

Toolkit for Eco-industrial Parks: PLANNING AND ZONING

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.



MORE COMPETITIVE AND RISK RESILIENT INDUSTRIAL PARKS THROUGH EIP CONCEPT PLANNING AND ZONING

Spatial planning and zoning are part of the key components of eco-industrial parks.

COMMON CHALLENGES FACING INDUSTRIAL PARKS

There are several common challenges facing industrial parks in terms of concept planning and/or zoning, e.g.

- No master plan or concept plan;
- Lack of consideration of economic, environmental, and social criteria;
- Lack of stakeholder engagement in park planning;
- Limited industry clustering and synergies;
- Limited integration of utilities and infrastructures;
- A buffer zone is not planned or secured properly;
- Lack of consideration of long-term development scenarios, e.g. community encroachment, new technologies and infrastructures, different industry development scenarios; and
- Insufficient linkage to Local Economic Development (LED) plans or integration into regional development and city or municipality planning.

KEY STEPS BEFORE EIP CONCEPT PLANNING

Before EIP concept planning, the following key steps need to be undertaken first.

- Review and selection of possible site locations for an industrial park; and
- Development of a business case and feasibility study for developing a new industrial park or optimising an existing park.

EIP concept planning does not replace a master plan process for an industrial park, but rather feeds into it. Master planning is a more extensive process over a longer period, involving a multi-disciplinary team of experts (e.g. environmental engineers, urban and industrial planners, civil engineers, community, and stakeholder consultants).

Visit the following link for an International Guideline for Industrial Parks to support the EIP concept planning approach, UNIDO (2019):

www.unido.org



For further information, please contact:

Henry Nuwarinda (NCPC-SA): hnuwarinda@csir.co.za

Bernd Oellermann (the dtic): boellermann@thedtic.gov.za

BENEFITS OF INDUSTRY CLUSTERING

Potential benefits of industry clustering are as follows:

- Attracting businesses to an industrial park due to cost benefits associated with co-location and supply security of water, energy, and materials;
- Proximity generates economies of scale, which reduces operational costs for companies sharing common suppliers or services;

It encourages innovation, which leads to opportunities for the development of new industries, especially firms capable of using waste and by-products. This also enables the optimal capitalization on geographical location of the industry and/or cluster.

APPROACH TO OPTIMISE CONCEPT DESIGNS OF INDUSTRIAL PARKS

OPPORTUNITIES TO BE ADDRESSED

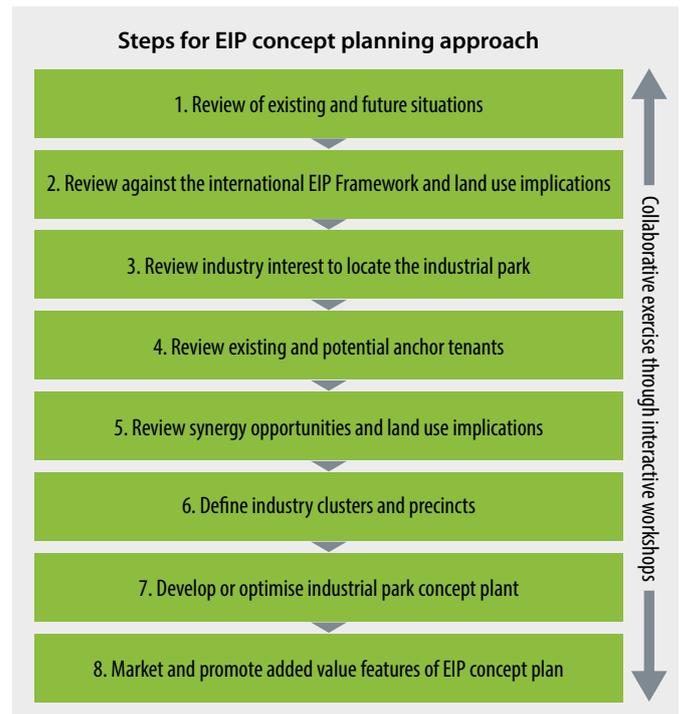
- Understand industrial land demands;
- Attract synergistic anchor tenants to the industrial park;
- Encourage industrial synergy development;
- Optimise industry zoning and clustering;
- Optimise existing and future infrastructure, facilities, and utilities;
- Reduce economic, environmental, and social risks;
- Increase the competitiveness of the industrial park; and
- Communicate added value features of EIP concept planning to stakeholders.

By working with EIP concept planning, industrial parks can strengthen their performance by referencing benchmarks of the International EIP Framework:

www.openknowledge.worldbank.org

SUCCESS FACTORS FOR EIP CONCEPT PLANNING

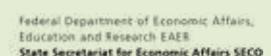
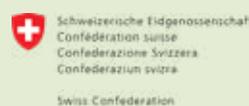
- Ensure maximum flexibility in the concept plan, i.e. allow for different development scenarios to happen over time;
- Need for inclusive multi-stakeholder engagement as part of the EIP concept planning process;
- Allow for the concept plan to capitalise on short-, medium, and long-term opportunities;
- Build upon demand for industrial land by sector;
- Minimise economic, environmental, and social risks; and
- Need for appropriate buffer zones (e.g. light industries, utilities and services, recreation, biodiversity areas) to separate higher risk industries and the community.



SOUTH AFRICAN GOOD PRACTICE EXAMPLE

The East London Industrial Development Zone (ELIDZ) has an Automotive Supplier Park with several automotive component manufacturers. The park is located less than 10 kilometres away from Mercedes Benz. This clustering provides shared logistics and industry support assistance through national trade and export promotion incentives.

Whirlpool is an international company manufacturing white goods such as kitchen appliances in Isithebe. Whirlpool is the anchor tenant and the co-location with most of its suppliers (approximately 50) introduces significant cost savings in storage and logistics.



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).