



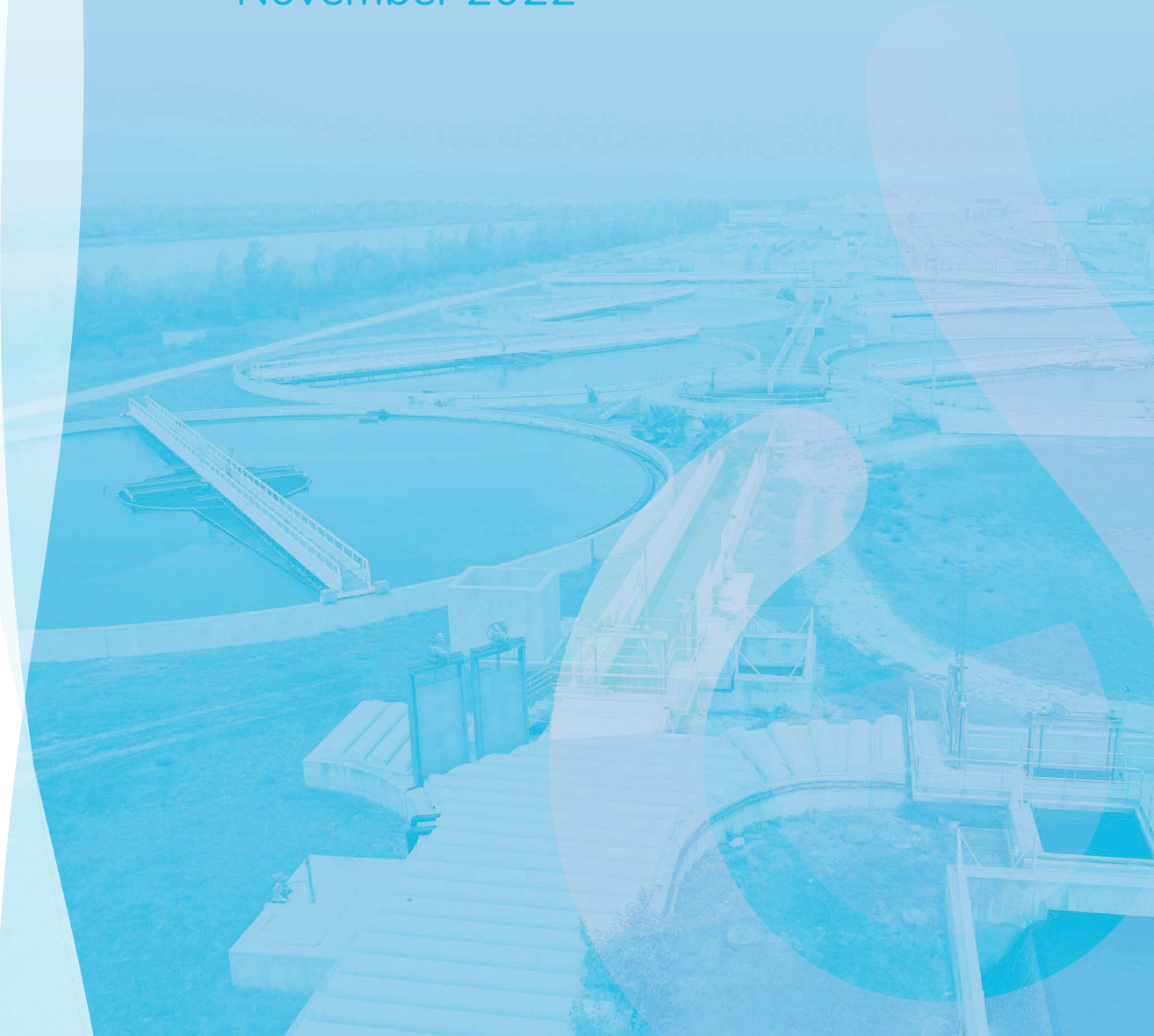
nextGen

Circular Water Solutions

NextGen policy brief:

Stakeholder engagement in the circular water economy

November 2022



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NextGen Lessons from Community of Practices for Stakeholder Engagement

The Horizon 2020 project NextGen aims to boost sustainability and bring new market dynamics throughout the water cycle in its 10 demo cases and beyond. The project assesses, designs and demonstrates a wide range of water embedded resources, including energy, raw material and reuse water. The NextGen deployment is paired with the definition and cultivation of a successful framework for involving and engaging stakeholders and citizens, and also addressing social and governance challenges.

The Community of Practices: a tool for stakeholders' involvement in complex technologies

NextGen consortium through Communities of Practices (CoPs) involved stakeholders from the water value chain (water industry, authorities, NGOs, research institutes, potential end-users) to discuss the technical feasibility, economic aspects, environmental impacts and policy bottlenecks and barriers of the innovative water solutions.

A Community of Practice is defined as a “group of people who share a concern, a set of problems, or a passion about topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis”¹. The CoP differs from several other collaboration formats as it aims to support co-design of technologies which fit with the local needs and settings while a LivingLab² for example fosters the collaboration in the development and transition process.

Each demo case organised three to four meetings based on the guidelines developed in 2018 by the project partners³. At the end of the project, around 300 stakeholders from diverse backgrounds participated in 37 CoP meetings at the ten demo cases⁴. In addition, there was a specific focus on end-users and the general public, promoting not only a multi-stakeholder approach but also engaging end-users and citizens in experiencing and visualising the water technology. The project used 3 ways to engage citizens: public outreach, augmented reality and a serious game.

NextGen built guidelines and aims to provide a general structure for the CoP meetings to enable cross-site information sharing, and lessons learning. This exercise is based on two main assumptions:

- Firstly, that water has three dimension in circular economy: water as a service, as a material and as a source of energy⁵.
- Secondly that societal acceptance (comfort and confidence) is key to make successful the innovative solutions⁶.

The CoP meetings were organised in such a way that there was scope for open dialogue, positively contributing to: (a.) engagement and interaction of stakeholders, (b.) a change in stakeholders' issue frames compared to the state prior to CoP participation, and (c.) increased stakeholder awareness of

1 Wenger et al., Cultivating Communities of Practice. Harvard: Harvard Business Review press (2002)

2 A definition of LivingLabs can be found on the European association of LivingLabs – EnOLL, <https://enoll.org/about-us/>. This terminology is used by the project in the activities done under the work programme 3 mainly. Water Europe also identified several water-oriented living and built its document on the outcomes of several European Project such as NextGen. <https://watereurope.eu/wp-content/uploads/WoLLs-Notebook-Series-1.pdf>

3 NextGen D3.1. Community of Practice Roadmap and Facilitation Guidelines, (2018).

4 NextGen D3.5. CoP's cross-fertilisation report. This document gathers all the conclusions regards the methods and key learning on CoP's activities in the project.

5 Tahir, S. T Steichen., M. Shouler. Water and Circular economy: a white paper. Ellen MacArthur Foundation (2018)

6 Harris-Lovett, S.R., Binz, C., Sedlak, D.L., Kiparsky, M. and Truffer, B., Beyond user acceptance: a legitimacy framework for potable water reuse in California. Environmental science & technology, 49(13), pp.7552-7561 (2015)



their own role and competence and of those of other members⁷.

Lessons from Nextgen's experience for successful Community of Practice

Beyond the several benefits identified by Wenger⁸ in their research, NextGen highlights several lessons from its experience of deploying CoPs for circular water solutions⁹:

- **Need for better clarity as regard to the Circular Economy of Water strategies.** The challenges for circular economy are in term of political understanding and translation. Some scientific conclusions, based partially on NextGen activities, stressed the importance of clear definitions and the use of cross-sectoral or “defragmentation” legislation¹⁰. It is particularly relevant in the context of the revision of the Urban Wastewater Treatment directive, and indirectly for the Industrial Emissions Directive and the Soil Health Law¹¹.
- **The Community of Practices improve the stakeholders awareness and engagement with sustainable practices.** NextGen demonstrated

7 Fulgenzi, A, Brouwer, S, Baker, K, and Frijns, J. (2020). Communities of practice at the center of circular water solutions. WIREs Water, 7:e1450

8 Wenger et al. 2022

9 NextGen D3.5. CoP's cross-fertilisation report.

10 Morseletto, P., Mooren, C.E. & Munaretto, S. Circular Economy of Water: Definition, Strategies and Challenges. Circ.Econ.Sust. (2022). <https://doi.org/10.1007/s43615-022-00165-x>. This statement is also confirmed in NextGen D4.4. Roadmap to support circular water solutions (2022).

11 These legislations can support an integrated EU policy and regulatory framework. The regulatory framework can be an important driver for circular water technologies and improve clarity on resource recovery.

several benefits in terms of methods to engage stakeholder and key success factors. Moreover, two main benefits in line with two main objectives of the European Commission (Green Deal and the Digitalisation of Europe) are particularly relevant:

- **Higher engagement from citizens and stakeholders thanks to augmented reality and serious games.** There is a better social inclusion and community cohesion based on the successful appropriation of circular approaches¹².
- **Better societal acceptance for circular solutions.** Paired with the previous one, the Community of Practices also demonstrated that the use of recycled water for drinking purposes, and the use of recovered nutrients to grow food is better accepted¹³.
- The Community of Practices need to pay attention to some elements to ensure a successful uptake of circular water solutions:
 - **Be mindful of the composition of the group and objective of the meeting.** Focus and objectives of the CoP meeting should reflect inputs from participants and outputs from organisers.
 - **Create the conditions which support interaction and open dialogue between participants.** The facilitator should develop a framework facilitating social learning and stimulate a “circular economy identity” among the participants of the CoP.
 - **Define clear requirements on inputs and outputs among stakeholders.** A clear definition of the role of the participants and how their competence can benefit the demo case. It should be based on mutual understanding the different participants’ roles and a thorough preparation of the meetings.

To conclude, stakeholder engagement is essential for further upscaling and transition of circular water solutions. Devising innovations in their institutional context will benefit from social learning processes in stakeholder collaboration organised through Communities of Practice.

12 Katika, T., Karaseitanidis, I., Tsiakou, D. et al. Augmented Reality (AR) Supporting Citizen Engagement in Circular Economy. *Circ.Econ.Sust.* 2, 1077–1104 (2022). <https://doi.org/10.1007/s43615-021-00137-7>

13 NextGen D4.2 Final Report on societal acceptability (2021)

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