



Regional Inception Workshop

UNIDO Circular Economy Project in the Textile & Garment Sector

Andre Page

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the dtic

Department:
Trade, Industry and Competition
REPUBLIC OF SOUTH AFRICA



CSIR
Touching lives through innovation

Presentation Outline

- NCPC-SA Background
- Beneficiary Companies
- Project Progress – Year 1
- CMS & WWM Training
- On-Site Support
- Project Challenges
- Next Steps – Year 1
- Year 2 Activities - Workplan

The National Cleaner Production Centre South Africa (NCPC-SA) supports South African industry to **improve competitiveness** and reduce **environmental footprint** through the implementation of **resource efficient and cleaner production (RECP)** methodologies.

*Funded by **the dtic** and hosted by the **CSIR***



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INDUSTRIAL EFFICIENCY IN SOUTH AFRICA



Touching lives through innovation

Services to Industry



Services to Industry



In-plant assessments to identify opportunities to save energy, water and materials



Training of industry professionals to implement RECP in their companies.



Supporting implementation of technical interventions to realise savings.



Assisting in the redirection of industry waste to be used by other companies through industrial symbiosis.



Assistance with developing bankable business case for energy funding.

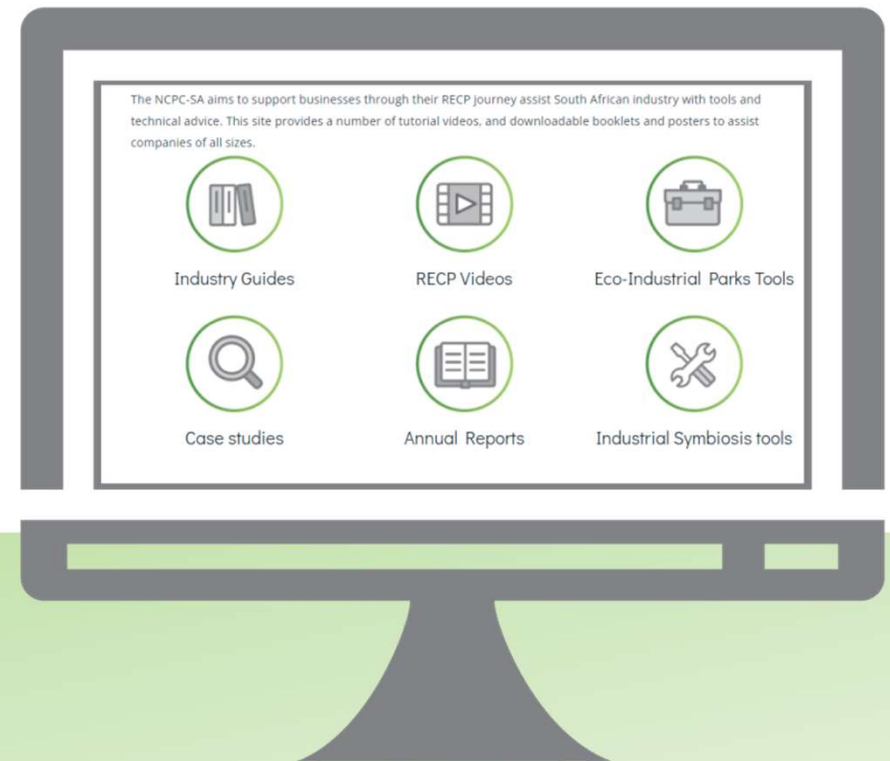


Baselining, measurement and verification towards carbon reporting.

RECP Tools

- The NCPC-SA aims to support businesses through their RECP journey and assist South African industry with tools and technical advice.
- Our website provides a number of tutorial videos and downloadable booklets to assist companies of all sizes.

*RECP entails the continuous application of preventative environmental strategies to **processes**, **products** and **services** to increase efficiency and reduce risks to communities and the environment.*



Training and Skills Development



Training and Skills Development



Training courses are offered at **introductory**, **end-user** and **expert level**, and have been designed to provide a comprehensive learning pathway for those wishing to develop expertise in the fields of:

- Resource Efficient and Cleaner Production (RECP)
 - Energy Management Systems (EnMS)
 - Energy Management 101
 - Energy Performance Measurement Indicators (EnPMI)
 - Power Quality Principles
 - Sustainable Finance
 - Energy Systems Optimisation (ESO):
 - Biogas Systems, Compressed Air Systems, Motor Systems, Pump Systems, Steam Systems, Fans Systems, and Large scale Cooling and Industrial Refrigeration Systems.
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Resource Efficiency Programmes (Energy, water, materials)





Industrial Energy Efficiency

- Between 2010 and 2022, the NCPC-SA's energy services were delivered through the international award-winning **SA Industrial Energy Efficiency Project**, in partnership with the United Nations Industrial Development Organization (UNIDO).
- The NCPC-SA continues to support the adoption of Energy Management Systems aligned to ISO 50001 and the Energy Systems Optimisation approach in industry.

IEE Project Cumulative savings 2011 - 2022

Energy saved
6.5 TWh

CO₂e mitigated
**6.4 mil
tonnes**

Financial savings
R 5.3 billion



Industrial Water Efficiency

- Through the development of tools, guides and training courses, the NCPC-SA aims to build capacity in industry to improve its water efficiency, whilst water assessments and implementation support are available to companies at a plant level.
- The project forms part of the South African / Danish Strategic Water Sector Cooperation Partnership.

Company water savings 2017 – 2022

Water savings
2 005 300 kilolitres

Monetary savings
R 36.78 million



Industrial Symbiosis

- *Industrial Symbiosis (IS) is a resource efficient approach where unused or residual resources (material, energy, water, waste, assets etc) of one company are used by another.*
- The NCPC-SA's IS Programme provides a free facilitation service which seeks out matches between companies that HAVE under- or unutilised resources with other member companies who WANT and can use them to create new business opportunities.

IS Programme savings 2015 – 2022

Waste diverted from Landfill

518 000 tonnes

GHG emissions savings (CO₂e)

1.7 million tonnes

Landfill cost avoidance

R 129.5 million

Resource exchanges

> 230 synergies

Beneficiary Companies

- Da Gama Textiles (Eastern Cape)
- Dyefin Textiles (Kwazulu Natal)
- Hammarsdale Knitting (Kwazulu Natal)
- Brits Nonwoven (Kwazulu Natal)
- Opportunity Clothing (Kwazulu Natal)
- Belgotex Flooring (Kwazulu Natal)
- Romatex Textiles (Western Cape)
- Migra Fabrics (Western Cape)
- Gelvenor Africa (Kwazulu Natal)

Project Progress – Year 1

- National Inception Workshop
 - ✓ Held on 29 November 2023
 - ✓ This one-day workshop programme aimed to launch the project with all relevant stakeholders including government and participating companies, and presentations included those from various organisations and individuals who strategically will be supporting the project, as well as a short case study shared by one of the recycling companies.
- Project Steering Committee established
- Project Implementation Committee established

Project Progress – Year 1 (cont)

- Project Management Unit established
- Memorandum of Agreements
- ZDHC & ICLEI introductory meetings and action plans agreed upon
- Legislation and policies received from DFFE specific to chemicals and waste
- Promoted the project on various platforms such as the Circular Textile Event hosted by GreenCape, CCTC and City of Cape Town, as well as the AGM of the Cape Clothing & Textile Cluster amongst others.

CMS & WWM Training

- Chemical Management Systems and Wastewater Management training conducted in Durban from 01-03 July 2024 and Cape Town from 08-10 July 2024.
- In addition to beneficiaries, the training invitation was extended to other textile companies, laboratories, universities, NCPC-SA and consultants, etc.
- Visits arranged with various laboratories in Durban and Cape Town, including universities and textile companies with small textile testing facilities, to establish the local testing capacity on textiles, chemicals and wastewater.
- Based on these visits, ZDHC is to prepare a gap analysis for submission to UNIDO / REE.



On-Site Support

- On-site support to participating companies took place during August 2024.
- The purpose of the facility visits was to provide support on the development and implementation of Chemical Inventory List (CIL) which is based on the ZDHC Template, and to assess the chemical management practices within and also ensure compliance with the ZDHC MRSL (Manufacturing Restricted Substances List).
- Various recommendations were provided on chemical management and wastewater treatment during these visits, and quick scan reports have been prepared for submission.





Year 1 - Next Steps

- Train the Trainers taking place from 20 - 24 January 2025 in Durban
- Training will be conducted by ZDHC and Bluwin
- Candidate selection include consultants, NCPC-SA, CSIR, SADFA, DUT, DFFE, chemical and dyestuff suppliers.

Component 1

Project Work Plan	Project Details and Information	Year 2 - 2023-2024											
		7	8	9	10	11	12	1	2	3	4	5	6
Component 1	Strengthening of regulatory and institutional capacities for adoption and promotion of Circular Economy (CE) in the textile and garment sector												
Output 1.1	Legal and institutional framework for life cycle management of the TG supply/value chains.												
Output 1.2	Regulations and incentive scheme for promotion and sustainability of circular economy in the TG sector.												
Output 1.3	Technical Committee for Circular Economy in the TG sector												
Outcome 1	Strengthened regulatory and institutional framework and capacities for adoption of Circular Economy in the TG sector												

Component 2

Project Work Plan	Project Details and Information	Year 2 - 2023-2024											
		7	8	9	10	11	12	1	2	3	4	5	6
Component 2	Recyclability of textile and garment wastes is enhanced through POPs-free textile manufacturing process and the implementation of BAT/BEP and RECP investments.												
Output 2.1	Technical guidelines for environmental sound management of POPs chemicals and wastes												
Output 2.2	Standard operating procedures (SOPs) and checklists POPs pollution prevention and control												
Output 2.3	Techno-economic feasibility of BAT/BEP and RECP options												
Output 2.4	Training and Capacity building in BAT/BEP, RECP and Circular Economy.												
Output 2.5	BAT/BEP and RECP options identified and implemented in at least one facility for each country.												
Outcome 2	<i>BAT/BEP/RECP and Circular Economy concept are implemented through technical assistance in selected textile production facilities for the ESM and prevention / reduction of POPs, hazardous chemicals and wastes while improving process efficiency and profitability at plant level.</i>												

Component 3

Project Work Plan	Project Details and Information	Year 2 - 2023-2024											
		7	8	9	10	11	12	1	2	3	4	5	6
Component 3	Introduction of Circular Economy concept for UPOPs emission reductions through ESM of textile and garment wastes and pilot demonstration of textiles/garment wastes recycling and reuse.												
Output 3.1	Environmentally sound management (ESM) plan for textile/garment wastes.												
Output 3.2	Training and capacity building in ISWM and BAT/BEP for ESM of textile and garment wastes.												
Output 3.3	Financing mechanisms and business models for circular economy.												
Output 3.4	Techno-economic feasibility study of BAT/BEP options for recycling/reuse of textile and garment wastes.												
Output 3.5	Socio-economic impact assessment of project intervention												
Output 3.6	Partnership and cooperation mechanism supply chain management												
Output 3.7	BAT/BEP demonstration for ESM of POPs chemicals and textile/garment wastes												
Outcome 3	BAT/ BEP and Circular Economy concept are implemented through technical assistance in selected TG and recycling facilities for the reuse, recycling and ESM of textile and garment wastes.												

Component 4

Project Work Plan	Project Details and Information	Year 2 - 2023-2024											
		7	8	9	10	11	12	1	2	3	4	5	6
Component 4	Knowledge management for scaling up												
Output 4.1	National capacity and awareness programs developed and implemented to increase ability of textile sector and policy makers to control POPs and CoCs												
Output 4.2	Regional and Global Knowledge Exchange and Management tools produced and accessed by users globally												
Output 4.3	Gender and Social Action Plan implemented, and benefits accrued to women workers												
<i>Outcome 4</i>	<i>Upscaling of project results to global textile and garment sectors and reporting to MEAs</i>												



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Thank You

ncpc@csir.co.za / www.ncpc.co.za