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THE GOVERNANCE OF MAJOR INNOVATION IN THE WATER CYCLE. EXAMINING THREE PROMINENT TECHNOLOGIES

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Abstract

The growing absolute and relative water scarcity requires drastic change in the water cycle in order to target an efficient and robust water supply. The water cycle consists of the production of water, water use, collection of wastewater and its treatment. This article addresses whether the market is capable of adopting such radical changes as needed, which hindrances have to be navigated and whether and how policy could help. This is done by assessing the roles of three prominent new technologies in the water cycle in the Netherlands. First the three technological innovations are introduced and described: the first resulted in new technology for wastewater treatment plants (Nereda©), the second deals with a particular water pollution issue (Pharma filter©) and the third is about decentral sanitation (DeSaR). This is followed by an analysis of the process of development and market adoption of each of them, including the emerged hindrances. Arguments for a more prominent water cycle policy are thereafter derived from literature on welfare theory, socio-technological systems and empirical observations. With regard to relevant policy domains we distinguish between research policy, innovation policy and sector policy. A balanced combination of research policy, innovation policy and sector policy is needed to address the challenges with regard to future water supply.

Key words: governance of innovation, water governance, water treatment technology

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