



Towards Smart Specialization in Urban Stormwater Management: Integrating Principles into Practice

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The The European 7th Framework Programme Regions of Knowledge Project- Baltic Flows, has concluded the activities of the Barcelona conference aim at establishing a stronger European-Baltic collaboration and uptake of technology and best practices in urban stormwater management. Globally, there seems to be a growing concern with the availability of water resources and water use. Excessive rainwater in European cities is creating the need for solutions and a call for transformation in the approach to sustainable planning.

Demographic trends estimate that by the year 2050, more than 60% of the global population will live in cities¹. In the meantime, we are experiencing unpredictable changes in the local climate, with warmer winters, hotter than average summers and sometimes even colder summers than average. Warmer temperatures are expected to alter precipitation patterns and to bring in more frequent and heavier rain events. The Organization for Economic Co-operation and Development, OECD has projected that nearly 20% of the world's population will be at risk from floods by 2050². The risk of water pollution and water degradation due to flooding requires action.

The past World Economic Forum stressed out the importance of having world-class infrastructure investments as economic imperatives and the means to promote businesses and to open up opportunities. The European Innovation Partnership on water, EIP Water, included cities as part of the 2030 water innovation agenda for Europe highlighting green space solutions, as tools to enable cities regain flexibility, promote awareness and liveability.

New decentralized approaches to urban stormwater management and combined methods in urban planning, offer solutions to manage and control excessive loads, thus contributing to build capacities in the areas of research, technology and water innovation. State-of-the-art technologies, and best practices are opportunities to foster, economic, social, and environmental development while preserving the quality of European waters.

All these advantages make the case for future opportunities and as such, the need to explore the potential that there is to consolidate urban stormwater management with Smart Specialization Strategy (S3) targets for Europe. The EU National/Regional Innovation Strategies for Smart

¹ http://www.who.int/gho/urban_health/situation_trends/urban_population_growth_text/en/

² <https://www.oecd.org/env/cc/49082173.pdf>





Specialization³ programme aims at exploring the potential of up-and-coming technologies, and products. The strategy is regarded as a tool for identifying the unique characteristics and assets of a specific country or region, this in order to enhance competitiveness and economic development.

It is against this background, that the outcomes of the past Baltic Flows Barcelona Conference underlined two main approaches that could help bring a European agenda for stormwater management forward-that is through: a) an approach to stormwater management in urban planning; and b) by looking at the urban stormwater management potential via private sector-SME.

Parting from these two areas, the following aspects could be taken as main conclusions:

TOWARDS SMART SPECIALIZATION IN URBAN STORMWATER MANAGEMENT: INTEGRATING PRINCIPLES INTO PRACTICE -

USWM IN URBAN PLANNING

USWM POTENTIAL VIA PRIVATE SECTOR-SME

Stormwater and Land Use

- Cities need to rethink the approach to the effective management the entire urban water cycle within the complete infrastructure of the city, considering both: centralized and decentralized methods
- The flexibility of drainage systems is a central aspect in risk management and in the further development of decentralized sustainable solutions
- Cities need to aim for the right combination of solutions to be implemented and taking into consideration existing streets, buildings, and open spaces
- Stormwater quality needs to be part of the urban stormwater management discourse
- Green infrastructure planning can be designed with the right technology and aim at improving water quality as well as quantity

³ <http://s3platform.jrc.ec.europa.eu/>





- Water recycle and reuse methods should be part of the building codes and regulation in new development
- Existing development need to be reconfigured to allow for the best possible solutions to manage stormwater water on-site when/if feasible

Stormwater and Public Infrastructure

- Urban infrastructure planners need to consider both short-term and long-terms aspects in implementation
- Synergies between different urban infrastructure including transport, land, and buildings should take an inclusive approach
- Public buildings could act as incubators for implementation and development

Stormwater and Public Sector Stakeholders

- Cities need a vertical and horizontal approach to governance for the successful management of stormwater resources
- Local and central governments need to lead development efforts to ensure effective implementation
- Responsible water authorities are to look closely at their local individual demands, what is saved, what is needed, and for what purpose-this to allow mapping and specific use of the right technology for the right purpose
- Water pricing is a key aspect that needs to be oriented towards less use
- Stormwater monitoring needs to be further supported by the corresponding water authorities
- Current top-down approach to stormwater management requires further actions towards supporting SMs to allow for advancement in economic development and foster innovation
- Data collection from monitoring points should aim at helping allocate responsibilities and build knowledge





Stormwater and Active Citizens

- Public participation in efficient water use and methods of implementation needs further consideration and planning
- Technologies are to consider the needs of the public when
- Monitoring programmes can be further included as part of the development of new products and technologies

The Barcelona conference was an excellent opportunity for a European-Baltic knowledge exchange. Participants from local and Baltic regions were able to highlight the extensive work and massive development that is being undertaken by responsible authorities and institutions across sectors involved in the management and monitoring of urban stormwater resources. The activities helped to explore smart specialization potential in a European-Baltic urban context where innovative practices and know-how appears to be the trend. From the activities it can be concluded that in order to increase the uptake of current stormwater management practices and technologies, cities and regions would need to:

- Seek stronger regulatory and political support;
- Move towards a diversification in the use of rainwater resources to promote innovation; and
- Procure synergies, partnerships and innovative financing opportunities for further development.

We hope that through the outcomes of this conference, we can invigorate the stormwater agenda to move forward in the development process and to open up bigger and better opportunities for water innovation; water quality and water efficiency in European cities and regions.

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