



TERMS OF REFERENCE FOR A SOLICITED WRC RESEARCH PROJECT

KEY STRATEGIC AREA	Water Use and Waste Management
THRUST	Sustainable municipal wastewater management and sanitation
PROGRAMME	Application of appropriate technologies and tools
TITLE	The status of wastewater as an untapped resource in South Africa

Objectives

General

The proposed study is aimed at scoping the status of wastewater as an untapped resource in South Africa, as part of tracking progress on achieving SDG 6, particularly Target 6.3. The recent United Nations 2017 World Water Development Report has estimated over 80 per cent of wastewater (95% in developing countries) worldwide to be currently released into the environment without treatment and over 800,000 deaths globally caused by contaminated drinking water, inadequate handwashing facilities and inappropriate sanitation services, with worsening global water pollution in most rivers across the developing world. This global challenge is however faced at a time intervention measures have been put in place as part of agenda 2030 underpinned by the sustainable development goals (SDGs), among them SDG 6, on clean water and sanitation. While the developing world is considered more challenged to achieve SDG 6 by 2030, research efforts to achieve sustainable wastewater management within the South African wastewater sector as part of achieving Target 6.3 has been ongoing over a number of years in support of SDG 6. In this regard, the United Nations 2017 World Water Development Report raises alarm bells for the South African wastewater sector to assess and evaluate its current progress regarding achieving Target 6.3. The current study will therefore conduct some scoping of research activities conducted to date in support of understanding the current status of wastewater as an untapped resource in South Africa as part of tracking progress on Target 6.3. Furthermore, the study will identify current gaps and provide a detailed analysis of opportunities regarding sustainable tapping into the wastewater resource in support of achieving SDG 6.

Specific

The specific objectives are:

1. To map out current challenges associated with sustainable wastewater management including quantifying the national environmental and health impacts using specific case studies
2. To consolidate key research work achieved to date in South Africa in support of achieving Target 6.3 and also identify current gaps
3. To establish a more detailed analysis of existing opportunities within the wastewater sector as part of tracking national progress on Target 6.3 in support of achieving SDG 6

Rationale

The United Nations World Water Development Report launched in 2017 (South Africa) has highlighted the vital importance of improving the management of wastewater globally for humanity's common future. With an estimated over 80 per cent of wastewater worldwide currently released into the environment without treatment and over 800,000 deaths globally reported in 2012 as caused by contaminated drinking water, inadequate handwashing facilities and inappropriate sanitation services, this indicates worsening global water pollution in most rivers across Africa, Asia and Latin America. This scenario is also against a further back drop of limited information, with out of the 181 countries, only 55 have adequate information on the generation, treatment and use of wastewater, with the rest with no or only partial data, thereby impeding the research and development necessary to craft innovative technologies and adapt existing ones to local specifications and needs.

In light of the above challenges, the 2017 World Water Development Report recommends global response actions for sustainable wastewater treatment and management based on reducing pollution at source, removing contaminants from wastewater flows, reusing reclaimed water and recycling useful by-products. As part of pursuing this agenda, research efforts to achieve sustainable wastewater management within the South African wastewater sector need to be further strengthened. Currently no clear data exist within the South African context as part of monitoring SGD 6 progress, particularly Target 6.3. In this regard, the South African wastewater sector requires a clear understanding of its status regarding progress on tapping into the wastewater resource as a measure of how far the country has progressed in achieving Target 6.3, including key opportunities that still need to be exploited, and this study will focus on addressing this knowledge gap.

Deliverables

The following deliverables will be expected:

1. Progress Report on the current sustainable wastewater management challenges, including environmental and health impacts case studies
2. Progress Report on consolidated key research work in support of achieving Target 6.3, current gaps and opportunities.
3. Final Print Ready Report incorporating progress reports 1 & 2, and a detailed analysis of opportunities to be explored in support of achieving Target 6.3

Impact Area:

Environmental, Health and Economy

Time Frame:

Twelve months (12) months

Total Funds Available from WRC

R 300 (VAT Inclusive)

Year 1: R 300 000.00

Year 2: R 0.00

Year 3: R 0.00