

Technology and Infrastructure Innovations for Water Supply in Industrial Zones

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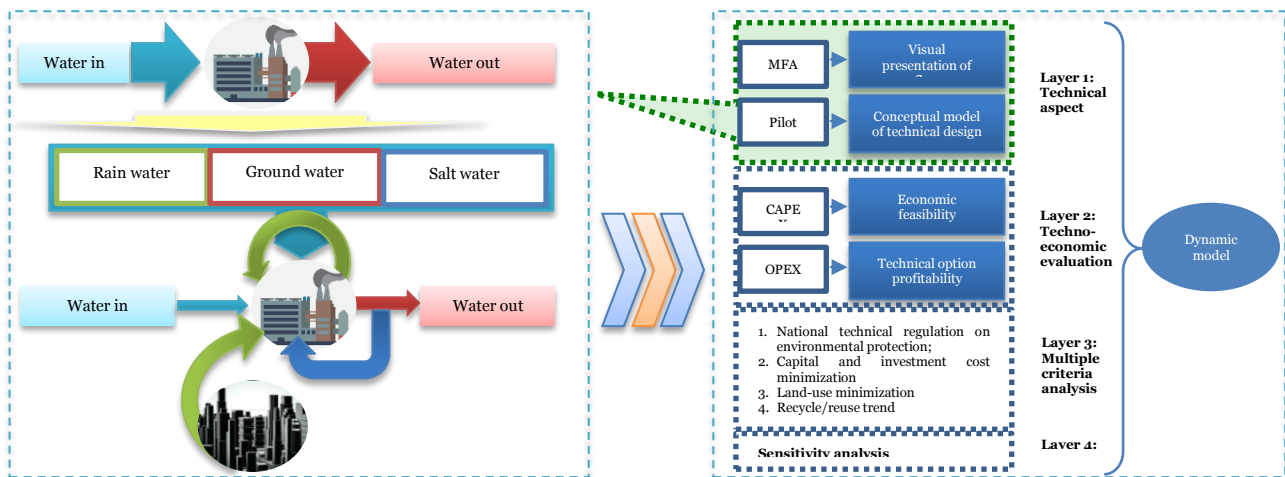
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Motivation

Deficiency in industrial and urban water in the future will become a factor limiting the possibilities for further economic development. The workshop which was organized by the ENTIRE - research team in Vietnam with participation of industrial zone companies, industrial zone authorities, environmental policy makers, water supply companies, and environmental companies has put forward three main considerations:

- Continuously increasing water demand has stressed water resources and put pressure on water supply to industries and industrial zones;
- Salt intrusion and competing claims on water services by stakeholders, and restrictions on groundwater exploration are serious challenges;
- Major interest is in innovative research on new sustainable industrial water use.

Technological challenge



Two important knowledge gaps in water supply in the Vietnamese Mekong delta are the following:

1. There is no systematic method to design a circular industrial water supply system;
2. There is no insight in temporal and spatial scales and dynamics of water availability and water needs that is specific to the Vietnamese situation.

Based on material flow analysis (MFA), a set of relevant water quality parameters is determined defining the demand side for industrial water quality, quantities, wastewater quantity, characteristic, time and space. In the next step, Urban Harvest Approach (UHA) strategies which are demand minimization, output minimization

and multi-sourcing will be applied to identify technical and operation options to prevent pollution. These strategies will be achieved through pilot experiments with various treatments dealing with the relevant parameters for water quality and quantity. Treatment processes include both natural systems and engineered systems. Lastly, a dynamic model will be developed to design multi-source and circular based water system.



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