

Circular Economy for the Waste Sector in South Africa

E-Course

Syllabus



Context

The European Union (EU) funded SWITCH Africa Green Programme is implemented by the United Nations Environment Programme (UNEP). The main aim is to support African countries in achieving sustainable consumption and production (SCP) practices in their transition to a green economy. The Department of Forestry, Fisheries and the Environment (DFFE) has been appointed the national coordinating entity for the implementation of the SWITCH programme in South Africa.

One of the key policy components of promoting SCPs is transitioning from a so-called linear economy mode towards a circular economy approach. Among others, this requires a shift away from current wasteful practices, driven in large by a consumption-focussed economy, towards a system where material flows retain their maximum value in the economy. The circular economy thereby limits resource extraction from the natural environment and minimises waste streams flowing into the environment.

Currently, approximately 90 percent of the waste generated in South Africa is still being landfilled. This not only presents a huge loss of resources, but also creates significant environmental pollution in various forms. The DFFE recognises that addressing these issues and advancing the shift towards circular economy requires among others significant public awareness raising and upscaling of abilities of key stakeholders in the sector.

This e-course supports learning on circular economy in the waste sector in South Africa and provides participants with an introduction to key concepts and application opportunities. The course has been developed in close collaboration with the United Nations Institute for Training and Research (UNITAR) and is offered on the [UN CC:Learn](#) platform.

Target Audience

The course is geared towards anyone who is interested in the basics of the circular economy and/or individuals involved in the waste sector in South Africa looking to enhance knowledge and skills regarding the subject.

Specifically, the course should benefit representatives from:

- National, provincial and local government
- Waste associations
- Private sector
- NGOs
- Academia

Learning Objectives

The goal of the course is to strengthen human resource capacities in South Africa and raise awareness of key stakeholders in the waste sector when it comes to circular economy. During the course, participants will learn about key concepts, opportunities and tools of circular economy.

After completing the course, participants will be able to:

- Explain what circular economy is, including main principles, objectives and benefits

- Identify key issues and economic opportunities in the South African waste sector
- Describe applications of circularity in the waste sector
- Describe the current legislative and regulatory framework surrounding waste management
- Identify steps necessary to further the transition to the circular waste economy going forward

The course is based on the “*Circular Economy Guideline for the Waste Sector*”, which was recently developed by the DFFE and is accessible [here](#).

Structure and Key Characteristics

LENGTH	3 THEMATIC MODULES
EFFORT	1.5 HOURS PER MODULE
PRICE	FREE
SUBJECT	CIRCULAR ECONOMY IN THE WASTE SECTOR
LEVEL	INTRODUCTORY
LANGUAGE	ENGLISH
PLATFORM	UN CC: E-LEARN
ASSESSMENT	3 MODULE QUIZZES 1 FINAL QUIZ (70% MIN)
CERTIFICATION	YES

The course is structured around three thematic modules. Each module has specific learning objectives and features key information on aspects of circularity in the waste sector in South Africa, as well as complementary resources such as videos, case studies and a discussion forum. The course is self-paced and not moderated (see below Methodology section for more information).

The following are the themes and main topics of the three modules including learning objectives.

Module 1: Introduction to Circular Economy: Definition and Rationale

The first module will set the scene for the course by providing the necessary background to circular economy. It addresses the urgency of moving away from current waste management practices towards more sustainable models, which promote closed material loops in the economy and greater resource efficiency along value chains. The module covers the following main topics:

- Concept, principles and objectives of circular economy
- Status quo in the South African waste sector

After completing Module 1, participants will be able to:

- Understand the difference between linear economy mode and circular economy
- Identify various biological and technical material flows in the economy
- Discuss the 3R hierarchy and common principles of the circular economy
- Identify economic opportunities in relation to current waste management practices in South Africa

Module 2: Opportunities for Circularity in the Waste Sector

The second module builds on the concepts introduced during the previous module by looking at ways to implement circular economy in the waste sector. It provides practical and inspiring examples of circularity in action through ongoing initiatives aimed waste minimisation and value maximisation of existing material flows in the economy. The module covers the following main topics:

- Waste prevention
- Waste collection
- Biological processes (i.e., composting, anaerobic digestion, crop residues for animal feed and fuel, biorefinery)
- Technological processes (i.e., maintain and repair, re-use and re-distribute, refurbish and remanufacture, recycle)

After completing Module 2, participants will be able to:

- Elaborate on various strategies and technologies for achieving circularity in the waste sector
- Relate to several actual projects both in locally and internationally through case studies

Module 3: Enabling Circular Waste Economy in South Africa

The third module concludes the course by providing a way forward. Sustainable development requires disruptive changes and innovative approaches in both the public and private sectors. This in turn requires cognisance of the current situation and active government stance towards driving feasible and sustainable solutions. The module covers the following main topics:

- Waste policies and regulations
- Issues, gaps, and challenges
- Monitoring and evaluating progress

After completing Module 3, participants will be able to:

- Discuss various regulatory and fiscal instruments to stimulate circular economy
- Recognise a variety of barriers hindering implementation
- Appreciate the importance of measurable indicators and tools to track progress regarding the transition to circular economy

Methodology

Learning Approach

The course is self-paced and not moderated. It consists of three thematic modules. The modules are self-standing, and they each have specific learning objectives and contain information on specific aspects of circular waste economy (as described above). Each module is subdivided into several learning units covering different topics. They can be accessed in random order.

E-books / Interactive lessons

Small e-books relating to each module's learning units are made available to participants as background reading on the online platform. The e-books are based on the "*Circular Economy Guideline for the Waste Sector*", referenced above, and contain the content and information that directly corresponds to the learning objectives of the course. The PowerPoints developed for the online webinars will be used as a basis for the interactive lessons. The e-books are available as a downloadable PDF version to allow offline learning.

Videos

The e-books and learning units will be accompanied by short informative online video clips by substantive experts, where available and relevant. The video clips aim to provide further insights and information, and to make the course content livelier.

Discussion board /poll

The course will feature an element of social interaction, allowing participants to voice their opinion, share experiences, and learn from their peers. There will be one element in each of the three course, which may be a discussion board to answer a specific question, or a poll (the results of the poll are made available to learners after they give their response).

Assessment Tests

At the end of each module, participants take a test of 10 multiple choice questions each to assess the knowledge gained. The questions relate to the content and learning objectives of the module. They aim to appraise the comprehension of key facts and concepts presented during the course. Moreover, the course is concluded with a final test of 10 multiple choice questions, which cover all the materials presented across the three thematic modules.

Completion and Certification

To receive a *Certificate of Completion*, participants need to conduct several assessments as detailed above. For the final assessment test, participants will be allowed 3 attempts. A certificate of completion is awarded to learners who complete the following:

- Three thematic modules assessments are complete
- Final assessment is complete with 70% or higher score

The certificate will be available upon successful completion of the course and is issued by UNITAR.