



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



Sustainable Industrial Parks in Latin America

DEVELOPMENT OF SUSTAINABLE INDUSTRIAL PARKS

IN LATIN AMERICA & CARIBBEAN



EGM Report
May 2017



DEVELOPMENT OF SUSTAINABLE INDUSTRIAL PARKS

IN LATIN AMERICA & CARIBBEAN

EXPERT GROUP
MEETING REPORT



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

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EXECUTIVE SUMMARY

During the first United Nations Industrial Development Organization (UNIDO) Inclusive and Sustainable Industrial Development (ISID) forum, held in June 2014, the Latin American and Caribbean Group (GRULAC), the UNIDO Latin America and the Caribbean (LAC) division and the participating countries in the region came together to establish a regional platform for exchanging knowledge and experience of planning, developing and managing sustainable industrial parks. The “Developing Sustainable Industrial Parks in Latin American and Caribbean countries” initiative, which is supported by the UNIDO LAC Trust Fund, is in line with the commitments and strategies of the eight participating countries (Argentina, Bolivia, Chile, Costa Rica, El Salvador, Guatemala, Peru, Panama and Paraguay) to strengthen cooperation and potential synergies for promoting social development and sustainable industrial growth, minimizing negative impacts on the environment.

The project began at the end of 2015 and seeks to improve cooperation within the region and develop technical experience in planning, developing and managing sustainable industrial parks, with the following specific objectives: 1) Establish and consolidate national and regional strategies for sustainable development and cooperation on industrial parks; 2) Build national capacities for applying best practice method for sustainable industrial parks, in terms of management, policies and Resource Efficient and Cleaner Production (RECP); and 3) Develop the technical guidelines for sustainable industrial parks to allow their replication.

As part of the project activities, the eight participating countries evaluated their national circumstances and identified gaps preventing the development of sustainable industrial parks, with discussions on sustainable approaches to industrial parks at public-private coordination meetings. National committees have also been established or existing formal mechanisms have been strengthened to coordinate the designated government bodies, industry and technical service providers in the field.

The technical approach of the project is based on existing tools, which have been adapted by the teams in the individual countries to suit their specific conditions. This has allowed the countries to draw up a list of recommendations for public policy, the management of zones/parks and the companies within them assessed using the RECP method. In terms of the latter, a large number of financially viable options were identified to increase productivity, reduce demand for natural resources, improve the efficiency of resources, promote industrial symbiosis and encourage approaches based on industrial networks.

One important activity in the knowledge exchange process and the establishment of a regional platform was the expert group meeting (EGM) organized by UNIDO in Lima, Peru, on 23–24 May 2017. The meeting was attended by eight delegations from Latin America and the Caribbean and senior figures from the Ministry of the Environment and the Ministry of Production in Peru. The meeting provided an opportunity for the officially delegated government focal points and participating industrial development professionals from LAC countries to share their progress, knowledge and experience. The following aspects were evaluated during the workshop:

- » Current progress in implementing the action plan established at the launch workshop in Vienna, Austria, in April 2016
- » The results achieved by each country so far in developing and strengthening national and regional strategies for sustainable industrial parks and implementing the method and evaluations for existing parks and selected companies within them
- » The guide to the development of sustainable industrial parks produced by UNIDO as a project outcome
- » The investment requirements and funding sources for sustainable industrial park projects and the proposal for implementation of the second phase covering the replication and scalability of results

The main outcome was a continuity plan, which included the following objectives:

1. Strengthening regional integration and positioning the issue of sustainable industrial zones/parks as an instrument to support meeting the Sustainable Development Goals (SDGs) in relevant regional forums
2. Supporting national and regional policies and strategies to promote the circular economy and low-carbon industry in sustainable industrial zones/parks
3. Building national capacities for the practical application of the circular economy and low-carbon industry at sustainable industrial zones and parks

A final meeting is planned (provisionally to be held in Panama) to present the final outcomes of the project and the specific bankable proposals as outcomes of the RECP assessments carried out in the individual countries, in addition to proposals for their scalability and replication, to obtain funding for the second phase of the regional initiative.





OPENING SESSION



Marcos Alegre, Vice Minister of Environmental Management, Ministry of environment, Peru

The event was opened by the Undersecretary of the Environment in Peru, highlighting the added value of sustainable industrial parks for industry in any country. Given the multisectoral nature of the environmental dimension, he encouraged the various ministries and institutions at the event to work together and with UNIDO to develop consistent and integrated national and regional policies.



Ariel Carbajal, President of the LAC Regional Chapter of the RECP Network

Carbajal noted that the RECP network has a long track record and extensive knowledge and experience working with industrial parks. The work done by the various centres as part of this project sets an example for the network as a whole, demonstrating its capacity to address the issue in different countries with different circumstances applying the method and approach developed by UNIDO.



Petra Schwager, UNIDO Industrial Development Officer and manager of the technical component of the regional project

Schwager highlighted the importance of the initiative in the participating countries, where the commitment shown by the counterparts and the results obtained so far illustrate the need to continue the work. Similarly, the permanent missions of the participating countries in Vienna have ratified their support for the regional project and have all (alongside other countries such as Peru and the Dominican Republic) pledged to continue working on the second phase of the initiative.



Alejandro Rivera, UNIDO LAC Programme Officer and manager of the political component of the regional project

As Rivera noted, one of the region's main challenges is its external perception as being comprised of middle-income countries, making it harder to access funding sources. This means it is important to capitalize on existing regional initiatives, such as the one implemented by UNIDO, to promote cooperation and synergies between the governmental, academic and technical actors involved.

CHAPTER 2

PRESENTATION OF REGIONAL OUTCOMES OF THE PROMOTION OF SUSTAINABLE INDUSTRIAL PARKS IN THE LATIN AMERICAN AND CARIBBEAN REGION



The circular economy and its importance to sustainable industrial parks

(Petra Schwager, UNIDO Industrial Development Officer and manager of the technical component of the regional project)

The growing global population and the continuous expansion of the so-called middle class has led to a significant increase in industrial waste in recent years, with the associated environmental impact. The 17 Sustainable Development Goals (SDGs) approved in September 2015 are the targets we should aim for to eradicate poverty, protect the planet and ensure prosperity for all. In specific terms, SDG 9 encourages innovation and promotes inclusive industry, highlighting its contribution to sustainable development. A few months after the SDGs were approved, the European Union approved its circular economy strategy to promote competitiveness, stimulate employment and generate sustainable economic growth.

The circular economy is based on the principle that industrial waste represents a lack of efficiency in the use of raw materials. The approach aims to ensure that the utility and value of products, components and resources in general is preserved throughout the life cycle of materials. The strategy promotes a systematic shift from a linear approach to a circular approach, beginning with the extraction of raw materials, encompassing their processing and use, all the way through to reincorporation, reuse and recycling throughout the life cycle.

The UNIDO mandate as set out in the Lima Declaration, which was adopted in 2013, is to promote and accelerate sustainable and inclusive industrial development in developing countries and economies in transition. There are four key aspects of the organization's work: technical cooperation; policy assistance and analysis; establishing and meeting standards; and meetings and partnerships.

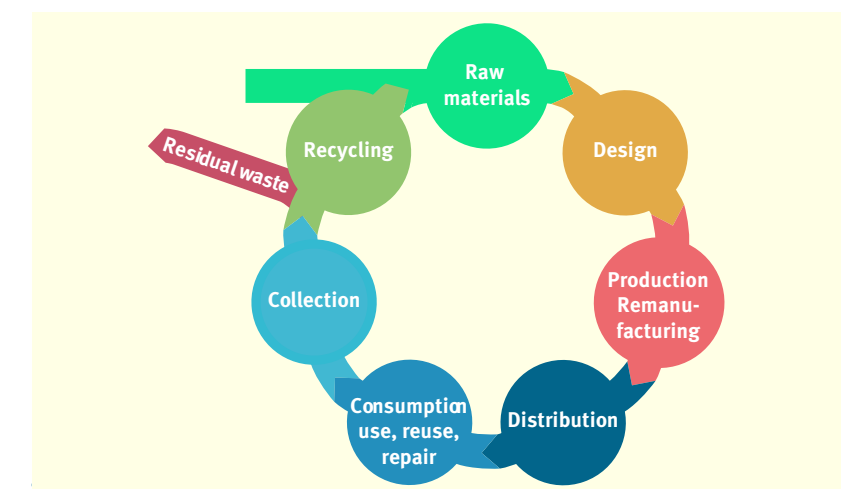
There are many problems derived from industrial production, including water and air pollution, chemical exposure and waste. Industrial parks can provide an alternative for dealing with these issues, not only by addressing environmental problems but also by generating social and economic benefits for businesses and communities.

Petra Schwager, Manager of the technical component of the UNIDO regional project



FIGURE 1

Phases of the circular approach.



Source: Ellen MacArthur Foundation (2017)



One of the most complex aspects with the potential to have a major impact is RECP, which increases the productivity of businesses and reduces environmental pollution. Another aspect is industrial symbiosis, whereby a group of companies participating in industrial networks sets up businesses in which some companies use the waste of others as a raw material for their production processes.

The UNIDO mandate for Inclusive and Sustainable Development (ISID) and the sustainable industrial parks approach have many shared elements, including economic competitiveness, creating shared wealth and environmental protection. Sustainable industrial parks have a significant impact on various levels. They benefit companies by improving productivity, reducing production costs, creating links with supply chains and helping obtain certifications. For investors, companies that form part of sustainable industrial parks with procedures in place for managing environmental risks offer additional guarantees. In terms of local communities, projects such as industrial parks fail in many countries because they do not consider the social dimension or

the local community, despite the fact these initiatives should be used as a tool to address social inequality. For national lawmakers, sustainable industrial parks help generate environmentally friendly growth strategies. Finally, benefits for the park management include increased investment support, reduced costs and higher revenue, all of which helps improve shared services.

Similarly, the relationship between the circular economy and sustainable industrial parks is based on four principles: reducing environmental footprint; minimizing waste; reducing the dependence on resources and thus exposure to price volatility; and creating jobs and increasing revenue. All this has a significant impact on aspects such as the existing political framework, the establishment of and compliance with standards, and promoting innovation. The overall impact of the circular economy has the potential to contribute GDP growth of 0.8–7.0 per cent from new jobs and cost reductions, job creation of 0.2–3.0 per cent and a reduction of 8–70 per cent in emissions. Sustainable industrial parks are an effective tool for implementing

the circular economy and can increase its impact through the efficient use of resources and cleaner production. Moreover, working with a group of companies to develop industrial symbioses increases the scalability of the results. Applying the sustainable industrial park approach also helps improve production activities and has the potential to create economic, social and environmental benefits.

The method used by UNIDO to implement the project is based on a baseline study of the circumstances of industrial parks in the country and the establishment of working groups or national committees to develop strategies for sustainable industrial parks. A pilot programme was implemented for one park in each country to study its performance based on a series of indicators and two companies were assessed using the RECP method.

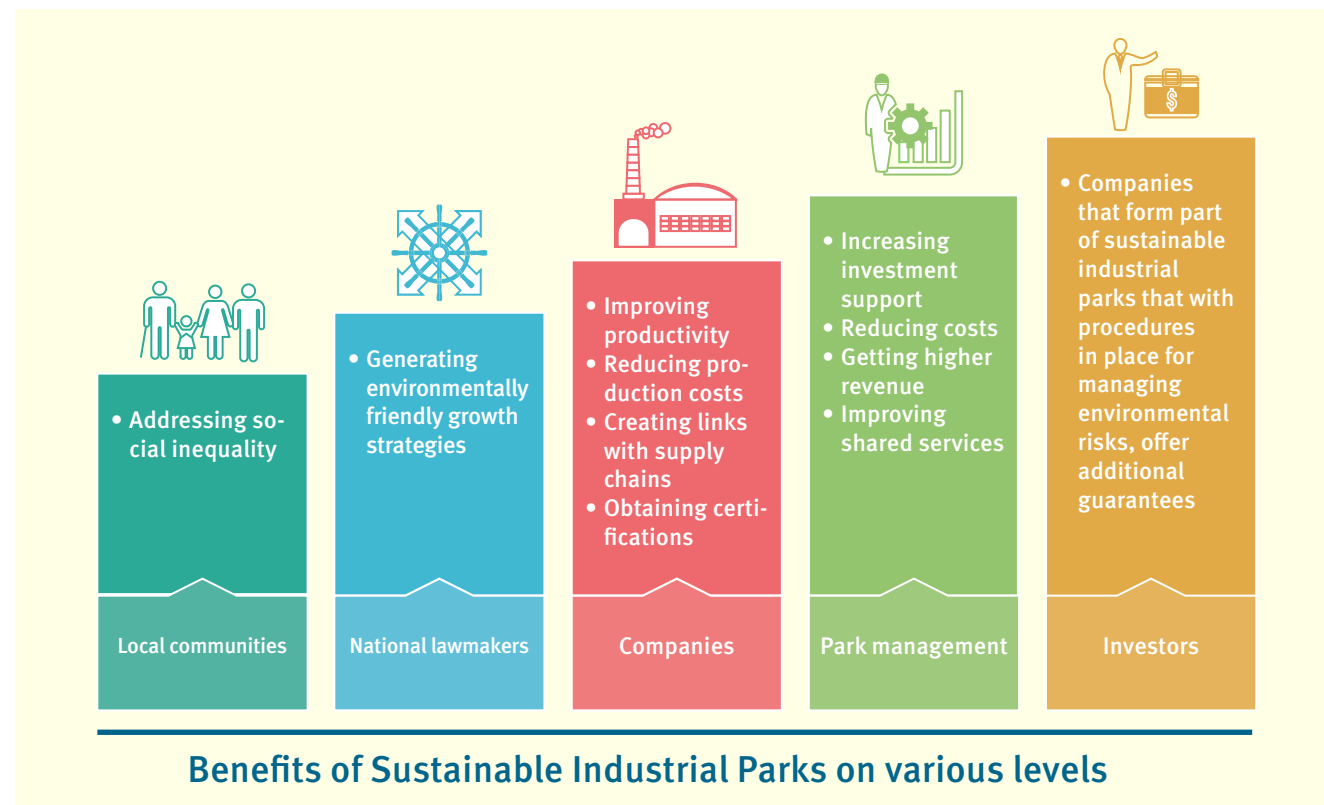


FIGURE 2

The UNIDO method for implementing the regional project





Policy conditions for promoting sustainable industrial parks in LAC

Sylvia Aguilar, CEGESTI Environment and Development Coordinator



(Sylvia Aguilar, Environmental and Development Coordinator of the Costa Rican Technology and Information Management Centre Foundation (CEGESTI), Costa Rica)

To encourage the cooperation and integration of the various national actors in industrial parks, the project had a government-appointed national focal point in each country responsible for creating or strengthening national and regional strategies, as well as a technical coordinator from each of the UNIDO/UNEP RECP network centres responsible for providing technical advice and carrying out the assessment and diagnostic of the pilots implemented.

During the implementation of the project, national committees were formed or the relevant stakeholders were included in the country's existing formal mechanisms to present the project and the results of the SWOT analysis of national strategies for planning, developing and managing sustainable industrial parks. The tasks of these committees include working on the inputs for developing the policy framework and national legislation for the standardization of industrial parks and the recognition of parks classed as sustainable. In parallel, workshops have been organized to raise awareness and promote debate among the relevant stakeholders in national development strategies for sustainable industrial parks in each country.

The conclusions of the work carried out so far include:

- » The requirement for communication and coordination between companies, the management of parks and the authorities to bring about structural changes
- » It is necessary to expand the scope to the national sphere in each of the countries to have a real positive impact on the development of sustainable policies
- » Public-private cooperation is perceived as the best way to mobilize the resources required to achieve this goal and the inclusion of representatives from the academic sector is recommended to enhance success
- » Issues to be covered in the following stages include ensuring diagnostics are accompanied by resources or a mechanism for the implementation of plans by the companies and management of industrial parks to ensure a successful outcome

Experiences of developing sustainable industrial parks in the LAC region

(Ariel Carbajal, President of the LAC Regional Chapter of the RECP Network)

The roots of sustainable industrial parks can be traced back to the Danish city of Kalundborg near Copenhagen. Steam, natural gas, cooling water and gypsum are shared by the partners in the park. Excess heat is used for fish farming, heating nearby houses and greenhouse farming.

between economic benefits and reduced environmental impact as a result of industrial symbiosis and industrial sustainability.

There are two different applications of the sustainability approach: existing industrial parks and those currently under development. For the former, the aim is to generate knowledge and methods for organizing industrial parks based on concepts of sustainability, using tools and techniques such as cleaner production and industrial symbiosis. The outcomes include improvement plans based on RECP and the identification and application of industrial symbioses from a life cycle perspective. The Gualeguaychú

industrial park, where the project activities were implemented in Argentina, is an illustrative example.

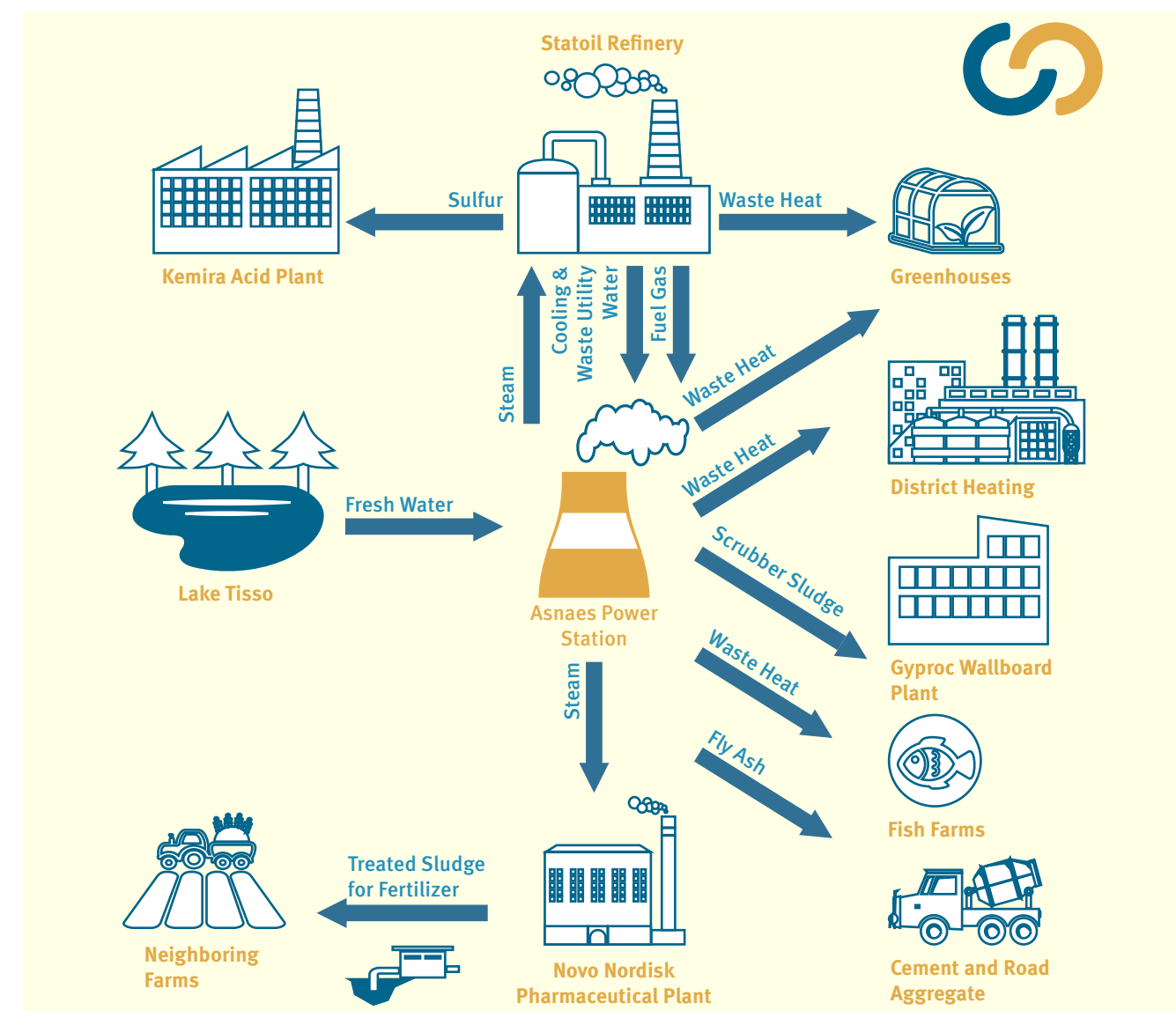
In terms of industrial parks in the planning stages, Ubajay is one of the most representative examples in Argentina. Ubajay is a sustainable industrial park that is home to timber manufacturers, renewable energies, waste recycling and technology companies. Its design used cleaner production and industrial symbiosis tools, even creating a waste and by-product portal (BORyS). One of the main advantages of this approach is that the companies in the park are less concerned about legislation and can avoid sanctions.

Ariel Carbajal, President of the LAC Regional Chapter of the RECP Network



FIGURE 3

Diagram of the industrial symbioses between companies at the Kalundborg Industrial Park



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