



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION

# ECO-INDUSTRIAL PARKS

ACHIEVEMENTS AND KEY INSIGHTS FROM THE  
GLOBAL RECP PROGRAMME **2012–2018**



INCLUSIVE AND SUSTAINABLE INDUSTRIAL DEVELOPMENT

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# ABOUT THIS PUBLICATION

This publication presents the key results and insights stemming from the work undertaken as part of the pilot projects on eco-industrial parks (EIPs), managed by UNIDO in the period from 2012 to 2018, as part of the Global RECP Programme, which was funded by Switzerland.



# 1 INTRODUCTION TO ECO-INDUSTRIAL PARKS

## Moving beyond traditional industrial parks

Industrial parks have long been recognized as an efficient means of unifying industrial activities with business, infrastructure and service objectives. The term “industrial parks” in this publication is used to denote a range of co-located industrial activities.

Similar terms such as industrial zones, industrial investment regions, special economic zones and industrial corridors, differ only marginally in their application to industrial parks. Regardless of the label applied, they share many commonalities, in that they are planned and developed with the objective of fostering economic growth and of improving a location’s competitiveness through potential collaborative and efficiency gains.

Industrial parks and its associated terms also share a common attribute in that they all typically fail to account for and address the environmental and social externalities stemming from their activities.

Hence, in the context of mounting pressure to address climate change and foster international development, it is becoming increasingly clear that industrial parks need to move beyond their traditional resource intensive business models to integrate environmental and social dimensions to remain a frontrunner in the economic activities in their respective countries.

## The case for and benefits of eco-industrial parks

As developing and emerging economies seek to increase industrial output, there is also a pressing need to decouple economic growth from resource consumption to meet wider social objectives. In this regard, there is very real need to strategically plan and effectively manage industrial parks to help achieve desired economic, social, and environmental targets. As a result, the transformation of conventional industrial parks into EIPs presents an effective opportunity to attain inclusive and sustainable industrial development and to meeting the objectives of the 2030 Agenda and the Sustainable Development Goals (SDGs).

International best practice illustrates that the types of economic, environmental, and social benefits from EIPs vary greatly, transcending conventional business case benefits<sup>1,2</sup>.

EIPs enable companies to benefit from greater collaboration between companies, service providers and local communities, allowing companies to transform environmental problems into efficiency gains, by using resources more effectively and enabling companies to draw on common services and infrastructure.

The **ECONOMIC BENEFITS** generated by EIPs include employment creation through measures such as the application of eco-innovations and industrial collaboration. Increased business competitiveness is one of the most significant drivers for the development of EIPs, as industries that operate in well-designed and well-managed parks can take advantage of resource efficiencies, reductions in waste disposal, value-addition and risk-mitigation, as well as of other available services, leading to cost savings. Some EIPs have also reported higher levels of foreign direct investment.

The indirect benefits of EIPs can be more difficult to quantify, but are crucial to the long-term economic sustainability of the park. These include indirect employment creation through skills upgrading and training, technology transfer, improved reputation and increased incidence of the “demonstration effect” arising from the application of best practice, leading to wider uptake of more efficient practices.

The **ENVIRONMENTAL BENEFITS** of EIPs are diverse and include reduced levels of pollution due to more efficient use of resources (raw materials, water, energy) and the reduction, reuse and recycling of waste, which can contribute to the preservation and protection of local biodiversity. Additionally, improved management of chemical and hazardous substances in EIPs can lead to additional environmental benefits and greater worker safety.

The **SOCIAL BENEFITS** deriving from EIP activities can catalyze the creation of quality local jobs through better working conditions. EIPs also work to enhance local community well-being through better community outreach, with some EIPs working towards increased rates of gender equality, through for instance the creation of employment for women and dedicated facilities for female workers. Better security features help to mitigate crime, creating a greater sense of security for workers. EIPs often support surrounding communities, through the creation of a social infrastructure such as vocational training centres, skills development training, as well as the provision of broader community services.

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1 Van Berkel, R. (2006). Regional resource synergies for sustainable development in heavy industrial areas: An overview of opportunities and experiences. Curtin University of Technology, Perth, Australia.

2 WBG (2016). Mainstreaming eco-industrial parks. World Bank Group, Washington, USA.

## Definition

Throughout the world, approaches to the development of EIPs are characterized by different definitions, classifications and contexts. The figure below presents combinations of commonly-used terminology that directly or indirectly relate to the concept and practice of EIPs.

A UNIDO study of EIP practices<sup>3</sup> drew the following conclusions:

- EIPs mean different things to different parties;
- Practice does not yet match ambition;
- Process and continuous improvement-based approaches appear most useful;
- Lack of experience, awareness, supporting regulations and their enforcement slow down the development and implementation of EIPs;
- Many examples of good practice exist, yet they need to be consolidated and implemented routinely in the planning, development and management of industrial parks.

The following definition, commonly employed by UNIDO, recognizes the importance of the three pillars of sustainable development and of integrating EIP considerations into all phases of the development and operations of industrial parks:

*“A community of manufacturing and service businesses located together on a common property. Member businesses seek enhanced environmental, economic, and social performance through collaboration in managing environmental and resource issues.”<sup>4</sup>*



Figure 1: Combination of terminologies used internationally in relation to EIPs<sup>5</sup>

<sup>3</sup> UNIDO (2016). Global assessment of eco-industrial parks in developing and emerging countries: Achievements, good practices and lessons learned from thirty-three industrial parks in twelve selected emerging and developing countries. United Nations Industrial Development Organization, Vienna, Austria.

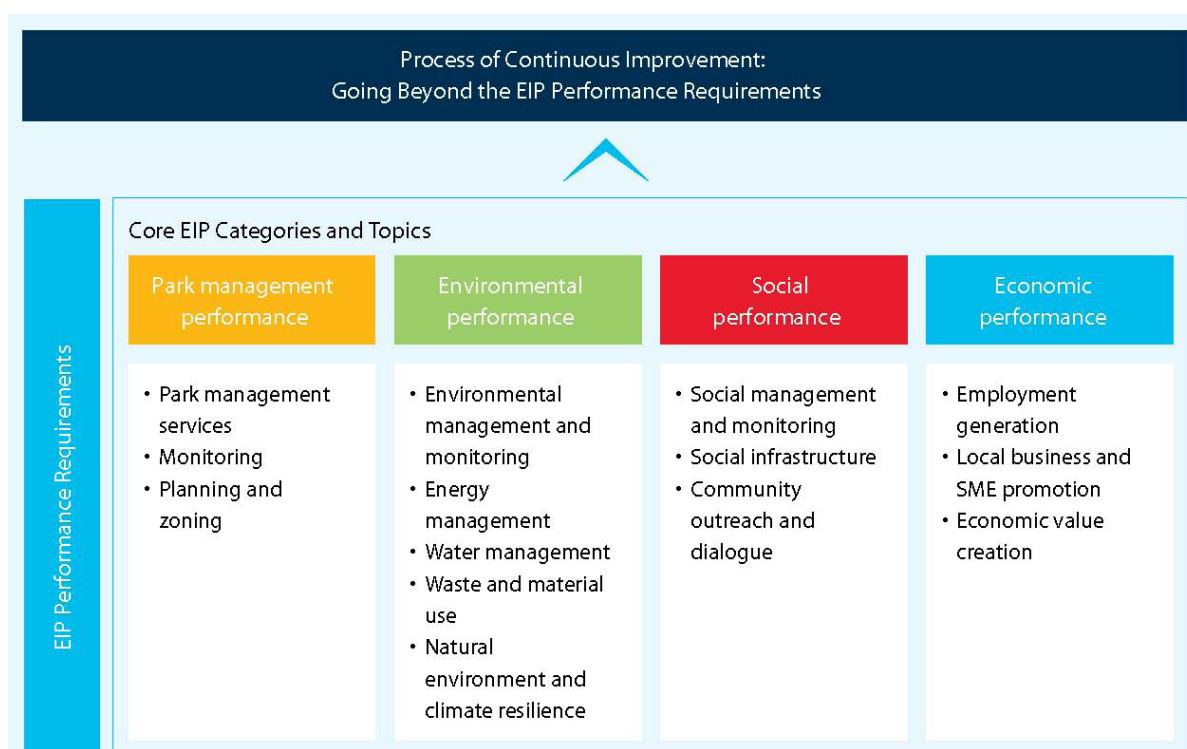
<sup>4</sup> Lowe, E.A. (2001). Eco-industrial parks: A handbook. Asian Development Bank, Manila, Philippines.

<sup>5</sup> UNIDO, WBG, GIZ (2017). An International Framework for Eco-Industrial Parks. <http://documents.worldbank.org/curated/en/429091513840815462/An-international-framework-for-eco-industrial-parks>

## What are the key components of eco-industrial parks?

An overall framework for describing EIPs is presented in the following figure from the International Framework on EIPs, jointly developed by UNIDO, World Bank and GIZ<sup>6</sup>. The framework describes the performance requirements for EIPs grounded in four key categories, namely: park management performance; environmental performance; social performance; and economic performance. The framework provides the basis for defining and setting prerequisites and performance requirements for EIPs.

Compliance with national and local regulations is a fundamental and common requirement of all industrial parks, regardless of the geographical location or specific characteristics of the park. However, EIPs should go beyond compliance with local and national regulations on environmental and social requirements (“compliance+”).



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