



## Toolkit for Eco-industrial Parks: RECP OPPORTUNITIES

The eco-industrial park (EIP) concept is about creating more resource efficient and cost-effective industrial parks that are more competitive, attractive for investment, and risk resilient. The uptake of EIPs is rapidly increasing internationally and in South Africa.

The Global Eco-Industrial Parks Programme (GEIPP) demonstrates the viability and benefits of greening industrial parks by improving resource productivity and economic, environmental, and social performance of businesses.



## BUSINESS OPPORTUNITIES THROUGH RESOURCE EFFICIENT AND CLEANER PRODUCTION (RECP)

Resource Efficient and Cleaner Production (RECP) is one of the key components of eco-industrial parks.

### WHAT IS RESOURCE EFFICIENT AND CLEANER PRODUCTION?

Resource efficient and cleaner production (RECP) is a continuous application of preventative environmental strategies to processes, products and services to increase efficiency and reduce risks to humans and the environment.

Resource efficiency refers to using energy, water, and materials more efficiently and producing less waste. Cleaner production refers to minimising or eliminating environmental and social harm during production.

The three dimensions of RECP are:

- Production efficiency, i.e. optimisation of productive use of natural resources (energy, water, materials);
- Environmental management, i.e. minimisation of impacts on the environment and nature; and
- Human development, i.e. minimisation of risks to people and communities and support for their development.

Implementing RECP can lead to monetary savings e.g. savings

in resource costs (by using less) and/or waste treatment and disposal costs savings (by producing less).

The three strategic levels of RECP for integrated preventative environmental protection include:

- Minimisation of waste and emissions through reduction at source (Level 1) through product modification or process modification (e.g. good housekeeping, better process control, selection of different materials, equipment modification, new technologies);
- Minimisation of waste and emissions through internal (on-site) reuse and recycling (Level 2); and
- Reuse of wastes and emissions (Level 3) through:
  - External recycling (e.g. structures and materials);
  - Biogenous cycles.

The focus of a RECP assessment is to identify low cost- and/or no cost- opportunities (i.e. low-hanging fruits) and short- to medium- term investment opportunities for efficiency improvement.

By working on RECP, industrial parks can strengthen their performance and industry its competitiveness by following several benchmarks of the International EIP framework:

[www.openknowledge.worldbank.org](http://www.openknowledge.worldbank.org)



## RECP ASSESSMENT METHODOLOGY

The RECP assessment methodology follows a circular approach from planning and organising to monitoring and measurement, back to planning and organising.

Each step of the methodology is briefly discussed below:

- **Planning and organising (preparation)** includes an inception meeting with key decision makers, resource allocation including motivation and commitment of the team, setting the scope and boundary of the assessment, and developing the RECP profile through a pre-visit questionnaire (PVQ).
- **Initial assessment (pre-assessment)** includes a site walk-through and observations, data gathering and spot checks, data review, process flow-chart and factory layout, preliminary balances, and the identification of quick-wins opportunities and focus areas.
- **Detailed assessment** includes data interpretation and analysis usually through drawing baselines and using regression analysis methodology, additional walk-throughs and interviews, detailed materials, water and energy balances, and options (opportunities) generation.
- **Feasibility analysis** includes a technical, economic, and environmental evaluation.



- **Implementation includes** investment in people and resources to implement the options identified.
- **Monitoring and measurement** include benchmarking and setting targets, measurement and reviewing of the improvement performance, and reviewing targets and indicators.
- **Back to planning and organising**

## SOUTH AFRICAN GOOD PRACTICE ON RECP

The NCPC-SA is actively involved in RECP in South Africa through the following initiatives:

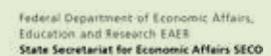
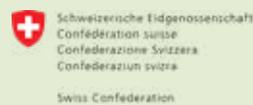
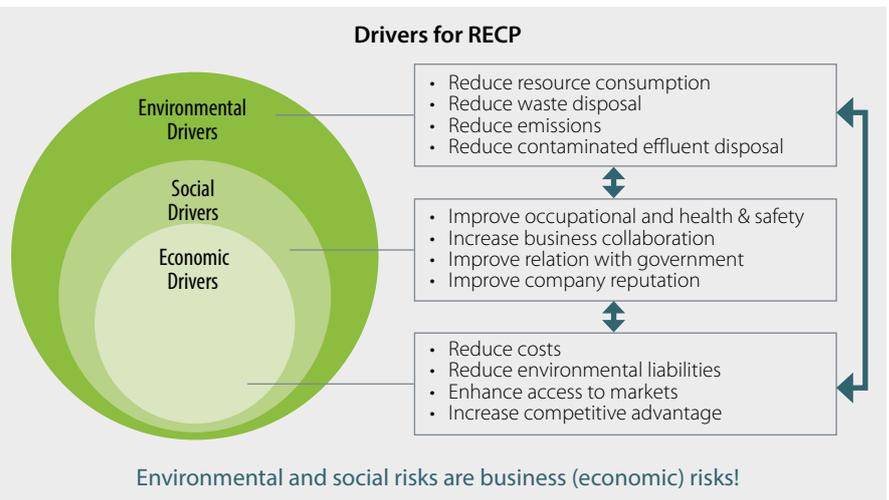
- In-plant assessments to identify savings opportunities;
- Training of industry professionals;
- Supporting implementation of technical interventions;
- Assisting in industrial waste synergy opportunities;
- Advocacy and awareness through workshops and other platforms; and
- Developing and sharing sector and industry guides and tools.

From 2015 to 2020, 739 sites have been assessed and R1.4 billion potential savings have been identified.

Actual savings achieved are as follows:

- 1.97 million kilolitres (R35.7 million) of cumulative water savings (from 2017 to March 2020);
- 1 747 GWh (R1.3 billion) cumulative energy savings (from 2016 to August 2020); and
- 45 600 tons (R3.6 million) materials savings.

To find more **details on RECP** click here



The Global Eco-industrial Parks Programme (GEIPP) South Africa is being implemented from 2021 to 2023 through a collaboration between UNIDO, the Department of Trade, Industry and Competition (**the dtic**) and the National Cleaner Production Centre, South Africa (NCPC-SA). The GEIPP is made possible by funding from the Swiss State Secretariat for Economic Affairs (SECO).

