

The sustainable urban water cycle: from quick-scan to action

Extreme weather events that leave city streets under water in no time. Or protracted drought that renders a city's water supply incapable of meeting its needs. Two extreme cases. But more and more of a reality because of climate change, and especially since urbanization is surging ahead all over the world. In 2050, 87% of the population in developed countries will be living in cities. At

about that time, water supply will fall short of demand by 40 %. The consequences of climate change leave cities no choice: they are forced to radically adapt their water cycles because the cost of inaction is very high. But how can a city quickly grasp which elements of its water cycle are already sustainable and which might have to be adapted? The City Blueprint is a practical tool that can help.





A future-proof urban water cycle

Municipalities are looking for ways to realise sustainable Urban Water Cycle Services (UWCS). The cost of inaction is high! An active approach is important, because it's ultimately cheaper to act and take measures than not to act. The City Blueprint is a practical tool that provides you with an overview of the most important challenges in your city.

"Thanks to the City Blueprint, we were able to compare the flood resilience of the city of Malmo with front-runners in urban flood management such as Amsterdam, Rotterdam, Copenhagen and Hamburg. The City Blueprint allows us to understand our possibilities and priorities for integrated urban water management in light of the negative impacts of climate change."

(Misagh Mottaghi, Project Engineer at Lund University)

The City Blueprint: sustainability at a glance

The City Blueprint sheds light on the sustainability of the urban water cycle. The tool was developed by Professor Kees van Leeuwen, who is attached to both KWR Watercycle Research Institute and Utrecht University. The City Blueprint makes use of 25 indicators to assess a city's sustainability and provides a score between o and 10: the Blue City Index (BCI). The higher the BCI score, the better the blueprint. In the ideal case, the result shows a full blue circle: the "blue city". The City Blueprint reveals at a glance precisely where a city's strong and weak points lie.

The power of the City Blueprint

The City Blueprint offers cities a three-fold benefit: (1) an interactive quick-scan of their own water cycle, (2) access to expert knowledge and the best practices of other cities, and (3) participation in an (international) platform. The City Blueprint provides municipalities with a practical and broad framework to define steps towards realising a sustainable water cycle. In collaboration with key stakeholders, a city can define its top priorities thanks to the City Blueprint. This also enhances public participation in the process leading to sustainability.

Water crises are listed among the World Economic Forum's top three major global risks. The issue is also a key priority of both the Organisation for Economic Co-operation and Development (OECD) and the UN. The City Blueprint is tightly linked to the European Innovation Partnership on Smart Cities, and is part of the European Innovation Partnership on Water (EIP Water).

"The City Blueprint is a powerful water management tool which shows the strong and weak sides of a city's water-related implementations in a practical and easily understandable format."

(Professor Cevza Melek Kazezyilmaz-Alhan, Department of Civil Engineering at Istanbul University)



Taking steps towards sustainability

Participation in the City Blueprint process requires little effort on your part while producing high returns. It shows you exactly what steps you want to take towards making your UWCS sustainable. Experts from KWR will check the source data and complete them whenever needed. This guarantees an optimal and independent assessment of the baseline situation and a comparison with other cities, providing you with insight into your strengths and weaknesses. We will then work together in defining the right direction for your UWCS. We will also show you the financial benefits of adaptation.

"The City Blueprint framework consolidates and translates aspirational sustainability thinking into a clear direction for pragmatic action for urban water managers."

(Pat McCafferty, Managing Director of Yarra Valley Water in Melbourne)

City Blueprint works with 25 indicators of the urban water cycle, which are divided into the following seven categories: Water Quality, Solid Waste, Basic Water Services, Wastewater Treatment, Infrastructure, Climate Robustness and Governance.

"I really appreciate this approach to evaluating water governance."

(Theresa Connor, Water Environment Research Foundation, USA)

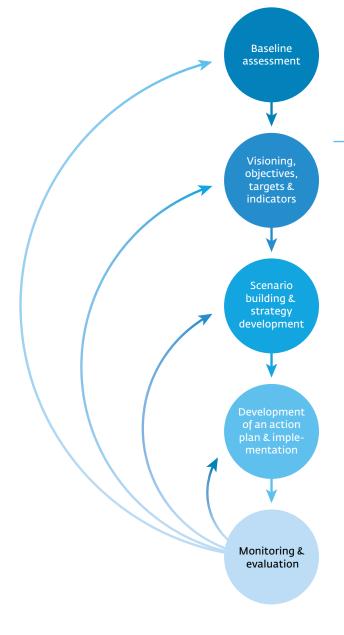


Figure: A City Blueprint is just the first step (the baseline assessment) on a journey of communication and cooperation within and between cities (Source: SWITCH)



City Blueprint: learning from each other

It is precisely the wide variation in the way cities deal with their water and wastewater that offers key insights for increasing sustainability. The ultimate blue city is within our reach if we combine the best practices and actively share and implement them. With city-to-city learning we can pool our efforts in building as many future-proof cities as possible.

The success of the City Blueprint approach is testified by the large number of cities that have already made use of the tool. From Reykjavik to Melbourne and from New York to Ho Chi Minh City, 45 cities in 27 different countries have used the City Blueprint to gain an understanding of how they can improve their water cycle services. We observe that highly ambitious water management by local authorities is rewarded with high BCIs.

Getting started with the City Blueprint

How far is your city from being a blue city? Or is your water cycle already future-proof? Feel free to get in touch with the City Blueprint Office at KWR to find out what we can do for your city. You can contact us, without any obligation, at: city.blueprint@kwrwater.nl or +31306069649.

The City Blueprint plusses

- + Quick insight into the degree of sustainability of your own urban water cycle.
- + Practical means of comparing your own city's status with that of others.
- + Compilation of valuable best practices to be shared with each other.
- + Access to expert knowledge at KWR.

"We use the City Blueprint in our communications with the municipal council." (Roelof Kruize, Waternet)

KWR Watercycle Research Institute

"Bridging science to practice" – that is the mission of KWR Watercycle Research Institute. Our shareholders are the ten Dutch water companies. KWR researchers work at the interface of science, business and society. Their strength lies in their ability to translate scientific knowledge into practical and implementable solutions for end-users in the Dutch and European water sectors. KWR has developed a solid reputation as a top-level innovation accelerator and international network builder.

Contact

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