



INDUSTRIAL EFFICIENCY IN SOUTH AFRICA

Water & Energy Nexus in Industrial Spaces

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the dtic

Department:
Trade, Industry and Competition
REPUBLIC OF SOUTH AFRICA



CSIR
Touching lives through innovation

The National Cleaner Production Centre South Africa (NCPC) is a national programme that supports the **transition of South Africa to a green economy** through the application of the broad principles of **resource efficient and cleaner production (RECP)**.

Established 2002 by UNIDO

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



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NCPC Strategic Objectives



Support industry
to transition to a
green economy



Develop local
skills and capacity
required for a
green economy



Increase
awareness and
information
required for the
transition to a
green economy.

Services to Industry

- Services offered at no or low cost due to **the dtic** grand funding and donor funded projects



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.

Projects and Programmes

Summary list of all NCPC programmes



Core Services & Projects

- RECP and water efficiency programme
- Industrial Energy Efficiency
- Industrial symbiosis programme (in 9 provinces)
- Eco-industrial parks programme
- Green finance programme
- Circularity and Sector decarbonisation programme
- Skills development programme
- RECP internship programme



Partner Funded Projects

- Sustainable Energy Systems for Urban-industrial Development (SESID) project
- Strengthened Adaptation Capacity for a Green & Resilient Economy (SAIA) project
- Global Eco-Industrial Parks Programme (GEIPP)
- Promoting Circular Economy in the Textile and Garment Sector through sustainable Chemical and Waste Management



Eco-Industrial Parks

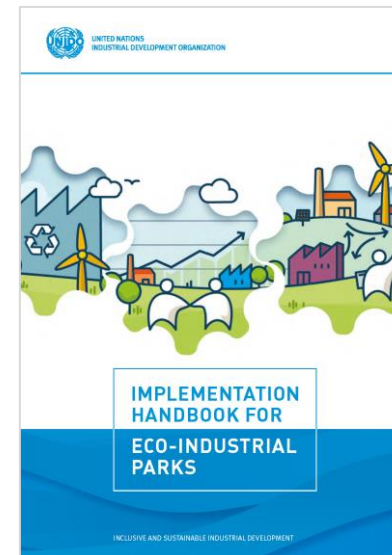




Eco-Industrial Parks

Eco-Industrial Parks is a national focus area that seeks to support the revitalisation of industrial parks while demonstrating the social, economic and environmental benefits of greening industrial parks.

Through the Global Eco-Industrial Parks Programme the EIP approach is applied through the framework, projects and tools in order to drive industry transition towards a green economy through capacitation workshops, training and assessments.





GEIPP SOUTH AFRICA

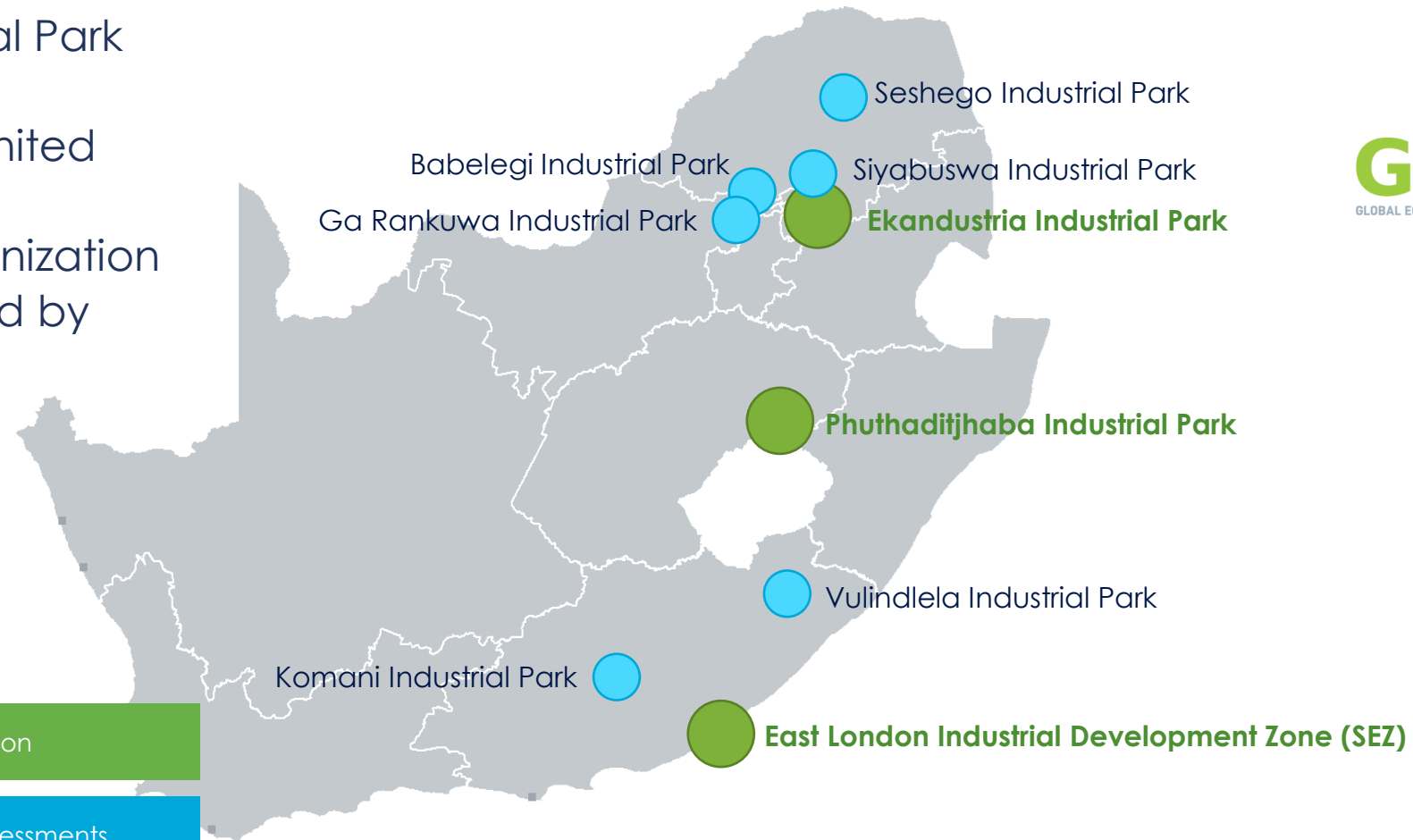
COUNTRY LEVEL INTERVENTION



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Global Eco-Industrial Parks Programme

The NCPC-SA is a national vehicle through which the Global Eco-Industrial Park Programme (GEIPP) facilitated by the United Nations Industrial Development Organization (UNIDO) and funded by SECO.



EIP Opportunities for 2023/2024



- Extensive skills development and IP stakeholder capacity development – training and interns;
- Green Hydrogen in SEZ's
- Water Resilience and Mapping
- Waste and Resource Flows Mapping and plans
- Energy Infrastructure and storage

Developed UNIDO's EIP Tools



Tools are available for all on the link provided	UNIDO's EIP Tools	Scope of the tools			
		Existing industrial parks (Brownfields)	New industrial parks (Greenfields)	Technical	Organizational and political
	EIP Selection Tool	✓	(✓)	✓	✓
	EIP Policy Support Tool	✓	✓		✓
	EIP Assessment Tool	✓		✓	✓
	Industrial Symbiosis Identification Tool	✓	✓	✓	
	RECP Monitoring Tool	✓		✓	
	Industrial Synergies Monitoring Tool	✓		✓	
New tools	EIP Concept Planning Tool	✓	✓	✓	
	Access to Finance Tool	✓	✓	✓	✓

UNIDO's EIP Toolbox is freely available online:
<https://www.greenindustryplatform.org/initiatives/global-eco-industrial-parks-programme>

RECP Opportunities identification at Pilot Industrial parks

- RECP assessments for park tenants in pilot industrial park to identify implementable cleaner production improvement opportunities concluded November 2021.
- Potential RECP savings opportunities identified in 2 pilot industrial parks:
 - Energy Saving opportunities = 29
 - Industrial water-saving opportunities = 18
 - If implemented, the savings below will be realized:



Rand

R 18 197 986



Energy

1 690 MWh



CO₂

27 389 tonnes



H₂O

61 692 m³

Free Green Economy Tools



Industry Guides



RECP Videos



Case studies



Sector Best Practice Guides (RECP)

- RECP Sustainability Journey for Excellent Meat
- RECP Best Practice Guide for Valves Manufacturers
- RECP Guide for the Textile Industry
- RECP Guide for the Clothing Industry
- RECP Sustainability Journey of Van Dyck Floors
- Life Cycle Management Tools and Guideline for manufacturing industry in South Africa
- RECP progress made by Belgotex Floorcoverings
- South Africa Textile and Clothing Sector Guideline



Energy

- Financial Risk Evaluation Guide
- What is Power Quality
- Biogas Systems Optimisation



Eco-Industrial Parks

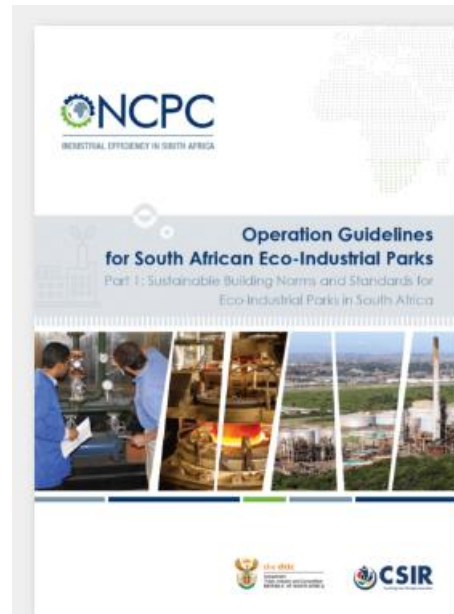
- Operational Guidelines for South African Eco-Industrial Parks – Part1: Sustainable Building Norms and Standards for Eco-Industrial Parks in South Africa
- UNIDO Handbook for Eco-Industrial Parks
- UNIDO EIP Toolbox
- The Global Eco-Industrial Parks Programme

Industry Guides

- Eco-Industrial Park tools for South African Industry
- Eco-Industrial Park – Implementation in South Africa
- Toolkit for Eco-Industrial Parks: Energy
- Toolkit for Eco-Industrial Parks: Industrial Symbiosis
- Toolkit for Eco-Industrial Parks: International best practice
- Toolkit for Eco-Industrial Parks: Community Impact
- Toolkit for Eco-Industrial Parks: Industrial park management
- Toolkit for Eco-Industrial Parks: RECP Opportunities
- Toolkit for Eco-Industrial Parks: Waste management
- Toolkit for Eco-Industrial Parks: Water
- Toolkit for Eco-Industrial Parks: Planning and zoning



Resource Efficiency for Cheese and Yoghurt Dairy Sector



Operational Guidelines for South African Eco-Industrial Parks 2023

www.ncpc.co.za

www.industrialefficiency.co.za





UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



SUSTAINABLE ENERGY SYSTEMS FOR INDUSTRIAL DEVELOPMENT (SESID)



Project Overview

Overall Objective

Overall Objective: Reducing GHG emissions and other environmental and social impacts by accelerating the decarbonization of industrial parks addressing both the energy supply and demand side



Key Components

Component 1: **Fostering the coordination towards sustainable energy transformation of IPs by creating a conducive enabling environment under consideration of social equity.**

Component 2: **Demonstration of low-carbon and sustainable energy interventions in target IPs**

Component 3 : **De-risking scheme for upscaling and replication of sustainable energy solutions in IPs**

Cross-cutting themes: Gender mainstreaming / Agenda 2030 and the SDGs

Project set up and Partnerships

The project is implemented by UNIDO, in collaboration with NCPC-SA

Focus: decarbonization of industrial parks addressing both the energy supply and demand side.

Main counterpart: the dtic

Execution partner: NCPC-SA

Duration: 48 months



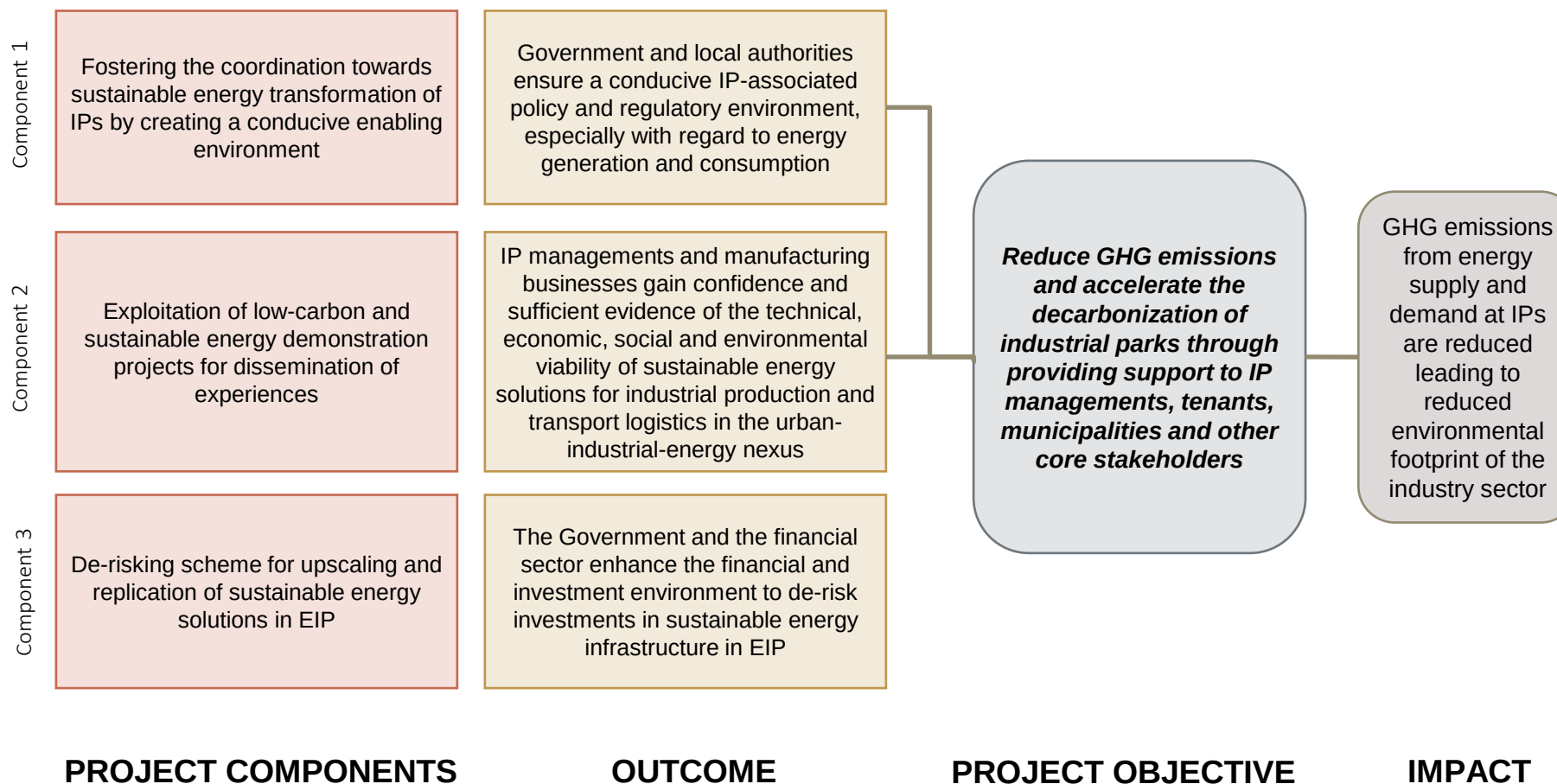
Budget: 1,390 Million USD

Funder: Global Environment Facility (GEF)





Intervention logic





Thank you

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