Defining a Smart Water City and Investigating Global Standards

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Abstract

This study shows the first output of the three-year project (2021-2023) to develop a Smart Water City (SWC) Global Standard and Certification Scheme ley by K-water, International Water Resources Association (IWRA) and Asia Water Council (AWC). There are three major parts in the first year. In Part 1, it investigates the essential features of cities today and details the water challenges currently faced and likely to be confronted in the future. It also investigates the functions that water fulfills in the urban environment, and how ICTs can contribute to improving those functions by each Urban Water Cycle. A definition of a Smart Water City is proposed following a discussion on the meaning of "smart development". This part of the report also presents different city cases from countries around the world to illustrate the urban water challenges and the technological and non-technological solutions that cities have put in place, including national and/or local policies and strategies. In Part 2, it defines what global standards indicators and certification schemes are and identifies their characteristics. Especially, it analyses in detail eight relevant standards and certification schemes measuring sustainable development and/or water resources management in urban settings. Standards elaborated by international organizations are distinguished from those developed by the private sector, non-governmental organizations, and by academia. Finally, this study suggests the right direction to develop SWC global standard frameworks and certification schemes. And then, it shows the main tasks for the Stage 2 (second year) project. Basically, the framework for a future SWC standard (consisting three main pillars: Technical, Governance and Prospective pillars) will be fully defined in Stage 2.

Keywords : Smart Water City, Definition, Global standard, Certificate scheme

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