

Dialogue: Implementing a Circular Economy in the South African Water Sector – Role of Wastewater Treatment Plants and Technology

22 October 2020 • 13:50 – 17:00

Venue: Zoom

Registration link:

https://us02web.zoom.us/webinar/register/WN_svt6NFU6Ru6UVjkdwxVU1Q

Rationale

Similar to other sectors, the benefits of transitioning to a circular economy in the water sector have been demonstrated through both theoretical models and practical experience in those areas where partial circularity has been achieved (e.g. water conservation, energy generation, wastewater effluent reuse). However, full transition still faces significant challenges and barriers. As in the majority of countries, the current water and wastewater business cycle in South Africa is predominantly based on the linear economy approach. In order to address current and future water security challenges in a sustainable manner, there is a need to rethink the South African water and sanitation value chain and identify strategies that accelerate transitioning to a circular economy. Furthermore, transitioning to a circular economy is in line with the United Nations Sustainable Development Goals (SDG 6 and SDG 12). To assist the global water sector with implementing circular economy, the International Water Association (IWA) developed a general framework targeted at decision makers in water utilities and other sector stakeholders. The framework identifies three key pathways (water, materials and energy) and critical pathway junctions (e.g. wastewater treatment plants) and innovative technology as transition accelerators. Key drivers and enablers as well as barriers and challenges (e.g. regulation, economics, public perception and technology) are also identified. By following the principles outlined in the IWA general framework, the South African Water sector has the opportunity to develop a local framework that can assist WSAs implement circular economy principles, thereby fulfilling the UN SDGs and also deriving the associated environmental, financial and social benefits.

Dialogue Focus

The Dialogue will review the current CE policies in South Africa with special focus on the IWA framework principles and how they can be applied to develop a local framework to accelerate transition to a circular economy within the South African water sector. Besides the strategic context for a circular economy in South Africa and STI policy perspective on Circular Economy, the concept developed under the current WRC supported Project K5/2838//3 that utilises innovative energy, water and materials recovery technologies to convert current wastewater treatment plants into water and resource recovery facilities at the centre of the transition will

be presented. Discussion will seek to identify local factors that impact transitioning to a circular economy as well as strategies on how WSAs can anticipate, respond to and influence these factors in order to accelerate the pathways to achieving a circular economy.

Expected outcome

At the end of this dialogue, it is expected that a better understanding of strategic context for a circular economy in South Africa, its STI policy perspective and the circular economy principles in the water sector, the benefits of transitioning from the traditional linear economy, as well as the key drivers/enablers and challenges/barriers to successful transition will be better understood. Through participant contributions, it is expected that strategies to be included in a draft framework that can assist South African WSAs successfully implement circular economy initiatives will be identified.

Programme

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| 13:50 – 14:00 | Welcome and Introduction by Chair | Dr John Ngoni Zvimba, WRC |
| 14:00 – 14:30 | South African STI Policy Perspective on Circular Economy | Dr Henry Roman, DSI |
| 14:30 – 15:00 | Developing and achieving a Circular Economy in South Africa – A Strategic Overview | Prof Linda Godfrey, CSIR |
| 15:00 – 15:30 | General Framework for Achieving Circular Economy in the Water Sector | Dr Eustina Musvoto, TruSense Consulting Services |
| 15:30 – 16:00 | The Role of Innovative Wastewater Resource Recovery Technologies in Transitioning to a Circular Economy in The South African Water Sector | Dr Eustina Musvoto, TruSense Consulting Services |
| 16:00 – 16:30 | Questions and Answers | Dr Valerie Naidoo, WRC |
| 16:30 – 16:35 | Closing Remarks | TBC, DWS |