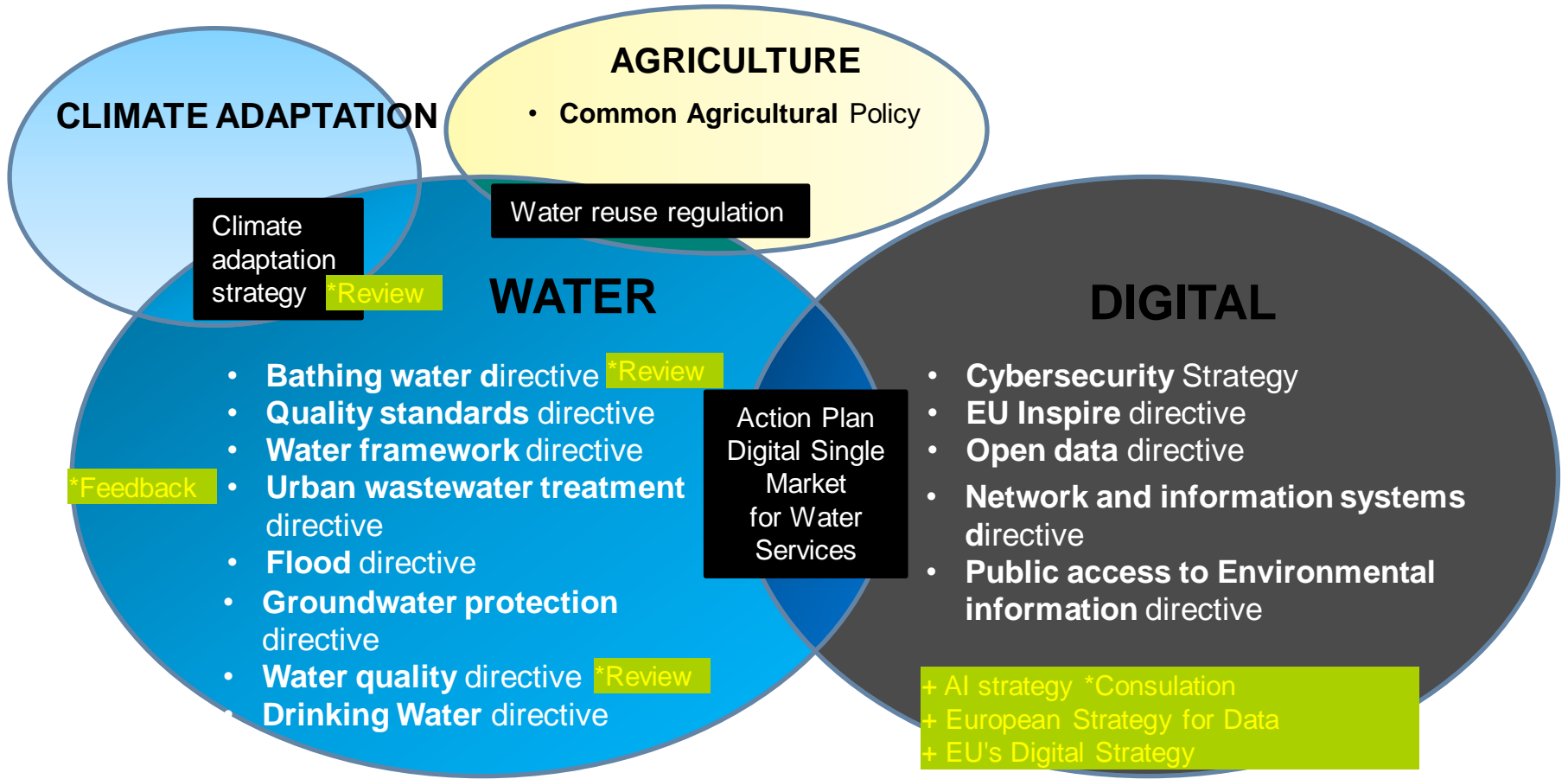
Ulf Stein, Gerardo Anzaldúa

Digital Water Governance

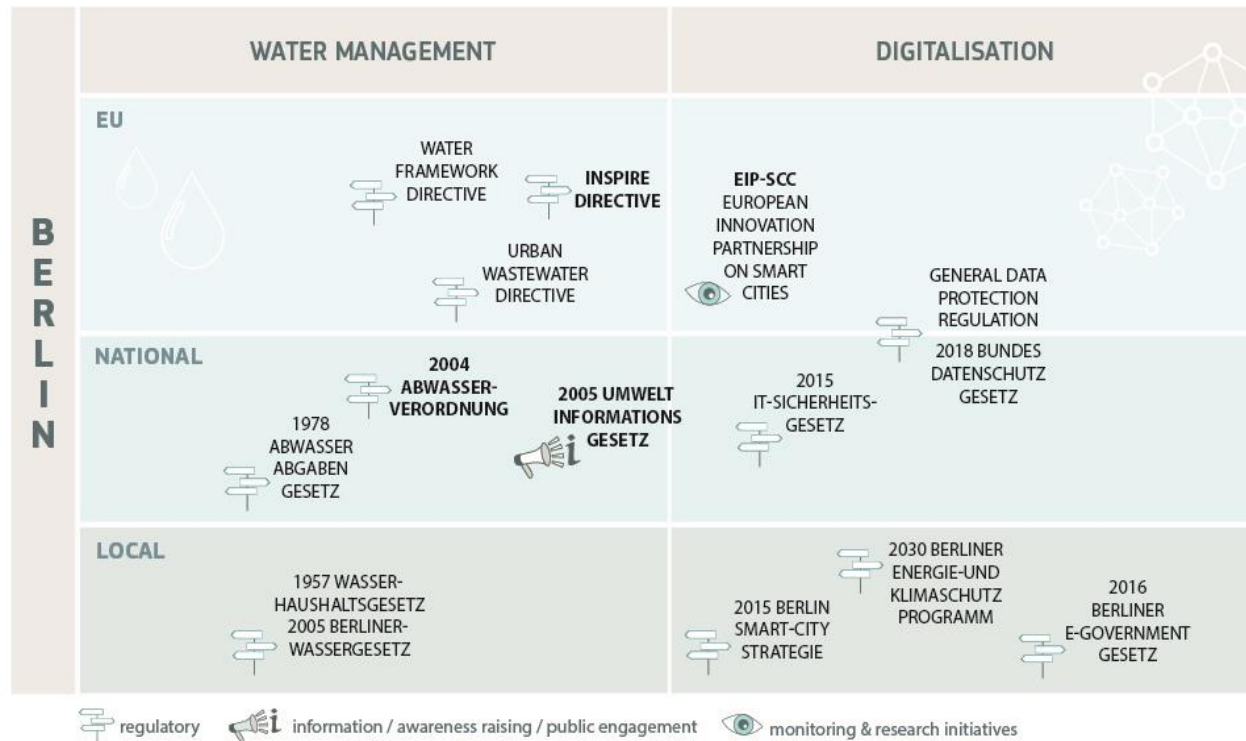
The social function that regulates the management of water resources and the provisions of water services by the means of ICT solutions at different levels of society.

It comprises all actors, processes, regulations, structures and ICT solutions involved.





Policy Matrix – Berlin Case Study



Digital Water Governance

CHALLENGES

OPPORTUNITIES

EUROPEAN CITIES

Digital water governance is still at the early stage

Crucial role of EU policies in enhancing smart water management

Lack of digital skills in the water sector

Increasing demand for smart solutions

Unsolved data protection and cybersecurity issues

Wide range of unexplored benefits

Increasingly high requirements of monitoring and reporting

BERLIN

Intersection between digital and water policies is still underdeveloped

EU Policies have been widely transposed

Few actors involved in digital water governance

Multiple action plans and strategies on digitalization

No binding provisions on digitalization

Opportunity for small-sized firms to be forerunners

Some general challenges along the digital transition

- ▶ Regulatory uncertainty
- ▶ Inadequate “policy-technology” fit
- ▶ Investment
- ▶ Digital literacy and capacity building
- ▶ Employment
- ▶ Cybersecurity
- ▶ Data protection

Some challenges along the digital transition

Example: Inadequate “policy-technology” fit

Recent European projects have been able to demonstrate circular economy approaches enabled, at their core, by digitalization. For instance, SMART-Plant was able to transform a WWTP into a Blue Resource Center.

Nevertheless, the lack of harmonised end-of-waste criteria at EU level are effectively stalling the replication and widespread uptake of the novel approach.

Some challenges along the digital transition

Example: Investment

The long investment cycles in the water sector create a barrier for innovation. With technological advances moving fast, this is leading to an information, communication and technology gap.

Source: Anzaldúa et al., 2020; Elelman et al., 2021.

Take away messages

- 1. Relevant digital and water regulations are changing constantly. To ensure a smooth and reasonable digital transition, the water sector has to evolve. In some instances, even fundamentally.*
- 2. Different stakeholders have distinct experiences and impressions regarding the potential benefits of the trend. Inefficient communication between these groups can significantly slow or altogether hinder the transition.*
- 3. Industry operators will go up to compliance with current regulation, but not beyond that. There seems to be a generalised unwillingness or lack of capacity to invest in asset renewal and improvements that go beyond what is strictly required by law.*

Source: Anzaldúa et al., 2020



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Thanks! Any questions?

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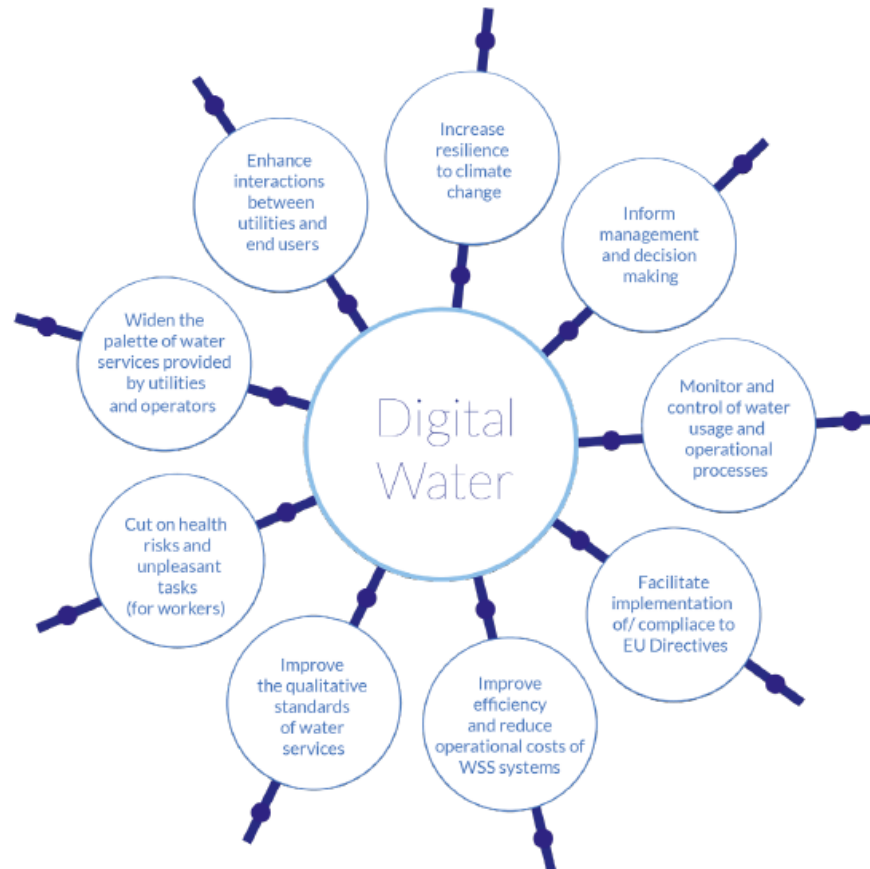
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Some perceived benefits of digital water...



Source: Anzaldúa et al., 2020