

24 June 2021 (Thursday)

4.00pm-5.30pm (SGT) (GMT +8)

Session 4.2 – Water Circular Economy in Cities of the Future II

Session Chair(s): Suresh Rohilla, Centre for Science and Environment, New Delhi (India)

Tuas Nexus - An Example of Industrial Ecology

C. Lim. PUB Singapore (Singapore)

Presenter is an invited speaker. No executive summary is available

Owner And Operator Benefits Of The Digital Delivery Of Infrastructure (Digital Application To Operation And Maintenance)

C. Newbery, L. Connor Jacobs (Singapore)

The design of many infrastructure projects is being transformed using digital processes, moving from 2D drawings to 3D models and the incorporation of design and construction data to form Asset Information Models. Current practices and processes tend to concentrate on the relatively short design and construction phases, rather than the longer operational phase of the project. While hazard and safety reviews for the operational phase, such as HAZOP, HAZID and DfS, are developed and formalised into structured studies to ensure completeness and standardisation, the same frameworks do not exist for the review for operational and maintenance tasks. As part of the development of major water treatment facilities in Singapore, a formalised study framework has been developed to guide teams through a review of designs to highlight and address issues with carrying out operational and maintenance tasks efficiently and safely. These studies have been termed ALMOP studies, standing for Access, Lifting and Maintenance studies.

Achieving Water Resilience Amidst Climate Change Via Closed Loop - Circular Water System Innovations & Technologies For Urban & Rural Water Sensitive Design To Ensure Water For All.

S. Samuel, ECOSOFTT Pte Ltd. A Social Enterprise (Singapore)

The gap in demand and supply for water will be an estimated 40% by 2030. There will be an increase in population from 7 to 10 billion within this century. Almost 60% are expected to live in city like conditions. Food production alone will see an increase in demand for water by 70%. With almost 2/3rds of the world's population living in water stressed conditions, water shortage, scarcity and quality are issues faced by both the developing and developed world. The gap in demand and supply can be met via the following strategic options (a) increasing supply, (b) reducing demand and (c) becoming more efficient with the use and management of water as a resource. Closed loop- circular water systems will play an important part in water resilience, security and sustainability that will cut across various scenarios. It looks at water 'end to end' in a local context and provide 'fit for purpose water' using closed loop-circular water systems (urban and rural) backed up by innovations in technologies, design, social engineering, business models and conserving sources to ensure water for all.

Designing Water Sensitive Cities of the Future

S. Kenway. Advance Water Management Centre of the University of Queensland (Australia)

Presenter is an invited speaker. No executive summary is available