THE REPUBLIC OF UGANDA

MINISTRY OF TRADE, INDUSTRY AND COOPERATIVES

GUIDELINES FOR DEVELOPING UGANDA'S INDUSTRIAL PARKS AND FREEZONES

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Government of Uganda

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2022

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Foreword

The principal rationale of establishing Industrial parks is to facilitate aggregated industrial production by enabling enterprises to perform their processing and value-addition functions in designated areas with specially purposed and dedicated utility infrastructure. The development of industrial parks should follow a comprehensive plan with provisions for key industry-supportive infrastructure such as roads, water, electricity, Information Communication Technology, and common user facilities, for use by a group of manufacturers.

These guidelines, therefore, will support the development and management of Industrial Parks and contribute to the implementation of the Industrial Policy 2020, the third National Development Plan (2020/21-2024/25), and Vision 2040.

There was the need to have guidelines for developing Industrial Parks (IPs) and Free Zones (FZs), to ensure the quality of their planning, functionality/operation and the Ministry of Trade Industry and Cooperatives was tasked by Cabinet to undertake the development process. It is important to note that though the call was for guidelines to inform the development, operation, and management of IPs and FZs, these guidelines also provide for Special Economic Zones (SEZ), Export Processing Zones, Free Trade Areas and other Park models for industrial and business activities. In addition, the international best practices recommended the establishment of industrial parks that are eco-friendly, and this has been taken into consideration in the guidelines.

Development of the guidelines followed an extensive and wide consultative process with stakeholders from the Government, the Private Sector, Academia, and Development Partners. My Ministry coordinated with the National Planning Authority, Uganda Investment Authority, and Uganda Free Zones Authority to facilitate national and international consultations with support from the Global Green Growth Institute (GGGI) to develop the guidelines.

I extend my appreciation to the European Union for partnering with the Government of Uganda to avail funding of Greening Uganda's Urbanization and Industrialization project and support the enhancement of adoption of the greening principles. Finally, I am pleased to present to the industry stakeholders these policy guidelines for industrial parks and I urge all of you to support their implementation to ensure Uganda achieves industrialization in a sustainable manner.

For God and My Country

Francis Mwebesa (Hon.)
MINISTER

Industrial parks are an important tool to support Uganda to reach its goals as set out in the 'Vision 2040' to transform the Ugandan society from a peasant to a modern and prosperous country. The vision recognizes the importance of industrialization and increased productivity and the strengthening of the necessary infrastructure to facilitate such. This has also been reflected in the National Development Plan III (NDP III), which has identified the development of (agro-industrial parks as a key element to spur productivity. In the public outlooks toward NDP IV the National Planning Authority (NPA) has confirmed a continued focus on industrialization and productivity

Why the need however for Green or Eco-industrial parks? These industrial parks are designed to improve the social, economic, and environmental performance of their resident firms, and offer the opportunity to decrease production costs through common infrastructure and systems, while also leading to increased materials, water, and energy efficiency, including through waste recycling, water management, and resource recovery. Eco-industrial parks can further reduce pollution and waste by applying pollution prevention, renewable energy, industrial symbiosis, and other environmental management methods and technologies. This includes the promotion of industrial symbiosis and green technologies. This will give the companies, and Uganda a competitive advantage, promoting climate-resilient industries and green value chains, as well as inclusive and sustainable business practices and socially responsible relations with surrounding communities.

Trying to simplify this statement, a green industrial park allows businesses to work together and with the local communities, to reduce waste and pollution and efficiently share resources to reduce costs and wastage (like information, materials, water, energy, infrastructure, natural resources). Furthermore, industrial parks can more easily accommodate investments and foreign investments due to consistent and stable service provision.

We would like to thank the Ministry of Trade, Industries, and Cooperatives (MTIC) and the European Union for their commitment to developing this guideline and facilitating it with the sustainable growth of the industrial sector and urban spaces in Uganda. The guidelines themselves have had a long gestation period. In part, this was a result of the comprehensive nature and complexity of the subject matter resulting initially basically in a full-on book – which has been toned down into the more manageable version in front of you. We would like to thank other stakeholders especially the Uganda Investment Authority (UIA), the Uganda Free Zones Authority (UFZA), the Ministry of Finance, Planning and Economic Development, and NPA for their continuous support for these guidelines.

The challenge now is to see the guidelines disseminated and implemented through government ministries, departments, and agencies responsible for their various aspects of the industrialization process, of course, GGGI continues to be committed to supporting further implementation. I commend the guidelines to your ministry and indeed, to all in the Government of Uganda.

Dagmar Zwebe,
Country Representative, GGGI Uganda.

Acknowledgments

The adoption of the National Industrial Policy 2020 introduced a very significant reorientation of Uganda's industrial policy landscape. The NIP 2020 focuses on consolidating the achievements attained and addressing the gaps identified in the maiden industrial policy of 2008, as well as emerging issues. Thus, the mission of NIP 2020 is "to accelerate sustainable industrial transformation through an increased developmental role of the State, reduced cost of production, and improved quality of manufactured products." The guidelines are one of the interventions proposed in the National Industrial Policy 2020.

Important to note is that; History has demonstrated that industrialisation is integral to sustainable economic development. No countries have been able to lift substantial sections of their populations out of poverty without industrializing; and in most cases, rapidly growing economies have been characterized by an increasingly broad and diversified manufacturing sector. Manufacturing-led value addition has numerous well-recognized multiplier and spillover effects, and it embeds technology intensity and skills formation as key elements of an upward and inclusive growth trajectory.

In recognition of the important role played by all stakeholders i.e. Government, academia, and Private Sector in the industrialization policy these guidelines were prepared in close consultation with various national, regional, and international stakeholders. The guidelines were prepared through a consultative process that took into account the views of stakeholders and ongoing developments in the sector in the region.

In this regard, the Ministry wishes to acknowledge and thank the participation, dedication, and commitment of all stakeholders in the development of these guidelines. Key national stakeholders were drawn from the Ministry of Finance Planning and Economic Development, National Planning Authority, Uganda Investment Authority, Uganda Free Zones Authority, National Environment Management Authority, Uganda Cleaner Production Center, and Roofings Group Ltd. The support and active participation of the National Steering Committee of Greening Uganda's Industrialisation program is also acknowledged.

The invaluable technical and financial support provided by the European Union through the Green Global Institute Uganda under the Greening Uganda Industrialisation Program is highly acknowledged and appreciated. Last but not least, the Ministry of Trade Industry and Cooperatives recognizes the tireless efforts of her staff from the Industry and Technology Department on the successful stewardship of the development of the Industrial Park Guidelines.

The guidelines are expected to offer the Government of Uganda a potentially valuable tool to overcome constraints in attracting investment by streamlining and setting up industrial parks. To serve these purposes, the parks must however be built on a business case that demonstrates why serviced industrial lands are needed and the benefits when completed. The business case should be prepared early in the project cycle before any decision is made to initiate the project. A carefully developed business case must examine both the project's opportunities as well as its risks, and convincingly detail the project's rationale. In many developing countries, insufficient attention is given to proper business case development and industrial park positioning, creating a "gap" between what firms need and what parks actually offer.

In conclusion, I wish to emphasize that we will ensure a coordinated and collaborative approach by all the relevant Ministries Departments and Agencies (MDAs), Private Sector, and Academia as well as development partners for the successful implementation of the guidelines. This coordination will seek to synergize and harness existing national, regional, and international initiatives toward strengthening value addition and manufacturing. The Ministry of Trade Industry and Cooperatives will take the lead responsibility in mobilizing and optimally deploying the necessary resources for the successful implementation of these guidelines.

Geraldine Ssali Busulwa
Permanent Secretary

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Abbreviations

Term	Definition	Term	Definition
CAPEX	Capital Expenditure	**IT**	Information Technology
CSR	Corporate Social Responsibility	**KPIs**	Key Performance Indicators
DRM/DRR	Disaster Risk Management/Disaster Risk Reduction	**MeTIC**	Ministry of Trade, Industry and Cooperatives
eCBA	Extended Cost Benefit Analysis	**MFPED**	Ministry of Finance Planning and Economic Development
EIP	Eco-Industrial Park	**MoU**	Memorandum of Understanding
EU	European Union	**UCPC**	Uganda Cleaner Production Center
FDI	Foreign Direct Investment	**OPEX**	Operating Expenditure
GGAP	Green Growth Assessment Process	**PPP**	Public-Private Partnerships
GGF	Green Growth Framework	**RECP**	Resource Efficiency & Cleaner Production
GGGI	Global Green Growth Institute	**SEA**	Strategic Environmental Assessment
GHG	Green House Gas	**SEZ**	Special Economic Zone
GoU	Government of Uganda	**UCPC**	Uganda Cleaner Production Center
GRI	Global Reporting Initiative	**UNIDO**	United Nations Industrial Development Organization
IP	Industrial Park	**VAT**	Value Added Tax

Glossary

Term	Definition
Eco-Industrial Park (EIP)	An eco-industrial park can be defined as an earmarked area for industrial use at a suitable site that ensures sustainability through the integration of social, economic and environmental quality aspects into its siting, planning, operations, management and decommissioning. The term greenfield eco-industrial park is used for completely new EIPs, and the term brownfield for existing parks affected by the former uses of the site and surrounding land, that can be derelict or underused and require intervention to bring them into a Green Growth path or improve it.
Industrial Park (IP)/Zone	Refer to a zone established for industrial activities and other activities related to the production and transformation of goods for domestic use as well as for export. However they do not necessarily benefit from a central management nor properly integrate sustainability or Green Growth concerns contrarily to EIPs.
Industrial Policy (modern definition)	Any type of intervention or government policy that attempts to improve the business environment, or to alter the structure of economic activity toward sectors, technologies or tasks that are expected to offer better prospects for economic growth or societal welfare than would occur in the absence of such intervention.
Industrial synergies and symbiosis	The term “industrial synergies” covers the concept of industrial symbiosis, but it has a broader focus on the different types of industrial collaborations (Van Beers et al., 2007): 1. Supply synergies and co-location of suppliers and clients: Co-location and clustering of companies in the supply and value chains. 2. Utility synergies: Shared use of utility infrastructure, mainly revolving around water and energy. 3. Service synergies: Sharing of services and activities between companies (e. g. joint training of staff and sharing of maintenance contractors). 4. By-product synergies and waste exchanges (industrial symbiosis): The use of a previously disposed waste (as solid, liquid, gas) from one facility by another facility to provide valuable byproduct.

Term	Definition
Resource Efficient and Cleaner Production (RECP)	RECP builds on cleaner production in accelerating the application of preventive environmental strategies to processes, products and services to increase efficiency and reduce risks to humans and the environment. RECP addresses the three sustainability dimensions individually and synergistically: • Production efficiency: optimization of the productive use of natural resources(materials, energy and water). • Environmental management: minimization of impacts on environment and nature through reduction of wastes and emissions. Human development: minimization of risks to people and communities and support for their development.
Sustainable city	A sustainable community is one that is economically, environmentally, and socially healthy and resilient. It meets challenges through integrated solutions rather than through fragmented approaches that meet one of the goals at the expense of the others (Institute for Sustainable Cities definition). The global development agenda of the United Nations advocates in Sustainable Development Goal 11, the need to "make cities and human settlements inclusive, safe, resilient and sustainable."
Free Trade Zones/Free Zones (FTZs/FZs; also known as commercial free zones)	Those are fenced-in, duty-free areas, offering warehousing, storage, and distribution facilities for trade, trans-shipment, and re-export operations.
Special Economic Zones (SEZs)	**SEZs** are larger estates usually covering all industrial and service sectors and can target both foreign and domestic markets. They provide an array of incentives ranging from tax incentives to regulatory incentives. They may permit on-site residence.
Export Processing Zones (EPZs)	EPZs are Duty-free zones focused on manufacturing for export, generally providing export subsidies in the form of tax holidays and having no or minimum export quotas Hybrid EPZs are typically sub-divided into a general zone open to all industries and a separate EPZ area reserved for exportoriented, EPZ-registered enterprises.
Free Trade Area	The area for service provision, storage, demonstration, packaging, cleaning, and finishing of production outputs, products, materials, or other equipment's, whose import-export in /out of the zone are provided with duty exemption, except for export to other places outside the customs territory whereby such import-export is subject to the duty and excise in accordance to the applicable law.
Border Economic Zones	These zones are located along an international border to facilitate cross-border trade and investment.
Private zones/Single factory processing Zones	These zones provide incentives to individual enterprises regardless of location.
Specialized Zones (SZs)	**Specialized zones (SZs)**: targeted at specific sectors or economic activities. Examples of SZs include science/technology parks, petrochemical zones, logistics parks, airport-based zones, and so on. They may restrict the access of companies in non-priority sectors, and their infrastructure is mostly tailored according to their sectoral targets.
Sustainable, low-carbon, green, or circular zones often falling under the EIP model.	Those are industrial parks designed to improve the social, economic and environmental performance of their resident firms, including through the promotion of industrial symbiosis and green technologies delivering resource efficiency and resulting in competitive advantage, promoting climate-resilient industries and green value chains, as well as inclusive and sustainable business practices and socially responsible relations with surrounding communities.
Bonded Areas / Bonded Zones	Those are areas where dutiable goods may be stored, manipulated, or undergo light processing (such as assembly) without payment of duty, subject to customs bonds.
High-Tech Parks (HTPs)	Those are special areas designated to facilitate and promote the creation and growth of innovation-based companies through incubation and other policy interventions.
Agro-Industrial Parks (AIPs)	AIPs are specially-designated areas designed to attract and promote industries in downstream agricultural processing.

Term	Definition
Freeports	Freeports typically encompass larger areas. They accommodate all types of activities, including tourism and retail sales, permit on-site residence, and provide a broader set of incentives and benefits.
Master Plan	A plan depicting the borders and layout of a SEZ, the basic civil engineering specifications and accompanied by environmental and social impacts assessments and mitigation plans.
One Stop Center	Refers to the National administration management unit which is the "One Stop Service" mechanism at the site of the EIP and particularly Green SEZ and has the duties to approve and issue permits, licenses and registration to the Zone Investors, including the approval of incentives, pursuant to the full authority delegated by the line ministries and institutions, and to address all requests related to the management competence of the State, concerning investments in the zone. Indeed, dedicated staff from each relevant line ministry or agency should be assigned to a One Stop Center to offer a seamlessly-integrated administrative services package to investors and tenants companies.
Service Area	The area of supporting activities for industrial and commercial operations such as managing and operating offices of the industrial zone, bank, post office, commercial stores and transportation services.
Eco-industrial park Regulators (Public entity/ Government body)	Government bodies that create industrial parks' regulatory framework, oversee and assure the quality of their planning, implementation and operation, as well as the resident activity therein, so that they may more effectively prioritize policy decisions, support and incentivize these initiatives and monitor and evaluate the results their performance.
Eco-Industrial Park Leadership/Owner (Private, public or public-private partnership (PPP) entity)	The leadership role in an EIP is usually represented by a board, committee or shareholders' group united by common interests that provide the vision and hold the EIP accountable to its overall goals. The goals should be aligned with EIP standards but also with the country's development goals.
EIP Developer (Private, public or public-private partnership (PPP) entity)	Refers to a national or/and foreign natural or legal person, who implements the EIP Business Case (planning, setting-up, construction), ensures appropriate financing is available, is permitted to invest in the development of physical infrastructures in the zone, organize the business, services and ensuring the safety and security of the Zone. The developer can identify the EIP Operators/Management to run the day-to-day operations or can perform it itself.
Eco-industrial Park Operator/Management May be same as developer or under a contractual agreement with the owner/ developer (Private, public or public-private partnership (PPP) entity)	Ensures the EIP operation by providing services (including infrastructures) and support to tenants on a day-to-day basis, so that they may provide said services in an improved and more coordinated manner and manages the most effective ways to reach its goals measured through the EIP KPIs. The EIP Operators/Management can be the same as the developer or appointed by it or by the Leadership/Owner. It can subcontract private operators to provide said services. It is accountable to the EIP leadership.
Tenant companies	Companies that are property owners or leasers in an eco-industrial park.
Tenants' association	A tenant association is a union of all or most of the companies that are property owners or leasers in an EIP. When the association is legally formalized, it can act as EIP management. Informal tenant associations can represent tenants' interests through joint lobbying activities.

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Chapter 1: Introduction

This chapter states the country's current target of using industrialization as a vehicle to drive development and the specific push to develop and promote industrial parks as definite drivers to achieve this agenda.

1.1. Background

Uganda aspires to become 'a transformed society from a peasant to a modern and prosperous country within 30 years. This aspiration and the targeted steps to be taken to achieve it are laid down in a document titled Uganda Vision 2040. In it is stated that review of the development paths of developed and emerging economies shows that, except for a few oil-exporting countries, there is a strong positive correlation between industrialisation and rapid development. A strong and competitive industrial base is important to create employment, advance technology and create a resilient economy. Industrialisation also offers more export earnings, wider tax base, increased purchasing power, increased integration with agriculture, product diversification, greater efficiency and technical modernisation and higher productivity throughout the whole economy.

Industrialisation as Uganda's targeted vehicle for achieving its aspirations is further specified in the third National Development Plan 2020/21-2024/25 (NDPIII) whose theme is 'sustainable industrialisation for inclusive growth, employment and sustainable wealth creation' with the goal of increasing average household incomes and improving the quality of life. Furthermore, Uganda needs to safeguard that the growth is not solely economic but is also happening in a sustainable, socially inclusive and green manner. Indeed, historically, countries economic development has been at the cost of the natural capital. A green growth approach aims at decoupling economic development from unsustainable resource use and negative environmental impact while ensuring human well-being progresses.

The Uganda Green Growth Development Strategy (UGGDS) also identifies improved technology for enhanced efficiency for industrial use and interlinkage between the rural raw materials production base and industrial production in cities. These are areas with the highest green growth potential in terms of investments and contribution to the achievement of national development goals and targets. The strategy strongly urges the adoption of a green industrial development pathway in line with the Green Growth concepts.In countries like Uganda where the infrastructure to support the industrialization agenda is inadequate, industrial parks have been looked at as suitable vehicles through which the industrialization agenda can be advanced. They are looked at as closed spaces in which targeted infrastructural investment can be made so as to lower the cost of industrial set-up for investors. They also promote and encourage industrial symbiosis, thus increasing mutual benefits from industries and mitigating social and environmental impacts.

By delivering public goods and the accompanying policy interventions in support of investment, Industrial Parks (including Special Economic/Free Zones) have acted as a catalyst to facilitate industrial development. These zones also contribute to Sustainable Development Goals through promoting socially and environmentally responsible industrialisation within themselves, as well as by demonstrating what is possible to the rest of the country. IPs have become an increasingly popular instrument to promote economic development. Over the last two decades, in particular, SEZs have proliferated in emerging and transition economies. customs, labour, legal and public-private partnership initiatives. In summary, the key advantages constitutive of the rational to build IPs/SEZ are that:

a) They can serve as tools to enhance industry competitiveness, foster innovation and attract foreign direct investment (FDI).
b) They can support large-scale job creation, thus alleviating poverty and reducing unemployment rates.
c) They can support broader economic reform policies, for instance by promoting the diversification of a country's export base while preserving national protective barriers.
d) Particularly for SEZ, they can provide room for experimenting with new policy approaches and regulations in areas like customs, labour, legal and public-private partnership initiatives.4
e) Particularly for small-scale SMEs based parks, they can facilitate small entrepreneurship resilience, the integration of the informal sector, more regulations compliance, women empowerment and boost up their capacity to create jobs benefiting to the most vulnerable segments of the population.
f) Integrated in a sustainable urbanization planning, they can offer opportunities for Public-Private Partnerships that can widen the range of infrastructures choices.

Uganda targets to have constructed 25 Industrial Parks and/or Free Zones by 2025. However, a 2020 study by the Friedrich Ebert Stiftung1 on implementing Uganda's industrialization agenda found that the IP that had been constructed so far did not follow any empirical feasibility studies. Additionally, there were no guiding principals at the national level to inform their development. It recommended that consequent industrial park and free zone developments should undertake proper feasibility studies and develop designs which include strategic environmental assessments, environmental impact statements, life cycle cost analysis, land use planning, and risk management tools. In their study of green industrial parks, the UN Economic Commission for Africa, also strongly urged African States to adopt the Green/Eco Industrial Parks model. Green/Eco Industrial parks, offer a transformative industrial base which can help diversify the economy, enhance international competitiveness, increase the value added of exports and provide extra job opportunities to help raise incomes and foster social inclusion (ECA, 2016[2]). In addition to protecting health, green industries can safeguard natural assets, which are critical to human development, avoid stranded assets and render infrastructure more resilient to natural shocks. The currently operating and planned IPs are yet to be conceived or transitioned to EIPs. Their incentives are focused to attract investment and promote export but, none is oriented towards green investment and there is no rewards and performance measure associated to safeguarding the environmental and social capitals.

It is against this background that the Ministry of Trade, Industry and Cooperatives (MTIC) embarked on the development of guidelines to inform the establishment of parks that meet the desired development aspirations and at the same time promote social and environmental aspects, so as to contribute to the achievement of development sustainably.

1.2. Objective

The overall objective of the Guidelines is to contribute to the operationalization of the Industrial Policy, 2020, the third National Development Plan (2020/21-2024/25) and Vision 2040, as far as establishment of Industrial Parks and Free Zones is concerned. The guidelines are looking at the processes to follow in the establishment, development, management, operation, financing, promotion and marketing of IPs and FZs and all other Park Models. They incorporate the social and environmental sustainability principles in these processes and give modalities of designing new green parks (greenfields) and transitioning non-green parks to green parks (brownfields) as showed in Figure 1. The specific objectives of the guidelines are therefore:

a) To support decision-making in the establishment, management, operation, financing, marketing and promotion of industrial parks.
b) To define roles of the different actors in the establishment, management, operation, financing, marketing and promotion of industrial parks.
c) To promote social and environmental sustainability in the driving of the industrialization agenda through Industrial Parks and Free Zones.

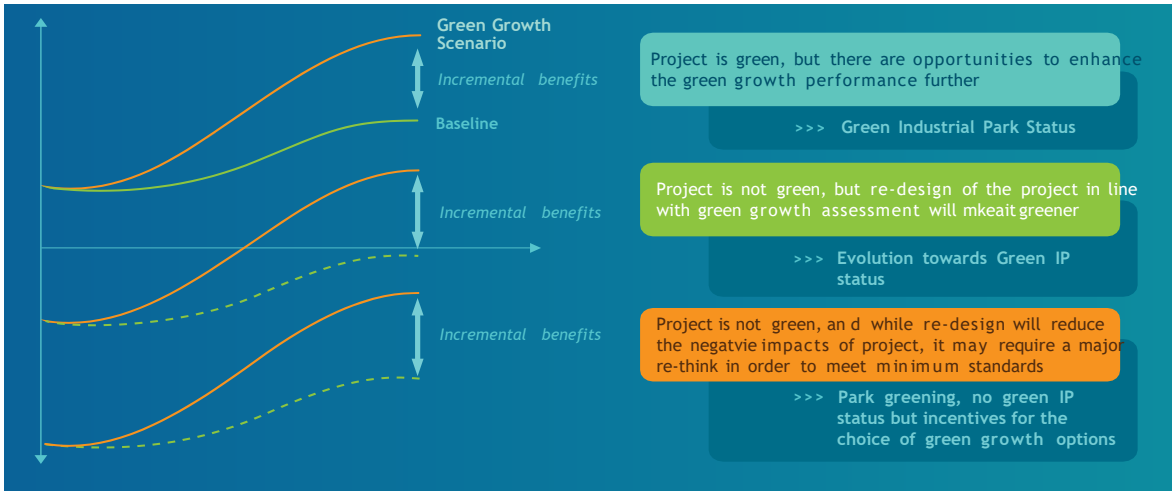


Figure 1: Three possible green development pathways for all types of parks.

These guidelines are meant to be primarily used by stakeholders usually involved in IPs which include Parks regulators/ developers/operators, tenants, other stakeholders and partners such as multilateral development agencies, financial institutions, business associations, etc.

2 Ramathan Goobi 2019 From paper to Practice: Implementing Uganda's Industrialization Agenda. http://library.fes.de/pdf-files/bueros/uganda/15865-20191212.pdf

3 Greening Africa's Industrialization https://www.uneca.org/sites/default/files/PublicationFiles/eca_policy_brief_green_africa_17-002-en.pdf

1.3. Structure of the Guidelines

These Industrial Parks (IP)[3] guidelines cover 12 Policy Elements which are illustrated in Figure 2.

In the process of making these guidelines, a longer version has been edited by GGGI and can be consulted for additional information. Therefore, those 12 policy elements are presented in these guidelines in a summarized form.

Figure 2: IP Policy Elements

- **Chapter 1 High Level Vision Setting** states the country's current target of using industrialization as a vehicle to drive development and the specific push to develop and promote industrial parks as definite drivers to achieve this agenda.
- **Chapter 2 Situation Analysis** gives a summarized situation of the industrial sector in Uganda, together with the status of industrial parks and free zones development. It provides an analysis of the regulatory environment for industrial parks development and the current financing mechanisms.
- **Chapter 3 Planning** presents the various parks definitions/ models, and builds a case for the use of a single overarching IP definition modulated by adaptable prioritization instruments and translated into eligibility criteria.
- **Chapter 4 Land Management** looks into questions related to land management, design and development of EIPs by offering guidance regarding land acquisition, master planning, nature inclusive design, symbiosis (common infrastructures building) and Public Private Partnerships (PPP) and green urban development linkages. It also highlights mechanisms to set up governance structures/arrangements for natural resource management.
- **Chapter 5 Operations & Management** further details the roles of the key IPs stakeholders, looks into possible IP governance and management arrangements and the different phases for IP development and administrative procedures attached.
- **Chapter 6 Skills** looks into social and human capital in the form of employment and human resources management, representation, occupational health, green jobs opportunities offered by IPs, training and continuous learning as well as possible linkages with social protection schemes through PPP.
- **Chapter 7 Innovation & Partnerships** shows how innovation is an essential part of EIPs and one of the added-value of green approaches, which can be implemented in various ways, from R&D to incubators, Greentech and industrial ecology solutions, but also through the valorization of indigenous knowledge, natural and social capital governance models, alternative business models and more. This chapter also highlights the importance of partnerships for successful IPs as a precondition for peer-to-peer learning, collaborations, technology transfer, performance evaluation and more.
- **Chapter 8 Financing illustrates** various financial instruments and investment opportunities for both greenfield and brownfield IPs such as public and private investments, self-generating revenues schemes to support park management, financial and non-financial incentives schemes, and how to ensure they can contribute to a Green Growth Pathway. The feasibility of these options will have to be tackled in a dedicated module revising current GoU schemes.
- **Chapter 9 Promotion and Marketing** defines the type of communication susceptible to encourage green investment and green products demand, as well as reporting on IP performance including through certifications both for collective IP efforts and individual companies.
- **Chapter 10 Resilience** shows how an IP approach can contribute to business resilience and tackle local and global challenges such as epidemics as illustrated by the recent covid-19 crisis.
- **Chapter 11 Performance Monitoring & Evaluation** presents four concepts of performance and its measurement. The first concerns the public sector in the sense of delivering a functioning IP. Its bottom line is that of being 'investment ready' for in-coming investors. The second concerns business performance. This means profitability and underlying fiscal resilience as tested by various financial ratios. The third concerns IP performance indicators and the last companies'level indicators.

3 For simplification, the term Industrial Parks in the guidelines will be used to refer to all the various models. The term of Green and Eco Industrial Parks will be used to refer to all Industrial parks models to which we aim to apply a green growth evolution either through the acquisition of a green status or through a greening process. Ideally the aim for Uganda would be for those two denominations to become interchangeable when all industrial/business processes in Uganda will follow a Green Growth pathway.

Chapter 2: Situation Analysis

This chapter gives a summarized situation of the industrial sector in Uganda, together with the status of industrial parks and free zones development. It provides an analysis of the regulatory environment for industrial parks development and the current financing mechanisms.

1. The National Industrial Policy 2020

The industry sector is composed of manufacturing, construction, mining, and utilities. While manufacturing output is the largest share of industrial output averaging about 16.5 percent of GDP in the last decade, it is still low compared with the middle-income countries. In the last decade, the average contribution of manufacturing to industry sector output has been 64.4 percent, followed by construction at 20.4 percent and the least being mining and quarrying at 3.8 percent despite the existence of abundant minerals in Uganda. Utilities such as electricity and water also constitute a small share of industrial output to GDP owing to partly lower industrial processes in the country, as well as the underdevelopment of the oil and gas sector.

The modest contribution of manufacturing to GDP is attributed to the nature and structure of the sector itself. The manufacturing sector is dominated by mainly small and medium enterprises (SMEs) which make up about 93.5 percent of the firms operating in the sector. Firm size is highly correlated with export capacity which implies that smaller firms experience multiple challenges in global trade (UNECA, 2017), besides they can hardly reap economies of scale in production. Many of the manufacturing firms deal in end-product assembly, raw-materials processing, producing low value-added goods such as food and beverages, wood and wood products, textiles, leather, and metallic and non-metallic fabrication. Agro-processing is one of the most important activities in Uganda's manufacturing sector and mainly consists of coffee and tea processing, wheat and dairy products, cotton, and tobacco processing. Lastly, medium and high technology activities do not play a major role in manufacturing exports in Uganda. Industry, and manufacturing, must be scaled up to drive the country's aspirations of becoming an upper middle economy by 2040.

Further, Uganda's manufactured exports are dominated by low value commodities which contributed 24-26% of the total exports over the period 2008-2018. One of the noted challenges in manufacturing is the low-capacity utilization estimated at 52% and limited capacity to conform to the international market requirements, and low uptake of technologies. Despite the challenges, manufacturing production has been growing rapidly in recent years, led by food processing and textiles/ garments sub-sectors.

To strengthen the government's efforts towards driving the industrialization agenda, the Ministry of Trade Industry and Cooperatives developed the Industry Policy in 2020, to mobilise the efforts of all stakeholders towards the achievement of targeted interventions as far as industrialization is concerned. This Policy builds on that of 2008-2019 and its goal is **'increasing the manufacturing value added as a percentage of GDP from 8.3% in 2018/19 to 16% in 2029/30'** with a focus on four result areas:

- Increased value addition to local raw materials and products of comparative advantage for social-economic transformation.
- Increased exports of manufactured products by facilitating industries to increase production and match market demands in terms of both quality and quantity.
- Increased employment in the industrial sector through establishment and promotion of industries that create massive employment opportunities, ensuring inclusive growth, and sustainable development.
- Increased adoption of environmentally sustainable technologies by the manufacturing sub sector.

Its specific objectives are to:

- Increase public investment and nurturing of industrial development Projects in strategic areas.
- Increase and sustain the supply of quality raw materials for value addition.
- Develop and strengthen skilled human resource in order to increase productivity and efficiency in the sector.
- Accelerate development, use of research innovations and adoption of appropriate technologies in industry.
- Promote resource efficient and environmentally sustainable industrialization.

The anticipated outcomes of the Policy to be realised over the ten-year period of implementation include:

i. Increased industry sector contribution to GDP from 27.1% in 2018/19 to 31.7% in 2029/30;
ii. Increased contribution of manufacturing to GDP from 15.4% in 2018/19 to 26% in 2029/30;
iii. Increased ratio of manufactured products exported to total exports from 22.5% in 2018/19 to 46.8% by 2029/30;
iv. Reduced ratio of manufactured products imported to total imports from 63.2% in 2018/19 to 45% in 2029/30;
v. Increased share of jobs from manufacturing subsector to total formal jobs from 9.8% in 2018/19 to 15% in 2029/30.

2.2. Summary of the regulatory environment for IPs and FZs Development

Effective Industrial Park Guidelines should never be considered as a stand-alone document which would lead to incoherencies and ultimate failure or inapplicability. On the contrary, it should rest on an institutional framework whereby IPs related policies work as enablers and a strong legal and regulatory framework ensure enforcement capacity. Enabling policies should mainstream Green Growth/ environmental and social issues into economic and industrial policies, create effective policy and regulatory processes to support the planning, development and implementation of IPs and associated practices (e.g. Resource Efficiency and Cleaner Production RECP, park management, spatial planning and zoning, park level infrastructures and utility services, environmental performance measurement instruments and targets), help address changing technical, economic, environmental and social conditions[4].
Therefore, the review of existing policies to identify enablers and barriers is a necessary step to the design of a well-integrated Ips policy. Barriers can be classified in 5 categories (Ellis Brand, 1999):

- Technical barriers: those can address sectoral or RECP/symbiosis limitations, productive sectors incompatibility, competition or other.
- Information barriers: Refers to the lack of qualitative data that may affect decision making, operations and impact or performance measuring. Methodologies & tools to collect and analyze information as well as IT technology (Database and software) or data privacy constraints may be included here.
- Economic barriers: Aim to address possible market failures such as inclusion of externalities for example.
- Regulatory barriers: those can virtually happen in any sector
- Motivational barriers: refers to the willingness of all stakeholders to cooperate and to commit themselves to the green growth process. It involves good governance and trust considerations.

In terms of institutional arrangements, industrial parks are managed by the Uganda Investment Authority (UIA) reporting to both the MoTIC and Ministry of Finance Planning and Economic Development (MFPED). But other authorities are also involved in parks development such as the Uganda Free Zones Authority (UFZA) for Free Zones. A range of services are already offered such as e-portal for investors business registration https://www.ebiz.go.ug/, support to MSMEs https: //www. uganda invest. go. ug / sme / advisory - advocacy - mentorship/ and https: //www. uganda invest. go. ug/ wp - content /uploads /2016 /02/ New - SME - Brochure. pdf, infrastructures under Ministry of Works and Transport MoWT.

The Uganda National Industrial Policy 2020 provides a vision on sectors prioritization. The prioritization of industries for support is based on the following criteria; employment creation, utilization of locally available materials, export potential, import replacement and social inclusion. Further, consideration was based on alignment with other Government policies and strategies of; increasing agricultural productivity; supporting the road, railway, housing, energy, information and communication infrastructure development projects; accessing and exploitation of opportunities in regional markets, and greening the environment.

However, the policy incorporates insufficiently Green Growth considerations and should rely more on a solid natural and social capital assessment base. It needs to focus more and further specify on sectors to prevent environmental resource depletion and incorporate resilience/DRR/Climate Change concerns effectively.

2.3. Incentive regime for the development of industrial parks

Industrial Parks and Free Zones (FZ) in Uganda currently benefit from an incentive regime to further enhance their attractiveness though at the moment they do not particularly reward green performance except for the promotion of local procurement. Table 1 summarizes IP incentives application targets as of 2022.[5]

4 A practitioner's Handbook for Eco-Industrial Parks (EIP), UNIDO, 2018.

5 For more details consult INVESTMENT INCENTIVES AVAILABLE IN UGANDA AS OF MARCH 2022, www.ugandainvest.go.ug and www.ura.go.ug

INCENTIVE	APPLICATION TARGETS [5]
Income Tax Act	•• The income derived by an investor from letting or leasing facilities in an IP/FZabove a certain investment level. • The income of an operator in an IP/FZ. above a certain investment level. • Allowable deduction of certain expenses incurred in the course of generating business income. Investors are also allowed to carry forward their business losses indefinitely.
Value Added Tax	• With regard to Value Added Tax (VAT), Park developers/ operators in the park can claim a refund on the excess of the VAT paid on inputs used in the development process, less that charged on final products. • VAT deferments. • VAT exemptions of various nature.
Import Duty	• Exports do not attract any duties. • Zero duty of various nature.
Stamp Duty	• IP/FZ Developers of Operators above a certain investment level.
Excise Duty:	• Construction materials for development of industrial parks or free zones by a developer or an Operation whose investment is above a certain level.
Market Expansion	• Domestic Market - Buy Uganda Build Uganda (BUBU) Policy • International Markets such as EAC, COMESA, AfCFTA, Middle East, EU, China: special conditions apply.
Industrial Parks	• Investors could be allocated land for use within public Industrial Parks that the Government has set aside to promote industrialization

Table 1: Current GoU incentives application targets.

Some incentive regimes present dispositions that may hamper Green Growth development. Examples are:

a) The possibility to acquire 100% of shares by a foreign entity may reduce government ownership of critical services and accountability over environmental and social compliance.
b) The negative list of restricted sectors does not support green products by prohibiting highly polluting ones.
c) The exemption from taxes and duties on all export processing zone imported inputs should consider if products are green and not create vicious circles in exporting countries.
d) The tax holiday on the exportation of finished consumer and capital goods, the exemption from tax on income from agro-processing and corporate tax holiday for all companies in the zone should not be too long and too indiscriminate, they should rather be based on green performance at a decreasing rate.
e) The provision of free land for development may also translate into the destruction of natural landscapes and a lack of accountability from private entities. Renting from a government perspective provides more accountability and flexibility to act on bad performers.
f) Personal income tax holiday for non-national employees should not be too long and rather needs to take into account nondouble taxation status.

Foreign Direct Investment (FDI) Guarantees should be as follows:

- A foreign investor shall not be treated in any discriminatory way by reason only of the investor being a foreign investor, except in respect of ownership of land.
- The Royal Government shall not undertake a nationalization policy that would adversely affect private properties of investors in Uganda.
- Government shall not fix the price or fee of the products or services within a Zone.
- Government shall permit investors to purchase foreign currencies through the banking system and to remit abroad these currencies for the following purposes:
  a) Payment for imports and repayment of principle and interest on international loans.
  b) Payment of royalties and management fees.
  c) Remittance of profits.
  d) Repatriation of invested capital
  e) There is no price control on products or services including control of capital.

Chapter 3: Planning

This chapter presents the various parks definitions/models, and builds a case for the use of a single overarching IP definition modulated by adaptable prioritization instruments and translated into eligibility criteria.

1. The principles and eligibility criteria

The principal rationale for establishing an Industrial Park is to enable "industries to settle and develop at a specific location that is planned and improved to that effect". Industrial Parks are, for this reason, an important tool within a country's broader industrial and infrastructure policies.

Traditionally, the common applied definitions of an Industrial Park include:

- "a tract of land developed and sub-divided into plots according to a comprehensive plan with the provision of roads, transportation and public utilities, sometimes also with common facilities, for use by a group of manufacturers".
- The general terminology of ''Special" function for Industrial Parks and Free Zones involves the introduction of external resources, mainly Capital and Technology and; making foreign economic cooperation to develop the host country. The overriding consideration for a country seeking to attract investment is putting in place a healthy enabling environment (infrastructure, human capital, an investment-friendly regulatory environment, the rule of law, good public governance). Incentives and free economic zones can, at best, be a supplement to a good enabling environment, or be used to compensate for certain concrete shortcomings that cannot be otherwise addressed.

The key eligibility criteria for industrial parks are summarized in the fig. 3 with some added conditions for Special Economic Zones. The criteria are given enough adaptability to suit different contexts in Uganda, in particular for SEZ no minimum export requirements is set including for Free Zones. However, the Business Case Proposal needs to detail the business concept and the Charter to which tenants' companies will abide, and that can specify further certain conditions.

Figure 3: Eligibility criteria for Uganda's Industrial Parks and Special Economic Zones.

3.2. Business case

The business case provides justification for undertaking an IP project. It evaluates the benefit, cost and risk of alternative options and provides a rationale for the preferred solution. The UNIDO International Guidelines for Industrial Parks offer key guidance on the constitutive elements of a strong business case[6] for a greenfield IP project:

"Industrial Parks offer governments a potentially valuable tool to overcome some of the existing constraints that their economies face in attracting investment. To serve these purposes, the parks must however be built on a business case that demonstrates why serviced industrial lands are needed and what the benefits of the IP project will be when it is finalized. The business case should be prepared early in the project cycle before any decision is made to initiate the project. A carefully developed business case must examine both the project's opportunities as well as its risks, and convincingly detail the project's rationale. In many developing countries, insufficient attention is given to proper business case development and industrial park positioning, creating a "gap" between what firms need and what parks actually offer." In terms of Green Growth pathway for IP, it is also of key importance to understand the key elements a green or impact finance investor would be looking at. Key recommendations are offered by the Private Financing Advisory Network (PFAN)[7], a global network of climate and clean energy financing experts or the Green Climate Fund (GCF)[8].

The following steps (Fig. 4) should be undertaken to develop a sound business case and orient decisions (PFAN):

Figure 4: IP Business Case steps.

When designing an IP program, governments should set realistic expectations and conduct a thorough analysis based on a set of pre-feasibility and feasibility studies. The analysis should include various scenarios including those looking at various Green Growth potential and environmental impacts based on an extended Cost Benefit Analysis process (eCBA) or management models such as those where the public sector is responsible for management and operation of zone infrastructure and services and scenarios where the private sector is responsible.

3.2.1. Business Case Project Description, Ownership and Management

This section introduces the modalities of developing a Business Plan for an IP project including its scope, context, rationale and timelines, the IP location and site selection criteria/advantages, logistical positioning (as backed up by appropriate transport economics and logistical study annexes), overall value proposition for users and investors, competitive market positioning and factors for differentiation (as backed up by a benchmark analysis), proposed services and amenities, any investment incentives to be provided by law (as backed up by a regulatory study annex, discussing market failures and policy responses), as well as basic land and services pricing strategy for industrial park users. It also involves preparing a conceptual masterplan and zoning plan, subdivision plan, utilities plan, amenities, specialized infrastructure plan and risk management plans.

A key aspect of the value proposition or **Competitive Advantage Analysis** is the highlights of creating the industrial park in the form of an EIP as compared to existing or future market competition/development. This could also include competitive strategies the authorities or companies might adopt to create or protect barriers to entry.

6 Extract copied by GoU p38
7 https://pfan.net/preparing-your-project-proposal/
8 https://www.greenclimate.fund/projects/sap/resources

The **Policy Analysis and Stakeholders Mapping** consider the existing policy, legal and regulatory environment in which the project would be grounded, and provide a high-level overview of the institutions and stakeholders, identifying any opportunities for differentiation that these conditions (financial and non-financial incentives) may offer to the project and its potential investors.
Additionally, potential threats and opportunities they pose are analysed including informing any possible reforms that might be considered in the same context. Amongst the stakeholders, the partnerships should also be described such as the roles of key partners, other companies and institutions involved in the development and implementation of the project. Partners could include joint venture firms, project consortium members, equipment and / or raw material suppliers, off-takers of finished goods, development partners, technology suppliers, contractors or others aiding in outsourced functions of the business.

It should also present a **Marketing Strategy** both at IP level and for the identified key value chains. This might include efforts to convince potential buyers, partners, authorities, investors or the general public of the IP business case offering.

A suggested Monitoring and Evaluation plan with a proposal on key economic, environmental and social performance indicators both collective and individual and enforcement measures (both internal and external) should be presented building on national compliance, international commitments and good practices, certifications schemes. Beyond compliance targets should be proposed to reach EIP status and can be informed through the Business Case steps on environmental and social assessments.
The EIP business case needs to inform on all relevant phases of project development & implementation (see also Chapter 6):

a) **Establishment Phase:** this covers the time up until financial closing.
b) **Construction Phase:** this describes the construction planning which can sometimes take place in different phases depending on funding scenarios with a portion of the IP already operating.
c) **Operations Planning:** the operational plan should include details with regards to day-to-day IP business operations, scheduling, manpower distributions and supply chain planning.
d) **Upscale / Growth Strategy:** The Scenario analysis and the financial analysis should reflect these details. A description on how the IP can be a show-case for upward inclusion with enterprise outside the park, the city or as a wider IP Roadmap in Uganda can also take place here.

Finally, a **definition of the service delivery model is needed**, with corporate and legal structure for the proposed IP, including details of the nature of the corporate vehicle that will be used to develop and operate the industrial park, extent of participation from the public and private sectors in it, and their respective roles and responsibilities in terms of the design, financing, ownership, development and operation of the project. The basic constituent elements involved (i.e., Design, Build, Finance, Own and Operate) can be shared in many different ways between project sponsors, as demonstrated in table 2:

REGULATOR	DEVELOPER	OPERATOR	OWNER/SPONSOR
Public entity / Government body • Designates land as parks; • Facilitates government services and coordinates public agency inputs to/ within industrial parks such as utilities; • Monitors and enforces compliance.	Private, public or public-private partnership (PPP) entity • Owns, finances, designs, plans, and manages development of industrial park basic infrastructure; • Develops land (grading, leveling, construction) and provision of basic infrastructure such as internal road networks, drainage and sewerage, etc.	Private, public or public-private partnership (PPP) entity • Manages day-to-day services to users; • May or may not be same as developer; • Facilitates marketing; • Facilities management, leasing and maintenance • Utilities maintenance; • Provides value-added services; • Provides or contracts for solid waste removal and treatment, maintenance, security, etc	Private, public or public-private partnership (PPP) entity • Owns site land; • Performs strategic planning; • Initiates park development; • Pays all or part of the cost of park development

Table 2: IP delivery model roles attributions.

Thus, the **Management & Manpower Structure presentation** should introduce the proposed management structure for the IP (as well as other capacity building counterpart), profiles and what they bring to the project. The structure of the management team should also reflect the scale and complexity of the business proposed. Important issues to consider are:

a) **IP Management Structure:** the IP management and organization structure (differentiate leadership from organizational management) should be clearly presented, including, where possible, the names of personnel selected and the allocation of roles and positions.
b) **Management Expertise and Credentials:** the profiles and brief CVs of key IP management. The purpose of including the expertise and credentials of the company management is to convince investors of the management's execution capability and potential.
c) **Management Roles:** highlight what each of the EIP senior management members will contribute to the project development, implementation and operations by describing their roles and responsibilities. If functions are sub-contracted, the subcontractors' terms of reference and credentials should be provided.
d) **Manpower Distribution:** a demonstration that appropriate skills are available in the local market and that management has a plausible strategy for identifying and securing key personnel. If not, it should explain what key skills will be sourced abroad and how they will be funded.

3.2.2. Market and trend analysis

A full picture of the market and the key market drivers as well as of the general economic and political environment in which the project is situated should be presented. It should include aplausible/reliablenalysis of the economic potential of the business as well as the competitive and regulatory threats and opportunities, backed up with accurate and apposite market information, hard data, quantitative forecasts and plausible / reliable projections. It should explain how the identification of key industrial sectors has been done. More specifically, it should provide:

a) **Assessment of investment and trade patterns at global, regional and national levels:** This analysis provides a clear sense of the sectors that will constitute the bulk of investment, and of emerging trends.
b) **Analysis of the latent and phased investor market potential:** including identification of the sectors likely to drive investment and occupancy within the park, the competitors and the degree of competition, critical investment and production trends in the target sectors, projected volumes based on historical investment patterns and current trends internationally, nationally and in the prospective location, ramp-up timeframes for investment, the sales projections (including for exports) and the prospective markets, comparator country benchmarks in terms of space utilization and the resulting land take-up/absorption projections impacting the project's revenue modelling and a sense of the infrastructure and service requirements. It also involves identifying promotional vectors for the marketing campaign, potential market threats and the various ways to overcome them. A suggested framework to use is Porter's Five Forces or the SWOT Analysis.
c) **Economic impacts study:** including "overall value chain" competitiveness; projected investment levels and their breakdown (by sector, origin), induced employment and fiscal impacts; impacts on country policies on poverty reduction, food security and rural transformation; public expenditure requirements (including through subsidies and other forms of financial support); trade impacts; and overall Economic Rate of Return (ERR) and Economic Value Addition (EVA) modelling.
d) An **analysis on Green Products alternative (see also Technology section) and potential for innovative value chainsincluding the ones fostering an industrial ecology/circular economy approach:** The project may disrupt traditional value chains through a green niche product specification and product redesign. It may look at the potential for symbiosis and RECP by combining value chains that are necessary in a circular economy approach. It is also possible to associate value chains with different returns on investment timeframes at optimized costs through infrastructure symbiosis. Therefore, supporting the development of niches which start-up costs or low volume would have resulted in dismissal otherwise despite their potential positive environmental and biodiversity conservation benefits. An example in the agro-processing sector would be the association of cultivated plants value chain processing (for example CO2 extracts in Cocoa production) with a diversified indigenous plants/medicinal/ wild harvested extracts value chain backed by conservation and restoration plans necessitating long implementation timeframes. **Waste valorization** should also be an inclusive part of the revenue modelling. Public-Partnerships Models and mix value chains can also be assessed for example for waste valorization combining outputs from both the urban centers and the EIP (on the basis of symbiotic infrastructures for example).
e) In conjunction with the environmental assessments, **a modelling of payments for ecosystem services** and delivery channels can be done for all EIP and with even more details for EIPs featuring a tourism sector component. **Carbon credits mechanisms** would be included in this modelling.

3.2.3. Technology, business model and growth strategy

The technology solutions used in the business model for the key industrial sectors and how it integrates an industrial ecology approach covering amongst other RECP, Symbiosis and Circular Economy should be highlighted. It should cover:

a) **Technology/Value Chains choice:** available choices of technologies and their suppliers to achieve the business / project objectives should be discussed and compared; give the reason for the technology choice; an IP should ideally favor green/ eco/organic technologies.
b) **Technology and Engineering:** describes the process technology, machinery & equipment, etc. which will be required to implement the identified projects. It should also provide the reason for the choice of technology supplier and selection procedures (for example tender process).
c) **Commercial Impact of Technology Choice:** explains whether the technology will be purchased, leased, licensed or rented. Outlines the commercial implications of the technology for the business model and the value chain; details the impact of the technology on the cost structure and the revenue streams of the business.
d) **Raw Material & Input Supply Program:** Determine materials & inputs required for the projects.
e) **Energy supply:** Ensuring an adequate and continuous supply of energy is vital for the efficient operation of an industrial park; energy is therefore one of the key pre-conditions to attracting resident enterprises. However, many industrial parks, particularly in developing countries, suffer from operation disruptions due to energy supply cuts. Therefore, a thorough assessment of the enterprises' total energy needs as well as the supply capacity of the nearby energy grid and sources, in order to meet demand are needed. Planning and providing alternative/renewable energy sources, as well as emergency energy supply systems, will help to further ensure the continuous supply of energy.
f) **RECP assessment:** A complete materials and energy flow analysis for the EIP and its value chains (including the upward interactions with the community/urban center) needs to be carried out to determine improvement potentials in: energy efficiency; renewable energy use; water saving; materials intensity reduction including through products redesign; substitution of toxic materials with safer materials; emissions reduction; municipal solid waste minimization & recycling; use, treatment or disposal of hazardous waste including chemical leasing options, medical waste; biomimicry solutions, etc.
g) **Symbiosis:** A review of possible common infrastructures and services to operate synergies between companies, in the value chain and including with the city. It can take the form of PPP infrastructures as well. Symbiosis is not limited to technical infrastructures (for example: waste treatment, logistics center, renewable energy production) but can cover a range of services (including in PPP form) such as security, medical center, transport, child care, leisure and biodiversity spots.
h) **Circular economy:** aims at creating closed loops of products or services within the IP, its value chains or the communities around but also inter-IP or regionally.
i) **Environmental & Biodiversity Impact of Technology Choice:** Outlines the environmental & biodiversity (ecological) implications of the technology at local, national and global levels (for example CO2 emissions). Health impact for the communities is also included here. Other concerns are the protection of genetic resource, animal health & wellbeing, agricultural models (for example intensive versus conservation agriculture), tourism model (for example mass versus niche).
j) **Certifications:** sectoral or individual companies' certifications will be encouraged.
k) **A legal and regulatory environment analysis** that identifies the opportunities and barriers presented for industrial ecology, such as concession laws, privatization, mandated energy mix requirements or targets, structure of energy tariffs/independent power production, planning and building permission, commercial and business licenses, employment licenses, emissions/ water rights, import and export permits.
l) **Social, Employment & Skills, Cultural Heritage and Occupational Health Impact of Technology Choice:** Outlines the implications of the technology for the business model and the value chain; take into considerations Social Protection, gender & diversity and global ethical standards (for example Child Labor).

The **Growth strategy** should give an overview of the envisioned evolution of the IP through various phases (see also Chapter 6):

- **Development Phase:** this covers the time up until financial closure and should outline what needs to be done and detail the plans for achieving financial closure.
- **Construction/Implementation Phase:** this covers pre-operations and activities/conditions that need to be in place before the project is operational.
- **Start of Business/Operations Planning:** the operational plan should include details on day-to-day business operations, scheduling, manpower distributions and supply chain planning.

- **Expansion/Growth Strategy:** to the extent that rapid business growth and expansion are anticipated, information on growth strategy and expansion plans should be provided, and the financial analysis should reflect these details.
- **Exit Strategy:** if and where applicable (the financial analysis should reflect it as well).

3.2.4. Financial overview and investment proposal

The Investment proposal should analyze and highlight the economic viability and attractiveness of the IP project, thus ideally be for a commercial investment which provdes a return on capital to the investor and / or which pays a rate of interest to a lender on a debt which is repayable on agreed terms. IPs can be financed through direct or indirect public sector investment, including through direct allocation of national budget or indirect investment through public enterprises, commercial debt financing (backed by Sovereign Guarantees or not) or equity. Thus, the proposal may include grant or subsidized components, but the core ask should be structured as a commercial proposition. Although the primary project offtake or revenue stream is derived from plot and facilities rental (or land sale) income collected from the users, various other industrial park "value added services" can also prove interesting as supplementary revenue streams. If it is not possible to make a commercial proposition in the early stages, then a phase scheduling should be described with a no return investment period (from grants) as preliminary phase (set-up) and a profitable phase to attract private investments. Voluntary investments by tenants' companies should also be factored here. It should present a summary of key assumptions used to create the financial model and explanation why these assumptions were made.

Various types of donors/financing institutions and investors can be targeted, as for example philanthropic investors, impact investors, development funds, institutional investors, private equity, venture capital, strategic investors, industrial investors, carbon investors, development finance institutions and banks, etc).

The expected potential **financial and non-financial Incentives** pertaining to the IP and related policy environment should also be highlight as they contribute to the financial attractiveness of the IP proposal and to its performance measurement.

The **Financial modelling and projection of funding needed** should cover project capital and operational expenditures, revenue streams and Return on Investment (ROI), as primarily captured through Net Present Value (NPR), Internal Rate of Return (IRR) and discount rate and aanticipated period of investment and payback periods. In addition, the financial model should contain an analysis of available sources of capital (including amounts, if any, already invested or committed for example by IP companies) and of the project's proposed financial structuring model and financial stakeholder risk-sharing mechanism. While numerous factors have the potential to influence the project's overall cost, this will ultimately depend on the size of the industrial park and the type of facilities provided, as informed by the prior demand forecasts and the master-planning and design work. This needs to be captured in the estimated project execution timelines and estimated costs during implementation period, a description of the planned use of funds.

Finally, the investment proposal needs to describe:

a) The investment / **Borrowing Vehicle** means specifying the legal entity used (private limited company / public company).
b) **The Investment Conditions & Expectations:** The Project Developer's expectations / requirements of potential investors' obligations, rights and benefits, in terms of board and management representation, burden of time, other commitments, dividend rights, payout options, preferential treatment etc. should be outlined.
c) The **Exit Strategy**: as far as possible the exit strategy for the investor should be clearly constructed around the timeline of investment. To increase the flexibility of the business plan, possible multiple exit points can be suggested.

3.2.5. Identification of Risks, Resilience and Risks Mitigation

A thorough risk mapping should be performed describing the nature of the risks, the likelihood of their occurrence, the potential impact and possible mitigation measures with a clear attribution or roles & responsibilities, budget allocation and description of early warning systems (including at community level) and contingency plans foreseen. However, it is key to provide **Resilience (sustainability) measures beyond mitigation** by looking into resilience measures that might optimize positive project impacts or counterbalance its negative impacts even when the best technology is being used. This analysis is a fundamental component of the eCBA exercise. The risks analysis needs to be differentiated for each phase of the project (ex: construction versus implementation phases).

Typically risks include but are not limited to:

a) Country Specific – Political & Regulatory Risk: The identification of key policy incentives (regulatory, economic, voluntary) that would be needed to strengthen and sustain the business case for IP development. It also includes governance at all levels risks and political instability.
b) DRR & Climate Change risks: Analyzes the hazards, exposure and resultant risks and impact due to natural or man-made

disasters (including industrial disasters) including the loss of ecosystem services and biodiversity and Climate Change. Analyses the IP and its value chains as well as surrounding community contributions to the risk and both resilience and mitigation measures. Proposals can be made for restoration/conservation activities both as a compliance or beyond compliance performance and as a CSR contribution (for example supporting watershed restoration with the communities through reforestation in order to contribute to a better water catchment). It is necessary to integrate DRR within the IP practice as well as to address industrial risks within existing DRR policies and plans.

c) **Business Specific Risks**: execution & completion risk, counterparty risks, performance risks, IP management risks, coordination, skills availability, etc.

d) **Financial & Economic Risks:** cost & revenue risks; interest rate risks; currency rate fluctuation these will affect the economics of the project but may be mitigated against.

e) **Industrial Sector Risks and Industrial Sector Choice Impact Analysis:** analyzes risks pertaining to the sector, for example stock-market value or standardization needs. It should look into industrial sector impacts independent to the choice of technology or for which improved technology may not be sufficient to mitigate the negative impacts.

f) **Technology Risks:** identifies potential for the technology to be outdated or need replacement in shorter time duration than the investment period or for volume threshold needed to afford the technology. This section also covers intellectual property issues.

g) **Environmental Risks:** Complements the DRR and climate Change analysis by looking deeper into environmental impact. Determines the expected environmental impacts (informed through the safeguards assessment) by analysing a very diversified range of topics from water/soil/air pollution, and biodiversity protection, to ecosystem services provision, plants and animals health, movements corridors, encroachment and illegal trade, invasive species, etc. Various methods and techniques to calculate, model and predict environmental impact are available. For example, geographical information systems (GISs) combined with matrix methods, are graphic mediators of spatial knowledge. Based on data collected with a GIS, among others, they can help identify factors in environmental degradation, including climate, geology, hydrology data and some degradation factors in the region such as its location, different types of pollutants, land use and ecological conditions. Data collection for the creation of baselines information is essential for further monitoring and evaluation.

h) **Social Risks:** Determine the resultant socio-economic effects: jobs, income, tax, revenues to local government, any expected displacements or social conflicts, negative gender impact or impaired diversity inclusion (for example: indigenous people, disability), etc (informed through the safeguards assessment). This as well covers cultural heritage.

i) **Occupational and non-occupational health:** Looks into occupational health risks for the workers and non-occupational risks for the community in the vicinity for which the IP and its value chains activity can be conalsotributor (for example: water, air, noise pollution).

j) **Sectors/topics that may need further analysis:** wetlands, agriculture, tourism, fishery, horticulture, cattle, reforestation, soil regeneration.

3.2.6. ESIA

The Environmental and Social Impact Assessments (ESIA) regarding the proposed site, includes a full description and analysis of the site, value chains and surrounding community socio-environmental context, with all the associated risks and anticipated impacts. It allows to plan and program ideally for a positive contribution of the IP to these dimensions and at minimum for mitigation measures aimed at averting environmental degradation and protecting the interests of the population affected by the park's development. This dimension of the feasibility studies assesses the project's effects on the ecosystems, the people, the properties, the heritage sites and social services in the host and adjacent communities, and proposes associated conservation measures, management and, where appropriate, rehabilitation and/or compensation plans. The **environmental assessment** covers baseline data regarding site soil and hydrology characteristics, and projects' anticipated impacts on air quality and CO2 emissions, energy demand, noise levels, water quality, biodiversity, etc. It should furthermore provide, as appropriate, for sufficient connectivity and/or buffer zones to maximize the off-site and on-site synergies for adjacent communities.

On the **social safeguards** front, the assessment and plan must also ensure that the project considers the project's social impacts in terms of employment, skills transfer, land ownership, customer behavior, safety, heritage and identity, through a proper Socio-Environmental Management Strategy. It should cover the industrial sector and technology impacts.

The Links with **Development Impacts** need to be evaluated to identify the project impact in terms of the Sustainable Development Goals (SDGs). It describes the impacts on technology & skills transfer, employment, health, community welfare and inclusion, education, poverty reduction, rural electrification, energy access, water and sanitation, food security, resilience to DRR and Climate Change. Ideally the **Gender Transformative** contribution should be done through a Gender Impact Assessment (GIA).

A Stress Test Scenario should also be performed and analyze the likeliness of implementation of mitigation and resilience measures, model the cost of a non-adherence on both short and long term as well present the financial gains both from the perspective of the IP but also of the community in which it operates (developmental gains).

The Environmental and Social Safeguards Assessment should also evaluate the social and environmental considerations for the proposed IP concerning relevant national requirements and international commitments and good practice.

It is proposed to use the key tools of the extended Cost Benefit Analysis (eCBA) as well as the Capitals (Environmental and Social & Human Capitals) Approach to generate the scenarios on which an informed decision should be made on the feasibility and the environmental and social management plans as well as to provide forecast on the expected evolution of both environmental & social service flows and stocks.

The environmental and social mitigation plans (ESMP) needs to list the proposed mitigation measures and assumptions, the phase of the project to which they apply and to advert which potential impact, the responsibility, budget and resources needed.

Examples of non-exhaustive mitigation measures provided by UNIDO guidance for during the planning, construction, and operation stages are listed in Table 3.

Potential Negative Impact	Project Stage	Proposed Mitigation and Consideration Measure	Responsibility
Involuntary Resettlement and Land Acquisition	Planning	- Setting the post to smoothly conduct the land acquisition and resettlement action plan (LARAP) for SEZ development	Developer
		- Suppor ting the procedure of LARAP conducted by the developer	Local government
Hazards and Risk	Planning	Preventive structure/ facilities for disaster shall be planned based on the data of the frequency/ scale of disaster (e.g., heavy rainfall, earthquake, and tsunami) - Disaster prevention manual or hazard response manual including escape route and emergency procedure shall be prepared	Developer
	Operation	- Safety management implementation system adapted to manuals prepared during planning stage shall be established	Administrator/ Tenants
Deforestation / Greenhouse gas (GHG) emissions	Planning	- Consideration on how to minimize deforestation - Tree planting (preferably indigenous) shall be conducted as much as possible for landscape, comfortable environment as well as absorptive function of CO2	Developer
	Construction	- Trees shall be transplanted from the development area into the non-development area/ green area as much as possible, before being cut down by development	Developer
Waste generation	Construction	- Cut down trees shall be reused and recycled as much as possible	Developer
	Operation	- Periodical / irregular inspections on solid waste management and wastewater treatment in the SEZ area as well as monitoring of the wastewater quality from factories	Administrator/ Tenants

Table 3: Examples of mitigation measures (UNIDO).

3.2.7. Conclusion

The conclusion should highlight the main strengths and benefits of the EIP and summarize why an investor should consider investing. It is recommended to translate this conclusion in the form of a commercial leaflet presentation ideally with a range of illustrations that can be shared with a wider audience, published online and generate more visibility to the project. Ideally, an information number/contact as well as a Stakeholders Response Mechanisms whereby suggestions and complaints can be channeled (including from the community) could already be put in place building on the consultation process established for the feasibility studies.

3.3. Site selection

Figure 5 illustrates the steps to achieve sound site selection for greenfield parks and brownfield site rehabilitation. **The environmental/ecosystem bearing/Natural Capital** capacity should be evaluated in a general and sector specific manner when developing an EIP. Growth scenarios need to be captured to compare productive volumes, profitability and the sustainability of the resource in line with the methodologies developed later. These constraints lead to a vision where a finite production volume should be calculated associated to the threshold of ecosystem bearing capacity (sustainability of both ecosystem services flux and stocks).

Rather than seeing it as a loss of competitiveness or profitability, efficiency improvements, the reuse of by products and waste, sectoral diversification and innovation should be encouraged to prevent a depletion scenario and to build resilience towards market volatility. Another contribution from the IP could be the payment by the green SEZ for ecosystem services that can strengthen the preservation of a natural area. Thus, the choice of certain industry sectors is highly relevant as to how an EIP can have positive or negative impacts on ecosystems.

The **Social and Human Capital**: Employment creation is usually a primary factor for an IP Business Case Development, though it is important to consider the whole value chain and indirect job creation rather than rely only on the direct employment figures. Indeed, a conflict of interest may arise between technology upgrade and the manual labour needed in the EIP itself. However, this conflict is often mitigated when bringing the whole value chain picture as other outsourced or green jobs functions may thrive (for example: traceability controls, conservation or restoration activities, conservation agricultural techniques). The IP may benefit from existing skills (for example presence of universities with freshly graduated, or traditional knowledge and crafts) or on the reverse offer an opportunity to bring needed skills training to the area. The same dual argument can go for every item on the list presented in Fig.5.

The **sectoral relevance/Productive Capital** should be evaluated through the market and trends analysis and integrate the strategic vision and Green Growth potential. However, an IP may not be aligned with the national vision and still make sense in regard to the local economy, expertise, and skills. Therefore, while harmonization is fostered, a bottom-up approach should still be privileged to make sure the IP adequately addresses the site opportunities and constraints (scenarios building are also required).

Besides, all 4 areas shall look into the potential to implement industrial ecology principles (RECP, symbiosis, circular loops) both within the IP and with the community/urban centre/value chains. Therefore, Fig.5 presents a feedback loop between the site selection appraisal elements and the foreseen IP design to optimize the Green Growth opportunities. In the case of a brownfield IP prioritization, the analysis of the 4 areas justifying a site selection may show a critical gap requiring mitigation measures or opportunities. Jointly assessed with the park performance and impact on the three capitals, a revitalization business case can be made or any solution with the IP lifecycle such as mergers or collaborations. However, in cases of environmental or social noncompliance, punitive measures shall be enforced in accordance with the National Environment Act, 2019.

EIP Greenfield Site Selection and Brownfield Prioritization Criteria

Figure 5: IP Greenfield site selection and Brownfield prioritization criteria.

Looking at park level, there are six minimum categories of criteria that are proposed as the most basic to assess the potential for IP. They should be present in the Business Case Proposal either as existing or with credible potential development for a brownfield IP revalorization, or planned/potential for a greenfield IP. The 6 categories are:

- Management: The existence/ set-up of a management structure is cornerstone to the definition of IP. Nevertheless, there are many forms of management and structures (for example private, associative, governmental, etc.)[9]. Aspects of good governance, legitimacy or lean management also enter into consideration.
- Size: Size indicators are proxy to estimate the potential impact of companies within a park without entering in a material flow analysis. However, size shouldn't be set an eligibility criterion because the other requirements (such as infrastructures or manufacturing for a Green SEZ) already impose an optimal size and because upward integration with the urban centre and PPP may extend the area of influence. Thus, size should be determined by the proposed function of the park.
- Basic Infrastructures: This criterion looks at the potential for common infrastructures. Nevertheless, the opportunity for shared infrastructures is a strong motivator for companies to be in an IP. As explained above PPP infrastructures can also be placed outside the IP.
- Technical Opportunities: This criterion estimates the potential for resource & energy efficiency as well as symbiosis opportunitiesfirst within the park and then with the neighbouring communities, city, value chain (upstream and downstream). Some IP with little sectoral diversity may rate poorly in symbiosis within the park delimitation but may compensate by establishing symbiosis linkages in its surrounding.
- Replicability: IP are aimed to create a virtuous green growth cycle, it is thus important to consider IP that have a potential for scale-up or replicability "provide good example" through spill over towards industries outside the park or in the form of public-private partnerships with the city/municipality (also included under symbiosis).
- IP Buy-in: This criterion is fundamental besides national and local government buy-in, each stakeholder needs to show a commitment for green growth from the beginning of the project.

3.4. Pre-feasibility and Feasibility Studies

A **pre-feasibility study** establishes a broad perspective upon which to base an assessment of the overall potential of any IP project, and to guide decision-makers as to whether the project is technically, financially, economically, socially and environmentally sound. The key elements of pre-feasibility studies include, but are not limited to: location/site selection, market/industry identification and forecasts, demand projections, financial analysis, policy analysis and stakeholders mapping, safeguards assessment, economic impact projections.

A **feasibility study** is the basis on which any final decision to establish and finance an IP should be made, meaning after conducting a reliable and site-specific feasibility analysis with clearly supportive conclusions. A Business Plan with IP model and site selection, comprehensive and detailed market potential identification and demand projections, properly scaled and phased master plans, technical assessments, plans and designs, extended project costs and benefits analysis and Green Growth potential (eCBA), social and environmental (including biodiversity) assessments, institutional mapping and governance system analyses, definition of the service delivery model, off-site and on-site infrastructure requirement assessments and development plans, financial modelling and structuring plans, as well as economic impact modelling, are crucial to any final positive determination to proceed with an IP project.

Table 5 shows the same features and key differences between feasibility and pre-feasibilities studies as per GCF:

	Feasibility study	Pre-feasibility study
Same features (concept/purpose)	Presenting technical, environmental, social, policy assessment of feasible options/solutions for the proposed project/programme, and proposing outcomes and recommendations with the most feasible and sound options for the project/programme	
Key differences	• Uses primary and secondary data sources • Incorporates in-depth technical design studies for the proposed technological solutions • May involve detailed engineering study / analysis with testing work and on-site appraisals • Includes deeper analysis and testing of each feasible option	• Can rely on secondary data so urces complemented by primary sources (as needed) • Makes use of existing evaluation reports for previously implemented/ongoing projects Uses proven technologies and solutions with track record to demonstrate the feasibility of proposed technological solutions • Assesses feasible options using existing/available data, studies, resources

Table 5: Same features and key differences between feasibility and pre-feasibilities studies.

9 See Unido Handbook management chapter

These general principles apply when developing an IP business case and making decisions:

a) **Present an assessment of sources of comparative advantage in the country** as a whole and in the region where the park is located, such as appropriate and abundant labor, preferential access to key markets, land resources.
b) **Incorporate direct input from existing and potential investors**, through surveys, focus group discussions and interviews,in order to understand their investment location decision-making process, the criteria that will drive it and their needs interms of serviced industrial land.
c) **Incorporate direct inputs from an inclusive range of stakeholders from communities and civil society organizations, businesses and authorities.** Through surveys, focus group discussions and interviews, in order to understand their needs and the project potential positive and negative impacts. Ideally, set-up as early as possible a stakeholders Response Mechanisms whereby suggestions and complaints can be channeled (including from the community).
d) **Benchmark,** by comparing the proposed industrial park against alternative location options, both within and outside the marketplace, in order to properly compare investor as well as other stakeholders options in this context, their costs, services and other characteristics, integrate lessons-learnt from other sites.
e) **Identify Government decision-making processes,** aimed at providing the required political and social consensus, as well as the necessary political, programmatic and resources commitment and to support to the establishment of IPs, through a formal IPs policy.

3.5. Extended Cost Benefit Analysis (eCBA) Process

The extended Cost Benefit Analysis is promoted by the Global Green Growth Institute (GGGI) for appraising projects Green Growth performance. A full description of the methodology can be found in the GGGI publication “Green Growth Assessment & Extended Cost Benefit Analysis. A Handbook for Policy and Investment Decision Makers”. Therefore, this chapter will only summarize the approach.

An eCBA is an economic appraisal tool that makes hidden costs and benefits visible, particularly including social, economic or environmental aspects enabling to internalize externalities, thus facilitating decision making both by public and private sectors. Many projects failing to account for externalities particularly the impacts on the natural and social capitals, eventually fail because unaccounted external costs in the production of goods show up later as clean-up costs accrued to society. If these costs are known and quantifiable, then governments have an evidence-based platform to be used as the basis of designing policies and regulations to impose costs on polluters.

A full eCBA analysis requires considerable data, time and skills, baseline data may be missing and the allocation of an economic value to natural and social capitals, some of which are intangible, can reveal complex or limited. In such case, it is also possible to apply the basic concepts of eCBA while relying on expert opinion for estimates. Thus, the objective of the analysis is not to give fully accurate quantitative evidence, but rather to encourage explicit agreement about costs and benefits, to facilitate discussions amongst experts and enable a stakeholder engagement process that can lead to better informed decision-making.

Monetization can be misleading when markets are distorted, meaning that market prices do not reflect the real economic value (costs) of input and economic value (benefits) of output. Therefore, the market price should be adjusted to conduct an eCBA and is called shadow price. But even so, in many cases, market prices are simply not available/possible because goods and services that are provided by ecosystems and the impact of human behavior on the provision of such are too complex to quantify. Figure 6 summerizes the steps for carrying out an eCBA.

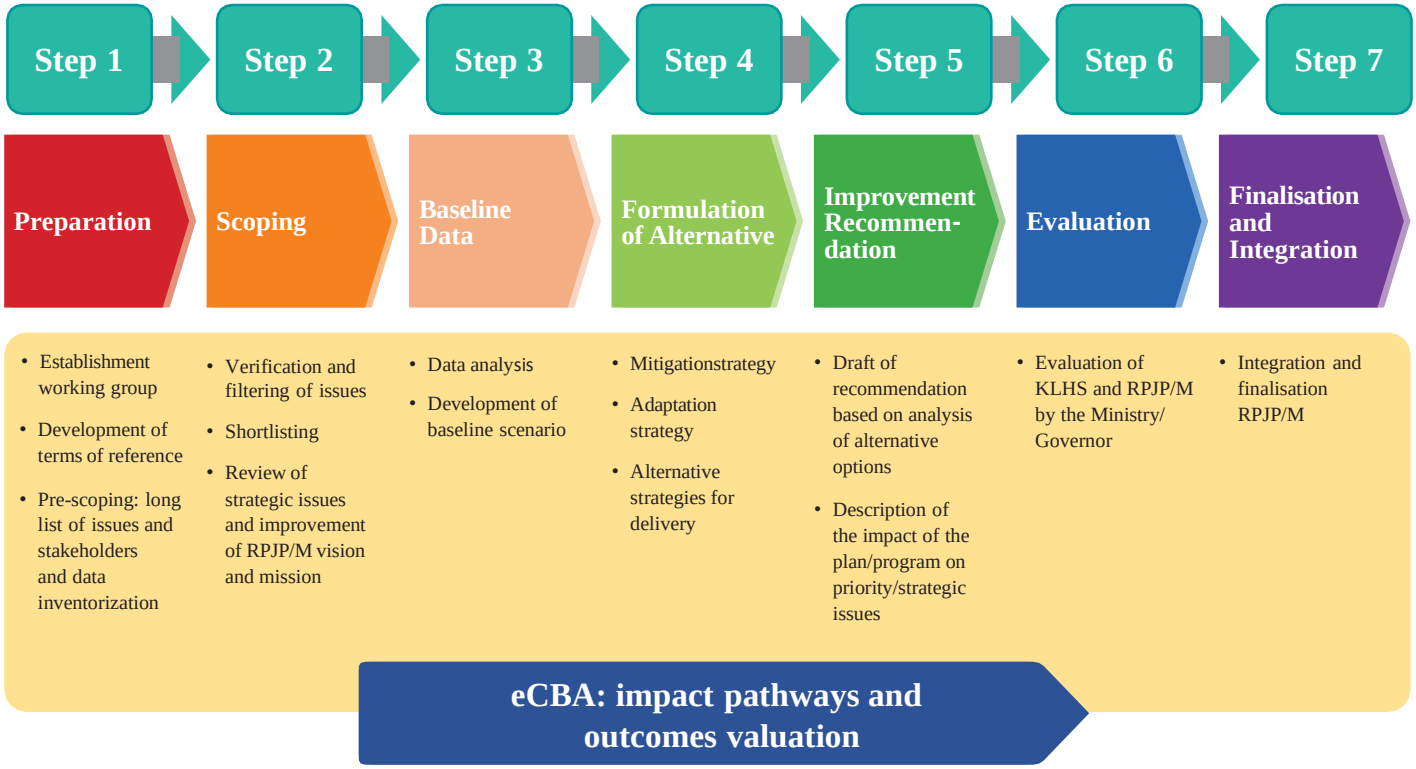


Figure 6: Summary of the steps to conduct an eCBA analysis.

3.6. The Capitals Approach (Natural & Social)

A capitals approach[10] moves beyond understanding impacts on the capitals to also highlighting how businesses can dependent on them. It proposes a valuation framework that can provide a clear business case for the protection of and investment in capitals health and resilience. It also helps investors to limit their exposure to environmental and social risks across global portfolios, while identifying opportunities for impact finance. A capitals approach places nature and people at the heart of businesses' decision making, rather than relying on CSR initiatives that are unconnected to their core businesses.

A set of easy-to-use tools requiring no monetized valuation and organized around the Natural Protocol and the Social & Human Protocol have been developed by the Capitals Coalition (https://capitalscoalition.org/).

The two Protocols are decision-making frameworks that enable businesses to identify, measure and value their impacts and dependencies on natural capital, social and human capitals and produced/economic capital as represented in Fig.7.

Chapter 4: Land Management

This chapter looks into questions related to land management, design and development of EIPs by offering guidance regarding land acquisition, master planning, nature inclusive design, symbiosis (common infrastructures building) and Public Private Partnerships (PPP) and green urban development linkages. It also highlights mechanisms to set up governance structures/arrangements for natural resource management.

4.1. IP Land Acquisition

UNIDO International Guidelines for Industrial Parks provides detailed recommendations on land acquisition, master planning and construction. The development of an IP requires the acquisition of a plot of land of the appropriate size, based primarily on phased occupancy demand projections, infrastructures and transport needs, greenspaces. It may also require the construction of infrastructure and transport means outside the park. The size of the plot depends on the planned number of enterprises, the requirements for ready-made factory shells and the extent of the common infrastructure and services needed on the site, as well as surface buildout ratios and setbacks.

Identifying and procuring land for an IP project is therefore often a challenge, due to legalities, expropriation considerations, social issues and high land prices. If inadequately addressed, these factors can result in delaying or even terminating the project. Park developers should thus thoroughly assess land ownership and use risks prior to starting construction.

The relevant considerations in land acquisition include the following:

1. Preference for parcels held by one or a few owners or that do not require assembling parcels, in order to avoid delays during the acquisition process
2. Consideration of possible future expansion, in terms of site size and zoning
3. Environmental and social impact considerations
4. No encroachment on a protected area or similar areas of conservation importance.
5. Avoid relocation and resettlement whenever possible and ensure appropriate compensation if it is the case.
6. Avoid impediments on access to all resources.
7. National legislation by international guidelines and practices regarding acquisition and/or expropriation and resettlement
8. Integration with local and regional planning
9. Consideration of ancillary industries.

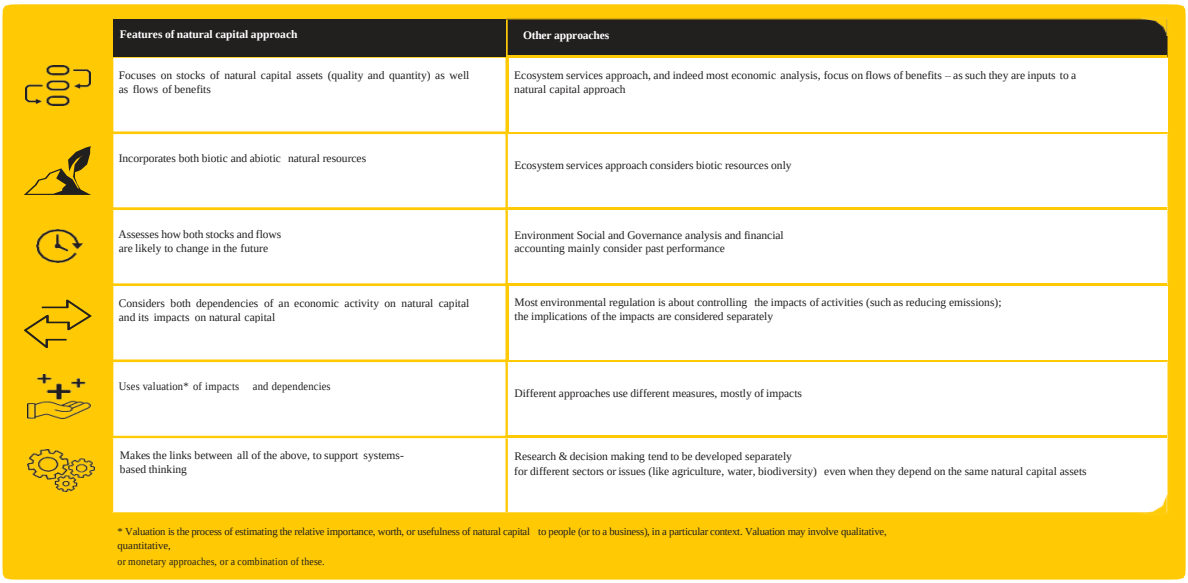
The land acquisition process depends on the region's land ownership policy as the land ownership can be purely private, joint or state free-of-chargeowned. In some countries, the government provides land to industrial park developers free of charge or at a minimum cost as part of an incentive package, whereas in other countries the land is sold, made available on a concession basis or leased, under varying terms and conditions.

The incentive package with free of charge land is not recommended for Uganda (and potentially for other countries as well) for several reasons.

- A greenfield IP development should be designed as part of an urban masterplan that would meet different stakeholders' needs and optimize positive development outcomes. GoU can retain more ownership on the urbanization process and harmonization by allocating IP land on a cost base and negotiating PPP arrangements for common infrastructures.
- The land cost acts also as a motivator for better environmental compliance and good management of public goods.
- If private land is acquired by GoU for the provision of an IP land, a cost-recovery mechanism with the tenants will help
- ensure a proper compensation to the former owners.
- A cost-recovery system may refrain the incentive to clear public landscapes such as forests, meadows, ponds, swamps or
- fragile drylands (that may not be listed as conservation areas) to minimize public costs.

10 https://capitalscoalition.org/capitals-approach/

Independently of the land charge system chosen, there are also international good practices for infrastructure projects that can be applied in IP development and complement the UNIDO guidelines particularly if relocation/ resettlement is unavoidable. Such guidance is provided by the World Bank, The International Finance Corporation IFC (Guidance Note 5 Land Acquisition and Involuntary Resettlement, Resettlement Handbook), the World Wildlife Fund WWF (WWF Network Guidelines on Prevention of Restriction of Rights and involuntary Relocation and Resettlement of indigenous Peoples and Local Communities, 2018). Such relocation/resettlement can also be part of a wider urbanization project in which the IP is a core component. While an investor might consider



Features of natural capital approach	Other approaches
Focuses on stocks of natural capital assets (quality and quantity) as well as flows of benefits	Ecosystem services approach, and indeed most economic analysis, focus on flows of benefits – as such they are inputs to a natural capital approach
Incorporates both biotic and abiotic natural resources	Ecosystem services approach considers biotic resources only
Assesses how both stocks and flows are likely to change in the future	Environment Social and Governance analysis and financial accounting mainly consider past performance
Considers both dependencies of an economic activity on natural capital and its impacts on natural capital	Most environmental regulation is about controlling the impacts of activities (such as reducing emissions); the implications of the impacts are considered separately
Uses valuation* of impacts and dependencies	Different approaches use different measures, mostly of impacts
Makes the links between all of the above, to support systems-based thinking	Research & decision making tend to be developed separately for different sectors or issues (like agriculture, water, biodiversity) even when they depend on the same natural capital assets

* Valuation is the process of estimating the relative importance, worth, or usefulness of natural capital to people (or to a business), in a particular context. Valuation may involve qualitative, quantitative,
or monetary approaches, or a combination of these.

Figure 7: Features of a Natural Capital approach.

such aspects to be intra-community issues, if not properly addressed they can fuel discontent and ultimately create conflict with the investor and the IP management. It is recommended to establish a national guidance on land acquisition, relocation and resettlement in line with international best practice. At the moment, Uganda land allocation forms[11] for Free Zone do not integrate the good practices recommended here.

Some key principles that can be highlighted from the numerous guidance documents are:

- Perform an in-depth study on land tenure systems and issues to address possible conflicts and inequitable representation due to
  power asymmetries in the access and ownership of land.
- Develop a baseline survey and cadastre map, the location of common resources and infrastructure in relation to the land parcel; any sacred grounds and physical property such as residential structures; and other assets. The baseline census and asset inventory should enumerate and register all affected people and determine the size of the affected population.
- Avoid resettlement and relocation whenever possible. If not evitable, a resettlement management plan should feature the esettlement sites selection and preparation, influx management, relocation schedule and assistance, replacement of services and enterprises, restoration of livelihood, cultural property, greenspaces and entertainment/wellbeing, special assistance to vulnerable groups. An eCBA can be performed to assess different land acquisition scenarios as well.
- Negotiation with land holders and/or users, based on free, prior and informed consent, to identify the types of rights to be transferred and modalities.
- Establish a grievance redress mechanism
- An assessment of the best valuation methodology for the determination of compensation needs to be performed that can reflect
  as well social, political, and cultural value. Include compensations for the shift in tenure status for example when contract farming is involved (compensation for both the customary owners and the tenants). Valuations made on market prices can be misleading for example is they do not account for the subsequent increase in land prices in neighboring areas due to inward migration and additional demand for land from those to be compensated. Thus, the compensation should enable to restitute similar or better housing, services and livelihood conditions (supported by a livelihood assessment and plan), contributing to poverty reduction.
  Depending on the situation, resettled population can be employed in the EIP or benefit from its spillover or simply be impacted by the workers influx. Thus, in both cases the compensation and/or housing should take into account the influence on the real estate market over a sufficient period of time.
- Transparent delivery of compensations properly witnessed and documented to reduce corruption risks.
- Compensation for lost earnings should be paid to proprietors and employees for the duration of work stoppages resulting from the relocation of enterprises.
- Inclusive consultation mechanism with all stakeholders and fair representations of all the groups in a community.
- Communication campaigns and service so that persons to be relocated are informed of their rights, consulted on options, and provided with technically and economically feasible resettlement alternatives and assistance.
- Governments should monitor resettlement procedures to ensure that investors act in accordance with national guidance.
- Governments should work with investors to ensure the availability of alternative livelihood opportunities for resettled people and
  to ensure training is offered on how to use compensation effectively in order to build future opportunities.
- As part of the IP Business Case Environmental Assessment, conduct a detailed assessment with other actors to determine whether critical conservation objectives for a particular area/species can coexist with the respect of the rights of resource dependent communities who may be relocated/resettled.

4.2. Master planning

A Master Plan is a dynamic long-term planning document at strategic level, providing a conceptual layout to guide future national growth and development. It makes the connection between buildings, social settings and surrounding environment which includes analysis, recommendations and proposals for a site's population, economy, housing, transportation, community facilities and land use. It is an essential part of the Business Case Development. It is based on feasibility studies sourcing information in public inputs, surveys, planning initiatives, existing development, physical characteristics and social and economic conditions in alignment with national policies, in this case the National Development Plans strategies and Uganda Vision 2040.

11 https://www.ugandainvest.go.ug/wp-content/uploads/2016/02/Land-Allocation-Forms-UIA-Form-2.pdf

A detailed master plan should guide the development of IPs especially; infrastructure development, site section and its long-term management. As per the UNIDO guidelines, the master plan should present the following features to ensure an overall successful design:

- Lay down long-term vision and a broad planning framework, with international site competitiveness in mind
- Address the target industries' specific needs.
- Focus on integrated infrastructure – with an emphasis on environmental management, utilities and inclusive social infrastructure. This comprises symbiotic infrastructures and PPP.
- Optimal utilization of available land.
- Flexibility in designing the built environment for multiple uses
- Synergies of collocation, circularity and industrial symbiosis (the exchange of industrial by-products, heat and process waste and by-products among closely-situated firms).
- Synergies of collocation of ancillary and symbiotic industries.
- Mixed land use.
- Conservation of important natural features.
- Enhancing physical connectivity to adjacent communities and regions (urban master plan).
- RECP, use of renewable energy sources and energy conservation, that includes a) incorporating built forms, technologies, materials, orientation and layout that contribute to energy efficiency (e.g. through natural ventilation, heating, cooling and lighting) and associated emissions; b) taking into account the potential for the re-use of existing buildings and materials.
- Integrated with regional and local planning.
- Compliance with planning norms and guidelines.
- DRR and climate change resilient, for example avoiding adverse micro-climatic effects (e.g. wind turbulence, noise reflection, etc.) through sustainable construction design.
- Sustainability and Nature inclusive design.

The master plan coverage in the feasibility study should comprise the non-exhaustive elements presented in Table 5:

FOCUS AREA	DETAILS
General background information on the project	• Global, regional and national, supranational context. • Project history. • Objectives of the project. • Methodology for implementation. • Preparatory studies and related research. • Stakeholder analysis
Local economy assessment	• Regional context. • Brief history, demographics, geography and climate. • Overall macroeconomic overview. • Infrastructure. • Local skills and availability of the workforce
Demand analysis and development strategy	• Market orientation at local, national and regional level. • Projection of production volumes by product and by site, unit prices, sales, objectives and so on • Consumer analysis and distribution channels • Competition analysis • Development of the park strategy • Development of the marketing policy • Marketing costs and revenues. • All other critical factors that can affect market potential.
Location analysis and selection	• Existing land uses. • Existing zoning and related subdivision requirements. • Existing industrial activity. • Assessment of the environmental and social impacts • Socioeconomic policies. • Access to transportation and utilities • Nature/biodiversity inclusive design options • Final choice of location
Site selection and its features	• Size of site required, plots and zoning • Required transportation (air, rail and ground) and relative network for each • Access to potable water and domestic sewer • Access to utilities such as electric and gas • Soil types and topography/drainage. • Cost estimates • Site selection
Raw materials and supplies	• Classification of raw materials and supplies • Requirement specification and certification of materials • Availability of supply • Procurement policy and program • Costs of raw materials and supplies
Engineering and technology	• Program and production capacity. • Choice of technology • Acquisition and transfer of technology. • Detailed plan of installations and basic engineering. • Choice of machinery and equipment. • Civil engineering works • Maintenance and replacement. • Estimates of general investment costs
Economic and financial analysis	• Site development costs. • Construction costs. • Amortized/annual costs. • Project management and maintenance costs. • Payback scenarios — long-term lease, purchase, rent or lease. • Detailed site-specific construction costs (difficult terrain or soil)

FOCUS AREA	DETAILS
Organization and overhead	• Organization and management of facilities. • Organization's conception. • Overhead
Visuals and initial design for Master Plan	• Developing a general layout with consideration to adjacent property, zoning and terrain • Developing road layouts for access and future flexibility during actual development • Laying out lots with appropriate access and future flexibility

Table 5: Non-exhaustive list of materplan coverage.

4.3. Infrastructure Planning

Infrastructure planning should be established based on existing plans, as well as on new site-specific survey and assessments. Such planning should take into consideration the following fundamental principles:

- Infrastructures should be modular, functional, cost-effective, flexible to take gradual occupancy into account and ideally be symbiotic (infrastructures mutualization) for IP companies but also whenever possible external companies and the city Waste minimization /sustainable & green concepts
- Life cycle operation and phased development, and management costs, and value for money analysis from developer and unit occupant perspectives
- Green and Blue solutions should be fostered
- Include also social infrastructures and services provision
- Based on supportive legislations enabling the sale of services and symbiotic resource as for example the possibility for EIP centralized contracting of pubic operators (water, telecom, energy) or the resale of renewable energy to the grid.
- Life cycle operation and phased development, and management costs, and value for money analysis from developer and unit occupant perspectives
- Green and Blue solutions should be fostered • Include also social infrastructures and services provision
- Based on supportive legislations enabling the sale of services and symbiotic resource as for example the possibility for IP centralized contracting of pubic operators (water, telecom, energy) or the resale of renewable energy to the grid

Table 6 provides some examples of typical industrial, environmental and social infrastructures present in IPs:

S/N	INFRASTRUCTURE	DETAILS
1	**INDUSTRIAL INFRASTRUCTURE**	• Development of integrated transportation infrastructure (on-site and off-site) • Development of power/energy infrastructure • Development of a logistics hub • Development of communications infrastructure • Development of integrated utilities infrastructure
2	**ENVIRONMENTAL INFRASTRUCTURE**	• Development of solid waste collection, transport and treatment facilities • Development of an industrial waste collection, sorting, transport and management system • Water source development and harvesting, including rainwater, treatment and recycling infrastructure • Development of wastewater treatment and recycling • Renewable energy infrastructure development • Development of co-generation plant • Centralized efflffluent treatment through centralized efflffluent treatment plants (CEPTs) • Provision of pollutant and toxicity testing facilities and laboratories
3	**SOCIAL INFRASTRUCTURE**	• Establishing an industr ial zone with compatible social infrastructure • Integrated industrial, commercial, institutional and social development • Development of knowledge, training and research support infrastructure • Provision of emergency services

Table 6: Typical common infrastructures in IP.

4.4. Zoning and Plots

Plots size should be determined based on demand analysis, as well as on the common infrastructure and services needed on site. The master plan should be flexible and ensure to:

- Create suitably-sized plots that are functional, accessible, accommodate future expansion and diverse enough to cater for various uses.
- Protect and enhance cultural, environmental and landscape features, and address the site's constraints.
- Maximize RECP and symbiosis between plots (including renewable energy design as for example passive solar design through plot orientation).

As per UNIDO guidance, IPs should be configured and organized in accordance with the expected uses of the land within them; this form of spatial organization and planning is known as "zoning". It is always an advantage for an industrial park to have different zones for different types of industrial and non-industrial activities. The relationship between industrial, residential (e.g., multi-format worker housing, hotel and guesthouse, etc.), commercial, administrative, social and recreational zones, and the expanse and intensity of each use, significantly impacts the project. Zoning helps by encouraging on-site economies of scale in utilities infrastructure concentration and utilization, for instance as regards waste collection and treatment, wastewater recycling, internal transport networks and other amenities. It also smooths vehicular and pedestrian circulation by enabling clear movement patterns.

Segregated internal zones such as the following are typical in an IP context:

- **Industrial and business zones for targeted sectors:** industrial plots, industrial factory shells and multi-story industrial and business units for non-polluting or medium-polluting industries.
- **Amenities zones:** information centers, training centers, R&D facilities and Innovation centers, clinics, administrative buildings, shopping centers, fire stations, weigh stations, restaurants, nursery, etc.
- **Special infrastructure zones:** certification laboratories, quarantine services, market intelligence unit, export processing facilities and One Stop Center.
- **Logistics zones:** loading and unloading yards, parking lots, packaging facilities, transportation hubs, cargo-handling centers, raw material collection and storage depots, goods storage warehouses, etc.
- **Utilities zones :** common infrastructures for example solid waste collection centers, electrical sub-stations, Common effluent treatment plants (CETPs), etc.
- **Residential zones:** worker housing, guesthouses and hotels, entertainment and leisure like sport facilities.
- **Green zones:** green belts and buffer zones along the park's boundaries (also for temperature and humidity control), lawns, parks and water features, internal walkways between zones, nature inclusive design, etc.

The acquisition and transfer of developed industrial plots, factory shells or warehouses can be done either through sales or leases. The decision to sell or to lease depends on prevailing land Llaws and or Rregulations in the host jurisdiction, market preferences and the types of assets offered. Leasing provides the greatest market entry and exit flexibility, and the lowest financial barriers for park residents as it does not require a large down payment. The sales and leasing price of serviced land and facilities depends on the location of the industrial park, and the extent of the available infrastructural facilities within it, prevailing local market prices and should enable developer/operator cost recovery plus margin, in order to enable the financing of future industrial park expansion and/or upgrade needs.

4.5. Nature Inclusive Design

IPs can address a range of RECP, DRR and Climate Change concerns through Nature Inclusive Design while benefiting biodiversity conservation and providing wellbeing to their workers. Many of those measures provide efficiency gains resulting in financial benefits and most of them are accessible. Some examples of measures and their benefits that should be comprised in the masterplan coverage in the feasibility study are presented in Table 7.

Natural feature	Example of service
Respecting soil and water balance	Incorporate places which absorb the rainwater, allowing some of it to seep away locally and to evaporate with cooling effects, and the rest to run off above ground in rivers and streams with habitat and landscape functions.
Cold air reservoirs	Water surfaces, woods, groups of trees and old solitary trees, hedges, meadows, green corridors, rivers and wetlands on the fringe of the built-up area as well as open and green spaces within an EIP can serve as reservoirs of cold air for the EIP, cities and residential areas.
Temperature management	Facade greening on an uninsulated building can provide cooling effect reducing the need for air conditioners in summer and reduce heat losses in winter. The outer skin of the buildings and roods covered with plants can also have longer life as they are protected from heavy rain, wind and pronounced fluctuations in temperature.
Trees	Through their leaves coverage, trees on asphalt surfaces exposed to the sun provide us with shade and evaporative cooling; cool the environment, filter out particulate matter and produce oxygen.
Ponds	Ponds serve multiple functions in micro-climate regulation but can also serve as conservation niche for fishes, amphibian or insects. Vectors control particularly in tropical areas should as well be enforced.
Nesting sites	Rooftops can be a habitat for rare and sensitive plants, birds (nesting sites), insects and other small creatures and thus provide compensation for built-on land, pollination, seeds provision, urban food security services or for conservation. There is a large unexploited potential for green roofs in combination with photovoltaic arrays.

Table 7: Examples of Nature Inclusive Design.

4.6. Industrial-urban symbiosis

In an upward urban integration concept, infrastructures can also be built as a **Public-Private Partnership (PPP)** on premises or outside the IP. The later should be considered, particularly if land availability in the EIP is an issue as for example for brownfield revitalization. In addition, an illustrative list of different PPP frameworks includes:

- Public provision of off-site infrastructure and facilities (utilities, connections and roads) while private funding is targeted towards on-site infrastructure and facilities;
- Build Transfer and Operate (BOT) and Build Operate Own (BOO) approaches to on-site and off-site infrastructure and facilities with government guarantees and financial support;
- Contracting private management for government owned zones or of government zone assets by the private operator (beneficial ownership);
- Equity shifting arrangements whereby a private contract manager of a government zone can exercise a purchase option once
  pre-defined performance levels have been reached.

Symbiotic infrastructures can be direct contributors to cost-savings from the tenants of an IP and the city public services and need to be well documented in order to generate more willingness to pay for the maintenance of the common services offered in an IP. Their specifications need to be well studied ideally before plots sales/rental and as part of the eCBA/Business Case Project development in order to avoid technical incompatibilities or dimensioning errors. The PPP arrangement should be based on a clear definition of rights, responsibilities, obligations and commitments of the private and public sector parties. The symbiotic concept is illustrated in Fig. 8.

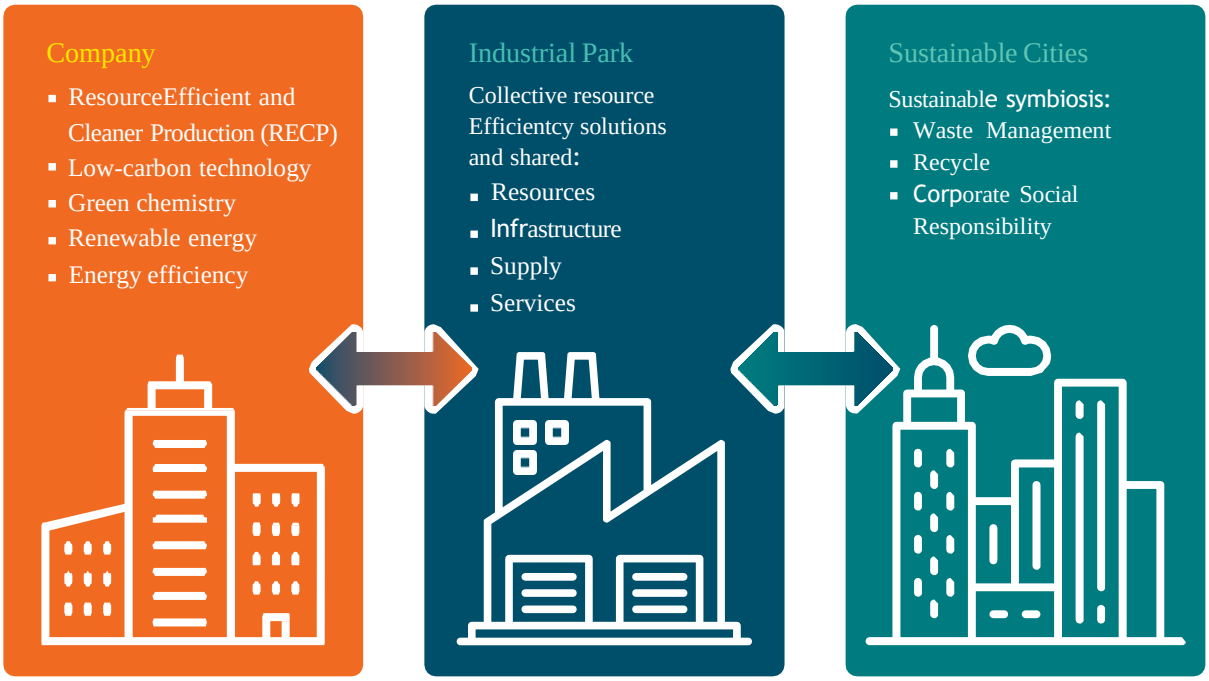


Figure 8: Upward integration in IPs.

4.7. Governance of Natural Resources Arrangements

As a result of the environmental and social capitals assessment and material and energy flux analysis for the IP, its surrounding areas and value chains, an identification of key natural resource for the IP function as well as the existing governance structures should have taken place.

While this assessment may result in redesign, conservation, mitigation measures or developing systems for ecosystems services valuation and payments, it is key to address the governance structure that will channel this support very early in the EIP design.

Some of the governance structures can take the form of:

- A long-term community of stakeholders: These groups are set up to develop a long-term community for a specific purpose and can be led by a government institution, a consortium of civil society organizations or can also be set up by a private sector actor or association. In Uganda, the Parish model may provide an entry point for it.
- Working Groups: These are set up for a specific, discrete, purpose, problem to solve or a plan to implement and often belong to a parent organization. There is an expectation that once the purpose has been achieved that the working group might dissolve.
- Rapid Response Groups: Those are set-up temporarily, with a very specific purpose in order to address an urgent issue, often a humanitarian crisis, a disaster or any other critical event.
- Overarching Strategic or Advisory Group - This is a high-level organization or government advisory service linking to a number of other partnerships, sometimes transboundary issues (for example water basin, forests corridors, etc).

Chapter 5: Operations & Management

Chapter 5 focuses on IP Operations and Management. It further details the roles of the key IPs stakeholders, looks into possible IP governance and management arrangements and the different phases for IP development and administrative procedures attached. In summary, those phases are represented in Figure 9 for a Greenfield IP implementation. Variations occur in the case of a Brownfield IP revitalization.

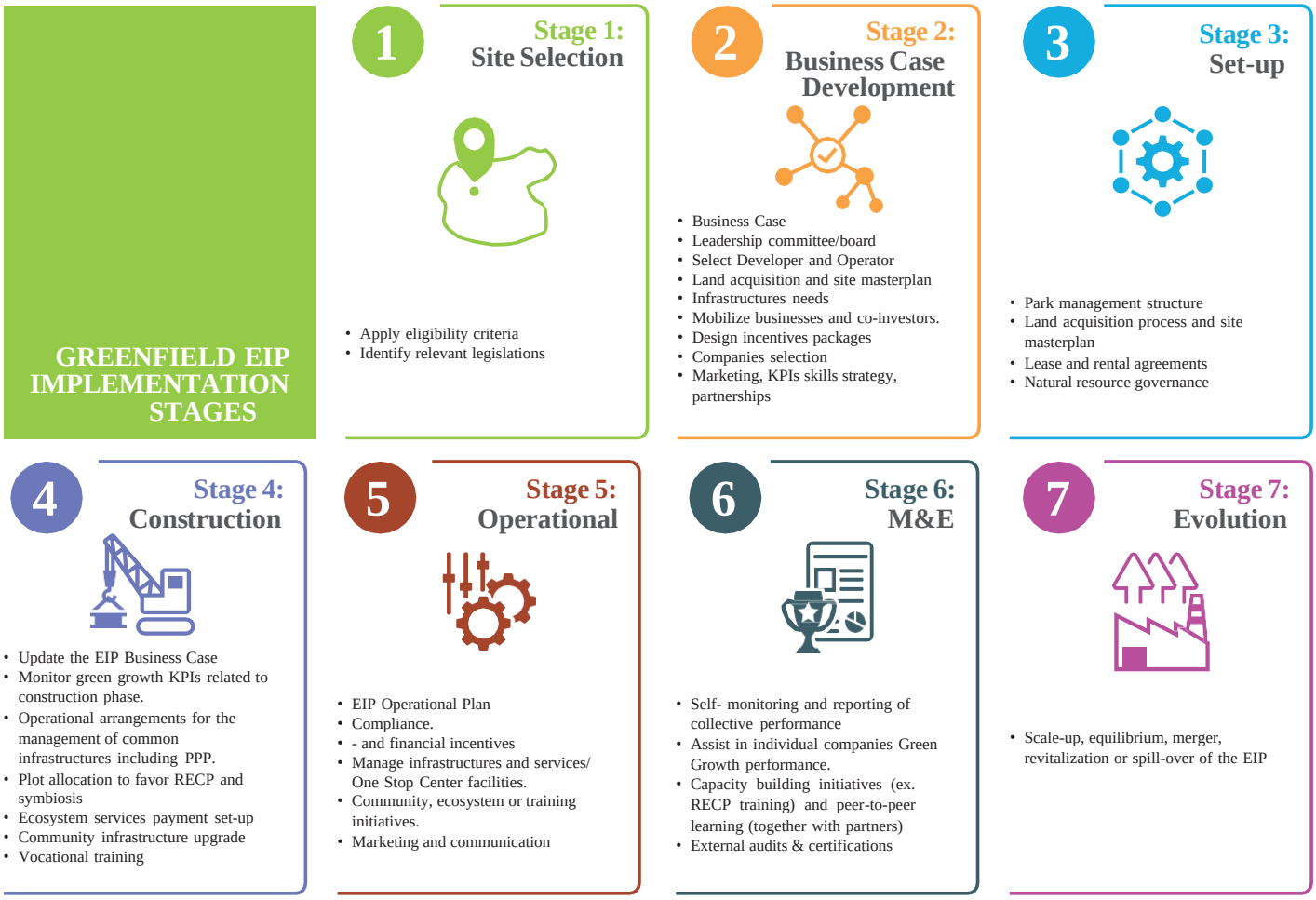


Figure 9: Summarized Greenfield IP implementation stages.

5.1. Approach

The establishment of a **greenfield** IP or the green revitalization of a **brownfield** IP requires to set up a smooth process flow with the governance structures, with clear roles, obligations and associated responsibilities. An IP may be established by Public, Private enterprise, or Public Private Partnership as a joint venture. The operation of an IPs includes the roles of IP Leadership/ Owner, Developer, Manager/ Operator, and Regulator. There are **7 implementation stages** for both greenfield and brownfield IP project, though the set-up and construction stages are optional for brownfield IP, as presented in table 8 and Table 9. They define the service delivery model, and corporate and legal structure for the proposed EIP, including details of the nature of the corporate vehicle that will be used to develop and operate the industrial park, the extent of participation from the public and private sectors in it, and their respective roles and responsibilities in terms of the design, financing, ownership, development and operation of the project. The basic constituent elements involved (i.e., Design, Build, Finance, Own and Operate) can be shared in many different ways between project sponsors.

7 Stages	Primary Responsible	Greenfield IP Implementation Stages Key activities (see roles and responsibilities in the tables above)
1. Site selection	Regulator	• Apply eligibility criteria for site selection to identify possible sites or to verify the acceptability of a site proposal. Identify relevant legislations applying for the site and if there are hampering or enabling ones.
2. Business Case Development (proposal)	Regulator/ Developer	• Develop Business Case on a range of analysis: goals, stakeholders, feasibility analysis comprising Productive, Natural and Social capitals and impacts assessment and extended cost-benefit analysis eCBA including to justify site selection. • Establish a leadership c ommittee/board to evaluate the IP Business Case, policies and targets. Business Case proposals examination. • Select Developer and Operator: Hold a legal tender and use an objective scoring system to select a developer and operator. There should be a competitive tender especially if the IP is publicly-owned. • Initiate the design of the land acquisition process and the site masterplan following green growth (sustainability) principles. Identify infrastructures needs both within and in the vicinity of the IP as well as PPP opportunities. • Mobilize businesses and co-investors. Design incentives packages. Start companies' selection willing to meet industrial ecology/green growth principles based on pre-defined criteria (and Charter), manage purchase, lease and rental agreements. • Identify or set up natural resource governance mechanisms. • Initiate marketing • Initiate KPIs definition • Identify skills strategy needs • Identify/Initiate possible partnerships
3. Set-up	Developer/ Regulator	• Design a park management structure for both construction and operational phase. • Finalize the land acquisition process and site masterplan • Continue companies' selection and manage purchase, lease and rental agreements. • Continue natural resource governance mechanisms set-up
4. Construction	Developer/ Regulator	• Park Management to update the IP Business Case such as verification of compliance of good construction practices, review on site/ common infrastructures set-up, marketing, charter… • Monitor green growth performance indicators related to construction phase. • Setup the operational arrangements for the management of common infrastructures including PPP. • Plot allocation to favor RECP and symbiosis • Ecosystem services payment set-up • Community infrastructure upgrade if applicable (housing, schools, hospitals) • Vocational training initiation if applicable
5. Operational	Operator/ Regulator	• Development of an IP Operational Plan based on the Business Case • Monitor and enforce compliance. Attribute the performance based/ green fiscal and financial incentives • Continue to manage purchase, lease and rental agreements. • Manage infrastructures and services and coordinate One Stop Center facilities. • Pursue or start community, ecosystem or training initiatives. • Pursue marketing and communication efforts
6. Monitoring and Evaluation	Operator/ Regulator	• Park management to do self- monitoring and reporting of collective performance and preferably assist in individual companies Green Growth performance. Facilitate capacity building initiatives (ex. RECP training) and peer-to-peer learning (together with partners) • External audits & certifications
7. Evolution	Developer/ Regulator	• Scale-up, equilibrium, merger, revitalization or spill-over of the IP.

Table 8: Greenfield IP implementation stages.

7 Stages	Primary Responsible	**Brownfield IP Revitalization Stages Key activities** (see roles and responsibilities in the tables above)
1. Site selection	Regulator	• Apply eligibility criteria for site selection to identify possible revitalization sites, to verify the acceptability of a site proposal or relocation.
2. Business Case Development (proposal)	Regulator/ Developer	• Develop an IP Revitalization Business Case. • Establish a leadership c ommittee/board to evaluate the IP Revitalization Business Case, policies and targets. Business Case proposals examination. The IP should already present a leadership and management structures but those can be assessed and revised for better performance. • Select Developer and Operator in case the activities are not directly implemented by the EIP management. • Initiate the design of the land acquisition process and the site masterplan following green growth (sustainability) principles in case of IP extension, infrastructures upgrades or off-site PPP are required. This includes possible remediation. • Mobilize businesses and co-investors. Review incentives packages. Enforce compliance through appropriate penalties and if applicable start companies' selection willing to meet industrial ecology/green growth principles based on pre-defined criteria (and Charter), manage purchase, lease and rental agreements. • Identify or set up natural resource governance mechanisms if not already existing. • Review marketing strategy • Review KPIs definition to integrate Green Growth • Identify skills strategy needs • Initiate possible partnerships
3. Set-up (optional)	Developer/ Regulator	• If applicable, land acquisition process and site masterplan for park extension or PPP infrastructures. • Companies' selection in case of extension or companies' replacement and manage purchase, lease and rental agreements. • Natural resource governance mechanisms set-up if not already existing.
4. Construction (optional)	Developer/ Regulator	• Park Management to update the IP Revitalization Business Case such as verification of compliance of good construction practices, review on site/ common infrastructures set-up and construction, nature-based redesign, marketing, charter… If applicable land remediation or relocation. • Monitor green growth performance indicators related to construction phase. • Set up the operational arrangements for the management of common infrastructures including PPP. • Plot reallocation to favor RECP and symbiosis if applicable • Ecosystem services payment set-up if not already existing • Community infrastructure upgrade if applicable (housing, schools, hospitals) • Vocational training initiation if applicable
5. Operational	Operator/ Regulator	• Development of an IP Operational Plan based on the Business Case • Monitor and enforce compliance. Attribute the performance based/ green fiscal and financial incentives • Continue to manage purchase, lease and rental agreements. • Manage infrastructures and services and coordinate One Stop Center facilities. • Pursue or start community, ecosystem or training initiatives. • Pursue marketing and communication efforts
6. Monitoring and Evaluation	Operator/ Regulator	• Park management to do self- monitoring and reporting of collective performance and preferably assist in individual companies Green Growth performance. Facilitate capacity building initiatives (ex. RECP training) and peer-to-peer learning (together with partners) • External audits & certifications
7. Evolution	Developer/ Regulator	• Scale-up, equilibrium, merger or spill-over of the IP.

1. Stage 1: Site Selection

The site selection for a greenfield IP should be determined by the eligibility criteria and sector prioritization. The regulator would approve site selection for IPs but may require national level approval for high impact project and for Green SEZ. For a brownfield revitalization, the site selection and the IP eligibility criteria verification go together, whether the government wants to prioritize sites or that the request is presented by the IP management itself.

2. Stage 2: Business Case Development Proposal and licensing

In this stage, the Business Case project proposal is developed by the EIP Developer. It is recommended to develop a Business Case Project proposal template with checklists that can assist developers in drafting comprehensive and competitive proposals. A simple pre-screening application form prior to the Business Case Proposal needs also to be designed. However, it is recommended to rather use an online Portal that could be linked to an industrial database. A working group/committee to guide the process and evaluate the proposals should be set-up as well.

Additionally, is recommended right from the start to set up a local consultative committee that would have a wide participation.

The proposed general licensing procedure for an IP in Uganda is presented in Table 10.

Item	Description
1. Application for the development of the IP	The Developer submits a prescreening application form to the Regulator together with the processing fee. The processing fee should not be a barrier for small scale IP (SMEs, associations) and should thus be set proportionally to the IP financial proposal (greenfield) or IP turnover (brownfield). If the prescreening is favorable, the Developer submits then a full IP Business Case proposal for approval by the Regulator for the development of an IP, within 180 working days, whereby it would have conducted all the detailed feasibility studies and eCBA, land acquisition scheme proposal, site masterplan and other certified documents. To be entitled to present a proposal, the IP developer has to have the following ability and duties as stipulated: • Have sufficient capital and means to develop the infrastructures in the zone, including the human resources to manage the activities of the zone. • Have the legal rights to acquire or possess the land for establishing the IPs. • Have the capacity to perform the functions associated with a Developer (see Glossary).
2. Examination of an application	The Regulator shall evaluate and notify whether to approve or reject the request to the IP Developer within 28 working days for the prescreening, and 30 working days for the Business Case Proposal. The evaluation process shall involve: • A prescreening evaluation of IP Applications shall be conducted to review whether the application meets the site and IP eligibility criteria. Applications which do not meet the prescribed criteria shall be rejected by recording reasons in writing. The applications which meet the prescribed criteria shall be invited to submit the full Business Case Proposal and considered for further detailed evaluation. • A detailed evaluation of an IP Business Case Proposal shall include all the elements presented under Chapter 4. Applications which do not pass the evaluation shall be rejected by recording reasons in writing. Rejection can be definitive or the Developer can be given an extension in order to submit an alternative or revised proposal. The applications which meet the prescribed criteria will be issued a Final Registration Certificate.
4. Final Registration Certificate (FRC)	The regulator issues the FRC within 30 days of notifying the develop of its approval.
5. Declaration of the establishment of the IP	Upon issuance of the FRC by the Regulator, the Sub-Decree is issued to define the establishment of the IP and its boundaries.

Table 9: Brownfield IP revitalization stages.

Item	Description
6. Withdrawal of the approval	The Regulator has the right to withdraw the approval on the establishment of the IP and incentives which were granted (particularly for Green SEZ) through the FRC on the basis that the IP Developer has not implemented at least 30% of the total investment capital of the project within 365 working days after receiving the FRC.

Table 10: IP licensing process.

How companies will be selected for the viability of the economic project but also to meet industrial ecology and green growth principles. The opportunity to do RECP and symbiosis between companies is therefore one of the criteria. The buy-in towards a green SEZ concept another. **Ideally companies should be willing to adhere to a Charter that will stipulate how their activities will be aligned with development and green growth goals. Most of the criteria defined for the IP Business Case Proposal apply to individual companies application too as each of them should be contributive to the overarching goals of the IP**. This activity will be pursued in all the project phases taking into account that the park will have to incorporate new companies till completion but also to replace companies that may leave, fail or get rejected for non-adherence to the Green SEZ principles. That applies also for brownfield that may require a change of part of the companies, bringing new companies to improve symbiosis opportunities of technology transfer or simply as an expansion of the site.

5.1.3. Stage 3: Set-up

This phase should formalize the park management structure and task it with the daily delivery and monitoring of the park construction and operation. The park management structure can subcontract other operators. In some countries, a split between park management during the construction phase and during the operational phase is done. One of the reasons to do this split is when using a private sector firm with the required expertise to manage the construction but that may lack the expertise to do the operations especially as we are looking at a green growth performance. Many construction firms are trying to expand to operations without the required skills to perform RECP support, green growth performance monitoring or deal with ecosystem services payments. However, this solution may present accountability issues at times if any problems with the construction appear during the operational phase, because then the IP management will face difficulties to get the previous firm to fix them. Having one management only throughout both construction and operation offer more continuity to the project and is often preferable as the construction skills can be subcontracted.

The composition of the management body is important to guarantee its capacity to ensure a smooth, business-minded and flexible zone governance and an effective and fair supervision of executives. An effective zone management body should also provide networking and interaction platforms for all stakeholders. The land acquisition should be finalized in this stage as per the recommendations in Chapter 4.

An example of park management basic set-up has been developed for the UNIDO handbook (UNIDO, Implementation Handbook for Eco-Industrial Parks, 2017) and is illustrated in Figure 10.

Because the eligibility requirement for a brownfield the eligibility requirement is that a management structure should already be in place, ideally the management should remain in charge for both construction if applicable and operations phase with the use of sub-contractors.

There is no single set of functions that would fit every IP as it would depend on the size and activities, smaller parks may fuse functions while others may have enough workload to split them further. Key functions of park management are:

- **Board:** The board constitution of the IP can vary but would typically include investors, government representatives at various levels (for government owned IPs), representatives of the tenants' association, etc. The more the board is inclusive while still remaining effective, the best it can generate shared benefits. When further consultations are needed with the communities for example, the board can link with existing government coordination platforms.
- **Executive Director:** in charge of the day-to-day operations of the IP and responsible to the Board of Directors. Ensures that all systems function properly and all staff perform to expectation. In charge of representation of interest and objective of the park at local or regional disputes and high-level stakeholder meetings. He/she is supported in its daily functions by a secretary.

- **HR Manager:** Performs all HR functions, provides legal advice, facilitates staff training. Due to the complexity of legal matters, it is also possible to add a legal advisor or to outsource legal services.
- **Financial Administrator:** Ensures the park financial sustainability, monitors companies' competitiveness, supports internal audits.
- **Engineering/Maintenance/Logistics/Transport Manager(s):** maintenance of facilities and infrastructure in the industrial park, responsible for allocating land for factory, reviewing and liaising with the local government authorities for approval of plans and permits pertaining to new construction or machinery approval, monitors clients' construction projects to ensure adequate compliance, OSH (Occupational Safety and Health can be supported by a safety and risk officer), Security including Fire & Rescue, Facilitation of knowledge sharing and collaboration between companies (e. g. waste management, cleaner production, etc.) as well as technical trainings.
- **IT Manager:** In charge of telecommunications, computer equipment and information management including database management support.
- **Marketing & Communication Manager:** Responsible for developing marketing messages and image of the park, supporting the promotion of products, medias representation, receiving and progressing applications from new companies as well as marketing to new potential tenants. Can act as liaison officer in smaller parks.
- **Environmental Compliance Manager:** Environmental monitoring and recording, enforcement of the park's code of conduct (including confidentiality and intellectual property issues) and relevant regulatory compliance and beyond compliance
  issues, facilitating CSR measures, supports internal audits and facilitates certifications obtentions.
- **Liaison Officer (can be performed by other nominated officer):** Stakeholder consultations including local citizens and government officials.

4. Stage 4: Construction

The construction phase corresponds to a specific set of process monitoring and impact monitoring to ensure the compliance of the project with the masterplan. Crucial to this is the quality of its engineering plans. The infrastructures planning and construction require the preparation of scale drawings and layouts, the selection of appropriate technology and equipment, site preparation and construction planning, project delivery scheduling, and approvals by the relevant authorities and IP leadership.

Accompanying activities are rather performed in the final stage and concern the mobilization of companies, the set-up of the various social, ecosystem and common infrastructures designed in the proposal. The park management may work with a reduced team at this stage or integrate specific skills necessary to monitor the construction.

This stage is optional for brownfield but in reality, most projects will require at least infrastructures upgrades. Some sites may require an extension if land is available or to externalize infrastructures preferably as PPP measures. Otherwise, on-site modifications may consist of redistribution of companies plots to increase RECP and symbiosis opportunities in line with the infrastructures upgrade envisioned. It can also simply be an entire park redesign to integrate nature-based design. A good example is the upgrade of shells to allow for solar energy capture and green cover for isolation.
In some cases, land remediation can be envisioned. Though it is a costly process often leading investors to opt for greenfield sites, the process of impacts and costs internalization together with eCBA scenarios should show the multiple benefits of remediation over new land clearance particularly on the social and environmental impact aspects. Other wider green urban projects may rather opt for a complete IP relocation for a better integration with the urban masterplan, in which case the process would be more similar to greenfield.

5. Stage 5: Operation

This stagecorresponds to the full operationalisation of the IP. The management team needs to be complete and one key task is the development of an IP Operational Plan according to the Business Case with the participation of the companies. The management needs to ensure that the infrastructures are functioning and the various services provided (under its direct supervision of the park management or through contractors). It should also oversee and advocate that government counterparts effectively allocate the resources committed, for example a One Stop Center or the attribution of green fiscal and non-fiscal incentives.

Many of the key tasks are described under management responsibilities. Some additional comments on key industrial services management such as Energy and Waste are:

- **Energy Management:** The use of renewable energy and low-carbon technologies, as well of industrial symbiosis where relevant, can be ensured through conducting ongoing energy audits to determine energy use. Industrial Park operators, in addition to regularly conducting such audits, should support industries in implementing energy management systems

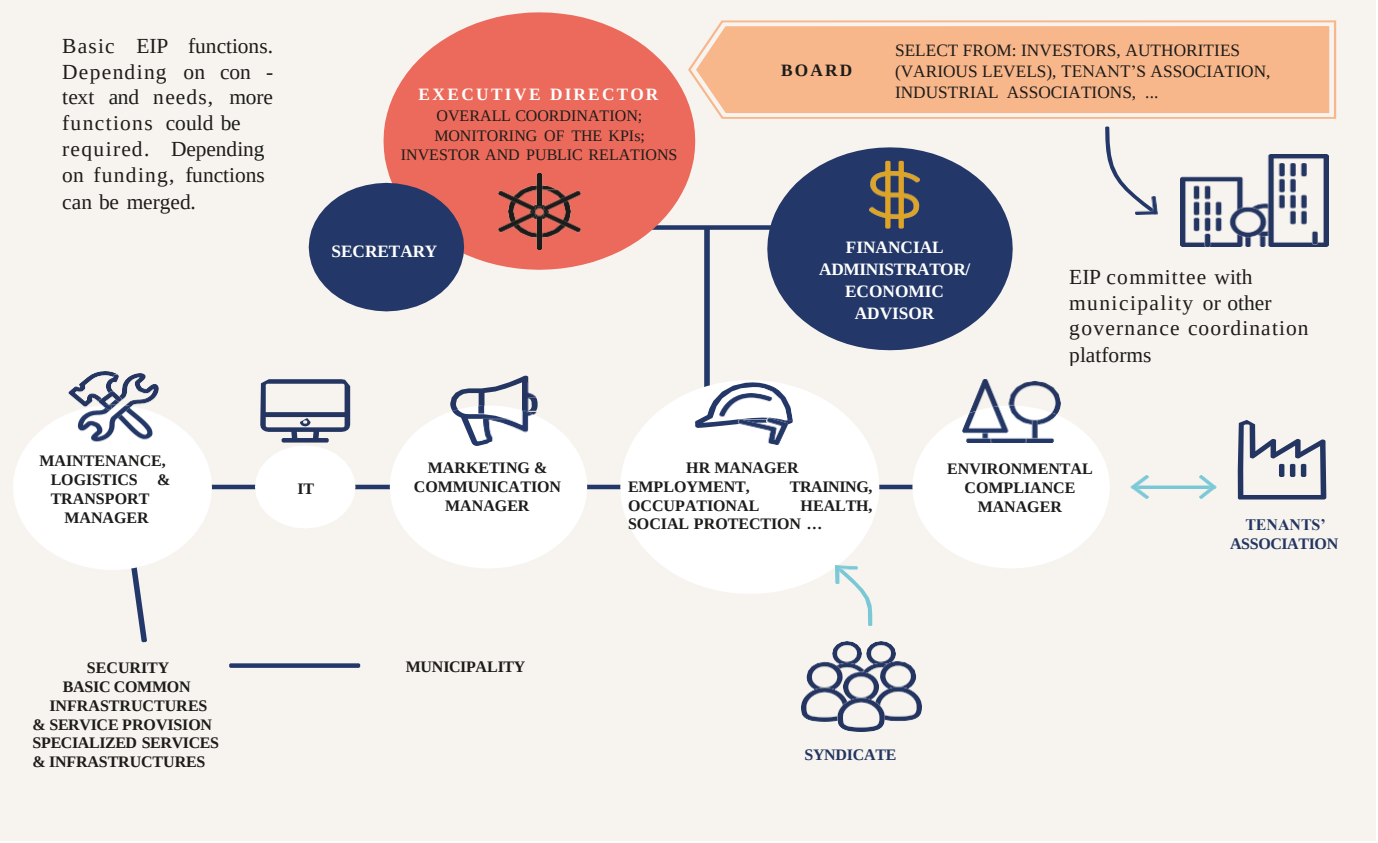


*Figure 10: Main functions in an IP management structure. *Source UNIDO EIP handbook*

and in identifying energy efficiency and renewable opportunities. The following aspects of energy management should be ensured:

a) **Matching energy supply and demand:** To ensure that users in industrial parks have access to sufficient energy, it is essential to properly project and manage each user's demand, based on sound consumption-based systems. Industrial Park operators should establish firm-level metering systems in line with electricity regulations. Furthermore, prospective residents must provide energy demand and consumption plans as part of their application.

b) **Promoting energy efficiency:** Industrial Park operators should identify opportunities to reduce energy consumption and energy clustering and cooperation among residents. Such cooperation can be achieved through clustering buildings and processes, energy exchange, collective production and joint energy services. Surplus energy (for example heat, electricity, steam, biogas, etc.) from a plant can thus be transferred to other companies in the park (or even to nearby communities.

c) **Promoting nature-based solutions and designs.**

Waste Management Plan: It is important for the park's management to adopt and continuously monitor the implementation of a waste management plan in park operations. Park Management should encourage waste prevention, reuse, recovery and recycling, through programs promoting cleaner production, resource efficiency, recycling and materials exchanges, in order to facilitate transactions between waste generators and industries that can use waste as raw materials (RECP and Symbiosis). For waste treatment and disposal, once the IP has put in place the appropriate infrastructure and technologies for the treatment of the wastes generated by the park's resident firms, depending on the characteristics of the waste they generate, the management needs to implement standards on what resident firms can discharge into common wastewater management systems.

The Waste Management plans should ensure the following:

a) *Reducing hazardous substances*, pollutants and contaminants at the source by upgrading production systems and technology, as well as modifying inputs and products;
b) *Reuse or in-process recycling* of the product in its original or in a modified form. For example, wastewater or chemicals used in tanning can be reused through an onsite chromium recovery unit;
c) *Recycling through the separation and sorting* of materials otherwise destined for treatment or disposal, for reincorporation into the same or different products, either at the factories, on-site in common facilities or off-site;
d) *Recovery through the extraction* of raw materials for their subsequent use as manufacturing inputs, by establishing materials exchange or marketplace programmes facilitating transactions between waste generators and industries that can use waste as raw materials;
e) *Treatment through applying technologies* to reduce the volume, mass and toxicity of waste prior to disposal. Waste can, for instance, be treated through thermal, chemical and biological processes, depending on the form, quantity, characteristics and degree of segregation of the waste;
f) *Industrial symbiosis through the synergistic and cooperative* exchange of industrial by-products, energy, water, byproducts, and processing wastes among closely situated firms;
g) *Disposal* through the release of unused waste materials into the environment, after at-source reduction, reuse, recycling, recovery, and treatment, using the most appropriate method based on the waste characteristics. Park operators should ensure that their disposal sites are suitably located, fairly close to the source of the waste, separate from residential and commercial areas, off floodplains and on a geologically-stable base.

5.1.6. Stage 6: Monitoring and Evaluation

This stage refers to the assignment of a working unit/expert team to lead the monitoring of set targets for the IP development including the green growth indicators and targets in the EIP. This topic is covered in examples of measures facilitating RECP audits. It is constituted from both EIP collective level performance monitoring and individual companies auditing through both internal and external audits, associated or not to certifications. Those indicators should cover both compliance and voluntarily beyond compliance targets. They should also be featured in the EIP Annual Report. Community level impact indicators are necessary to have contextually relevant indicators and should be defined through the natural resource/environmental governance groups together with the prevailing national legislation.

Environmental impact assessments are a process and procedures of collecting information on the potential environmental impact of a park project conducted by the developer or other party, and including all concerned stakeholders, that should inform the decision-maker on whether the development of a park should go ahead. They are not limited to the IP Business Case Project Proposal development. As contexts evolve, IPs or their value chains may expand over time. Applying continuous environmental impact assessments can help the park sustain its environmental performance and sustainability while enabling to adjust assumptions and refine projects. The environmental and social mitigation plans (ESMP) need to be continuously revised as well and the level of implementation closely monitored. If implementation is insufficient or delayed, there should be clear measures triggered such as penalties both from the regulator and the developer/management or a revision of the scenarios and stress tests to identify new adapted measures.

A similar approach needs to be taken for social requirements monitoring, as for example:

- Set up and regularly update management and monitoring systems at the park and company level to address relevant social aspects.
- Use industrial safety systems to protect workers, assets and the environment, particularly in hazardous process industries, like oil and gas and nuclear plants, and chemical industry — using available international industry safety conventions, standards, norms and best practices for management systems and benchmarking tools.
- Set up a security control mechanism, since natural hazards, political instability (sabotage), cybercrime and other developments can cause massive damage to industry, society and the environment.
- Set up an occupational and health and safety management system.
- Establish grievance management systems, which encompass monitoring and reporting of any internal grievances (over workplace issues) or community grievances (stemming from the ongoing operations of the park (pollution, leaked chemicals). The mechanisms should be designed with the community and should be understandable, accessible, transparent and culturally appropriate.

The regulator will also perform monitoring both of the park performance and of the level of development of the IP Business Case implementation (for example the amount of finance invested compared to committed or of the infrastructures constructed).

5.1.6. Stage 7: Evolution & Resilience

An IP is not a static structure but rather an evolving entity. Its sustainability over time is a sign of performance but not necessarily its growth, as we have seen that an EIP production needs to be commensurate with the environmental bearing capacity. Ideally, a SEZ should initially scale up from the first businesses installed to attain its optimal size from which further growth would take the form of a spill-over of its services/good practices/ economic stimulation. Such spill-over can happen in various manners such as the outgrowing towards a new IP or an extension, the strengthening of companies' values chains (by including IP performance to the performance of the suppliers), the participation of companies outside the IP (to share services or apply the same standards) and the evolution within an eco-city whereby the whole city becomes the industrial ecosystem. IPs can also decline due to various factors, sometimes of a macro nature independent from the IP performance, definitively or temporarily as exemplified by the Covid-19 crisis. It is important to consider all the scenarios overtime so that as to take actions to maintain competitiveness.

5.2. Governance

The developer entity presenting the IP Business Case Proposal may be set-up for the purpose of developing and managing the EIP. A good practice would be to ensure that an inclusive participation of various stakeholder be part of the IP leadership, while the management of the IP can be done either by the developer, or sub-contracted.

Best practices suggest that a sound leadership body should include all relevant national and local stakeholders such as:

- Public authorities, both national and local.
- Representatives of civil society.
- Private business representatives, such as business associations and chambers of commerce, especially at the local level.
- Tenant firm representatives.
- Banks and financial institutions (in large and important zones).
- Universities and research institutions (especially for technology parks).

The IP management models can be classified in 4 categories as per the UNIDO hanbood summarized in Table 11.

IP management models	
Associative management model	In this model, IP tenant companies organize themselves in an association with the mandate to manage usually one and sometimes several industrial parks. In this model, there is no distinction between park leadership and management and little or no intervention from government.
Government management model	The government ensures the management of the lP through a dedicated team issued from a designated national, regional or municipal authority (for example trade ministry). It is often the case for special economic zones requiring high government investment. It is possible to have a government managed lP model whereby the park operation may be subcontracted to one or several private operators (refer to IP private management model in this case).
Mixed public-private management model	This model refers to a government managed IP where assistance from a private contractor is required in addition to government employees. This partnership can be permanent (e.g. a government liaison officer is a permanent staff member while the private company provides the other park management positions) or temporary (e.g. as part of a capacity building process until the government can perform all park management functions itself). An NGO or foundation can be set up by a mix of tenant companies and local authorities to manage the IP by facilitating a cooperative approach to service provision, shared between a city and private sector.
Private company or individual management model	In this model, the park management is run by a private operator or real estate agent.

Table 11: IP Management models.

A major factor contributing to the success of an IP is the autonomy and effectiveness of its management. A substantial national capacity building program with a skill transfer scheme (using for example sub-contractors or consulting firms support) should be set up and capacity analysis should be done before opting for government staff to manage an IP. Besides, management is a performance-based assignment. Regular evaluations should be featured to assess the capacity, continue or revoke the management contract.

Arguments in favour of privatization would require that public authorities remain engaged in purely regulatory functions and preferably move away from owning, developing or operating zones. This is expected to eliminate any conflict of interest arising from the regulating body having the authority to approve zones and projects and at the same time owning specific zones.

This should be backed up by an effective institutional framework featuring:

- Sufficient autonomy of the zone authority particularly over staffing, budgets, spending and policy making should be ensured and
  be clearly stated in the law;
- Efficiency of the zone authority should be maximized by constituting an independent board that is composed of representatives of all key involved government ministries and private sector representatives, be it the private developers or the investors in the zone.

As the roll-out of IP is a learning process, it is also of interest to keep a diversity of management models within a country for testing and fine-tuning. A strong government implication can boost the path towards IP (particularly greenfield) by attracting investment and putting in place the needed infrastructures. Nevertheless, an IP management is not a static structure, it can evolve from one model to another over time for example from of government managed IP towards privately owned. This aspect is often linked to the period needed for the park to reach financial sustainability. Whatever the model chosen is, the bottom-line should be that the IP works on a cost-recovery model, respond to the performance requirements, be adapted to the local context and maximizes environmental, social and economic accountability.

Moreover, the IP management contractors should respond to a number of criteria:

- This can apply for example when an IP management is the same contractor used for the site construction.
- The selection of the operator should be based on an appropriate capacity analysis. Difficulties in language, in governance models, demotivation and turnover of management staff, non-lean management and inexperience of the staff are some of the gaps that are often observed with contractors.
- The IP management should facilitate communications between tenants and the authorities, signs of bypassing should raise questions on its capacity to perform this role effectively.
- The IP management should show good accountability practice towards the authorities. It is expected from IPs and tenants should
  show more compliance if possible than companies not organized as an IP.
- Willingness to pay for IP management services should be discussed forefront with tenants before their shed acquisition. Failure to do so may lead to no willingness to pay by the tenants for IP management services resulting in IP lack of financial sustainability. It is often neglected in government owned model, leading to resource gaps once the management gets privatized
  or when government budget reduces. Needless to say, a park operator needs to demonstrate the added value of the IP management services.
- A service attitude and financial sustainability (self-recovery) approach should be requested from the IP management contractor. The contractor should be actively engaged in analyzing financial revenue gaps and look for revenue streams opportunities. Payment by government for IP management contractors' services may create disincentive.
- An evaluation on IP management job performance should take place regularly and prior to grant of more contracts to a particular IP contractor. Some countries entering in a rapid industrialization process may be tempted to award contracts to the same contractor in various sites at the same time without sufficient performance analysis.
- An IP contractor should have a clear understanding of the IP principles. IP model understanding from the contractor, technical and adequate instruments to operate EIPs are needed as well as the willingness to learn. Capacity building in IP management should be a core feature of national industrial programs in order to support IP development.
- The IP contractor should be able to transfer knowledge effectively. IP contractors may be required to transfer their functions to governments employees in some EIP management models. The capacity, willingness, technical and cultural understanding of the contractor to provide training and build up government staff capacity should therefore be assessed thoroughly.

Chapter 6 : Skills

Skills Strategy looks into social and human capital in the form of employment and human resources management, representation, occupational health, green jobs opportunities offered by IPs, training and continuous learning as well as possible linkages with social protection schemes through PPP

6.1. Skills profile and key HR principles

IPs aim to attract skilled profiles while at the same time providing employment to the local communities. Profiles needed for the Park Management are described in Chapter 5. Depending on the IP size and specificities, those profiles can be of international calibre. Therefore, recruitment will need to offer an attractive package for both local and international staff. In the long run however, the goal is to be able to nationalize the majority of those profiles, once the skills gap has been bridged. This is easier said than done and any government program aiming at such needs to ensure competitive recruitment to make sure skills and experience prevail in the selection for those roles. Smaller and particularly SMEs parks may not be as demanding as they could also be managed by an association for example. However, their success would depend also on general business management skills which may lack both at park and companies' levels. This is why government business support programs to SMEs are key to capacitate local entrepreneurs to rise to the IP management challenge.

At companies' level, management profiles may also be of short supply and require international recruitment, particularly if locally the technical knowledge is missing. Similarly, though, the long-term goal will be to capacitate and train local staff to perform those functions, potentially linking with university programs to ensure that cursus translate into competencies useful for local employment. Besides management, companies would need both skilled and non-skilled profiles depending on their particular sector and company identity and know-how. It is not possible to describe them all here but it should be part of the social capital feasibility assessment to first identify the skills needed. This chapter aims at providing the key principles of good Human Resource management and how to keep IP attractive for all staff whatever their levels. Attracting the right profiles is not a mere question of wages but concern the overall work environment, package, community relationships and brands (both IP and companies') values sharing. These are articulated around the following elements.

Employment and remuneration: The IP should be compliant with labor laws and offer competitive salaries while attempting not to create negative inflation repercussions on the local communities. For non-management staff and particularly unskilled staff, it is recommended to perform a Household Economy approach to ensure that the wage meets the basic needs of a Household independently to its reaching the compliance rate. Similarly, as a good social practice, the IP could foster the reintegration of unemployed people for example through collaboration with the social safety nets or unemployment services. It can also facilitate access for the youth through having junior programs and mentorships.

Labor relations: Labor regimes in IPs should be consistent both with national and international norms including ILO standards and obligations including core rights of assembly, organization, and collective bargaining. In addition, foreign worker employment regimes should be transparent yet discourage excessive dependence on foreign labour at the expense of the domestic labour market. Responsible labor relations management has a direct influence on the sustainability of industrial parks as it affects the size, morale and productivity of the workforce. The following should be applied to enhance labor management relationships:

a) **Decent work** - Industrial operators should ensure employees' right to proper working conditions and such rights as equal pay for equal work. A widely-adopted practice in this respect is for operators to undertake due diligence on the enterprises during the resident identification and approval processes, in order to identify firms with poor social and safety records;
b) **Labor unions** - Labor unions should be permitted in industrial parks in accordance with the applicable rules and regulations in the country;
c) **Legal issues and dispute settlement** - It is vital to establish a mutually-agreed dispute settlement mechanism for conflicts arising within an industrial park;
d) **Provide basic protections of worker rights and safeguards**, and promote superior standards of worker welfare, standards and practices to attract talent, enhance workforce skills, and contribute to quality jobs and a knowledge-based economy. Inclusion and diversity: This can address disparities in terms of gender, disability, ethnic or other criteria. Progresses in inclusion and diversity should be monitored through associated KPIs amongst which in particular, access for women to management positions.

Access to essential services: A good practice is to offer full medical coverage for employees and their families. The social capital feasibility assessment should also inform whether the local health system has the capacity to cater for the additional caseload. In some cases, PPP arrangements or the establishment of an on-site clinic can be fostered.
e enforced so that there is a coherency between the IP management values and the companies as refers to the social capital. IPs can also feature leisure infrastructures to enhance this feature.

Personal security in the workplace and community: It is recommended to adopt both local and international standards in this regard and ensure that each company enforces security. It is possible to adopt ethical, fair trade, and similar certifications that put those aspects under high scrutiny.

Privacy: Similar enforcement of privacy protection needs to happen at park and companies' levels.

Access to land and culture: This aspect is particularly crucial at the land acquisition stage but remains important throughout the park's operations as staff may have been brought from outside of the communities, requiring cultural adaptation and respect all along.

Physical and economic freedom of movement: This is also particularly crucial at the land acquisition stage.

Law and order: Enforcement of legal and regulatory compliance needs to happen at park and companies' levels.

Value chain relationships: IPs aim to create a virtuous circle also with the value chains building mutual trust and good collaboration quality. All the enumerated principles should apply to the value chains and social accountability should be operated also at value chains level.

Skills and knowledge: Experience, training (including re-skilling, up-skilling and lifelong learning), education, creation and dissemination of intellectual capital, availability of a skilled workforce are all promoted in an IP.

An aside is to link IP Employment with Resilience, Social Protection and Safety Nets: As per the UN definition, Resilience is the ability of a system to reduce, prevent, anticipate, absorb and adapt, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions. It builds on DRR efforts but goes beyond by aiming not only to "build back better", but to take the "opportunity" of disasters as an opportunity for change to achieve a better situation than before. It is multisectoral and multihazards and takes into consideration both systemic and individual risks. For a country to ensure equitable growth, it is necessary to build shock responsive Social Protection or Safety Nets programs that can address the most vulnerable and build up their resilience. As per the World Bank definitions, social protection programs, generally fall into the following three categories:

a) **Social safety net (SSN) / social assistance (SA)** programs are non-contributory interventions designed to help individuals and households cope with chronic poverty, destitution, and vulnerability. SSN/SA programs target the poor and vulnerable. Examples include unconditional and conditional cash transfers, non-contributory social pensions, food and in-kind transfers, school feeding programs, public works, fee waivers and targeted subsidies, and other interventions (social services). In shock responsive safety nets, cash transfers are linked with resilience building activities such as assets conservation, ecosystem restoration, crops insurance (weather index) and the like.
b) **Social insurance** programs are contributory interventions that are designed to help individuals manage sudden changes in income because of old age, sickness, disability, or natural disaster. Individuals pay insurance premiums to be eligible for coverage or contribute a percentage of their earnings to a mandatory insurance scheme. Examples include contributory oldage, survivor, and disability pensions; sick leave and maternity/ paternity benefits; and other types of insurance (e.g. health insurance coverage).
c) **Labor market programs** can be contributory or non-contributory programs and are designed to help protect individuals against loss of income from unemployment (passive labor market policies) or help individuals acquire skills and connect them to labor markets (active labor market policies). Unemployment insurance and early retirement incentives are examples of passive labor market policies, whereas training, employment intermediation services, and wage subsidies are examples of active policies

As an integral part of the Uganda Vision 2040, the Uganda National Social Protection Policy (NSPP[12]) outlines a clear vision and strategic framework for a well-coordinated national social protection system featuring six priority areas of focus contributing to the three categories mentioned above:

- Developing appropriate products to extend social security coverage to the informal sector.
- Expanding access to direct income support by vulnerable groups in need.
- Strengthening family and community capacity to provide and care for the children, persons with disabilities, older persons, chronically sick and other individuals in need of care.
- Reforming the Public Service Pension scheme notably by expanding social security services in the private sector to include provision of pensions
- Expanding coverage of formal social security including affordable health insurance.
- Enhancing the institutional capacity for provision of comprehensive social protection services.

IPs through their skills strategy and CSR can directly contribute to the 3 categories of social protection, by linking with social safety nets as a pool for employment, or to mobilize it for ecosystem restoration, through the participation or development
in social insurance products, etc.

6.2. Skills training

In principle, IPs companies should be the primary providers for training. However public-private partnerships are often operated to speed-up the employment.

- Set-up training facilities to provide basic skills for future workers (particularly if coming from the rural) such as language, intercultural skills or household budget management.
- Set-up reconversion programs for the unemployed, under skilled, elders or other vulnerable groups needing support to effectively
  incorporate the new jobs.
- Develop skilled training to uplift the workforce to global standards
- Integrate new green skills in the university and school cursus to prepare students for the new economic sectors.
- Develop the vocational training and on-the-job studies to respond to the critical mismatch shown by the shares of overeducated
  and undereducated young workers by major occupational category in Uganda[13]
- Valorize indigenous knowledge as part of new green skills.

As an example, in some contexts, governments may wish to provide skills training to reduce the gap between companies' skills needs and the level of education of the population. Those skills may not always be directly work related but also to facilitate the workers integration in a new (international) work environment, especially if coming from villages. Language teaching, the modification of university or professional schools cursus, intercultural training but also prevention measures such as HIV/Aids, gender equality or road traffic awareness can be featured here. Depending on the scenarios developed in the Social and Human Capital assessment, the Business Case Proposal may fundraise for those activities or develop the institutional arrangements that may facilitate the earmarking of existing interventions within municipality, private (CSR) and non-for-profit budget. As an example, the municipality may prioritize the rehabilitation of schools in the IP workers living area.

The set-up of a junior program and mentorship can facilitate access for the Youth to skilled work as well as offering a pathway towards management. A skills transfer program can also be set up for the management of IPs moving from internationally recruited to nationally. However, one should be careful towards attempt to nationalize IPs through allocation of government staff into their management structure (for example after a period whereby management was sub-contracted to a private entity), an open competency-based selection is preferable in order to ensure the attraction of the best profiles and not overestimate the knowledge absorption of government staff, particularly if the public sector is subject to high staff rotation or budget cuts

12 https://socialprotection.go.ug/newwebsite2/wp-content/uploads/2016/07/National-Social-Protection-Policy-uganda.pdf
13 UBOS, SWTS-Uganda, 2013.

6.3. Green Jobs Promotion

As per ILO definition, Green jobs refer to decent jobs that contribute to preserve or restore the environment, be they in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency. The term decent refers defines work as "productive work for women and men in conditions of freedom, equity, security and human dignity". In general, work is considered as decent when it pays a fair income, guarantees a secure form of employment and safe working conditions.

Green jobs of particular importance in Uganda would help:

- Improve energy and raw materials efficiency (for example RECP skills).
- Limit greenhouse gas emissions (including development of carbon emissions calculation skills).
- Minimize waste and pollution (for example recycling and upcycling, life cycle analysis).
- Protect and restore ecosystems, they can for example valorize indigenous knowledge (green does not always mean high technology!).
- Support adaptation to the effects of climate change.
- Foster organic agriculture
- Greening buildings and eco-design.

For the ILO, green jobs are all those jobs that fall in the intersection (dashed area of Fig.11) of decent jobs, employment in green economic sectors from an output perspective and job functions in all sectors from an environmentally friendly process perspective.

IPs aim to maximize Green jobs creation at collective and company level. It is therefore necessary at feasibility level, to define not only the employment creation expected but also the Green jobs created, identify the skills gap and training needs. Budget allocation and HR planning for green positions are needed from the beginning as they will pertain to IP design, operation, enforcement and M&E. Government may also provide incentives for Green jobs creations at companies' level through facilitating collaboration with University and adapted cursus, co-sponsoring junior programs or through subsidized training (for example in RECP). The development of a healthy green consulting environment also ensures that green skills not directly available at companies' level, can be tapped in the consulting market. This is why government support to green service provision centres such as the Uganda Cleaner Production Centre (UCPC) or by contracting green expertise for its own services contribute to keep those alive. Supporting mobility for skilled labor notably in the region while ensuring there are attractive positions developed in Uganda is another way to contribute to internationally competitive skills supply domestically and abroad.

6.4. Corporate Social Responsibility

Corporate Social Responsibility (CSR) refers to the broader responsibility of every organization, not just private enterprises, to consider the impact on society and the environment of its decisions and activities, particularly in areas including: organizational governance, human rights, labour practices, the environment, fair operating practices, consumer issues and community involvement and development. Social requirements can be met through the following means:

- Set up and regularly update management and monitoring systems at the IP and company levels to address relevant social aspects.
- Use industrial safety systems to protect workers, assets and the environment, particularly in hazardous process industries, like oil and gas and nuclear plants, and chemical industry — using available international industry safety conventions, standards, norms and best practices for management systems and benchmarking tools.
- Set up a security control mechanism, since natural hazards, political instability (sabotage), cybercrime and other developments can cause massive damage to industry, society and the environment.
- Set up an occupational and health and safety management system.
- Establish grievance management systems, which encompass monitoring and reporting of any internal grievances (over workplace issues) or community grievances (stemming from the ongoing operations of the park (pollution, leaked chemicals). The mechanisms should be designed with the community and should be understandable, accessible, transparent and culturally appropriate.

- Promote good employment practices beyond the fair wages, such as providing insurance coverage or creating incentives for employees to enroll in insurances schemes, offering decent retirement packages, providing health and nutrition coverage for all the members or a household, facilitating housing access or transport (could be done through symbiotic infrastructures and services), contributing to community DRR efforts and early recovery, contributions to cultural heritage promotion.
- Other CSR activities can be the donation of employees' time by companies to perform community volunteering activities such as environmental restoration or charity initiatives.
- Aligning CSR practice to support social protection schemes (for example contributions to shock responsive social safety nets, recruitment facilitation for safety nets registered beneficiaries). However, using a Capitals Approach, it is recommended to integrate those aspects as key performance indicators rather than optional CSR actions.

Innovation is an essential part of IPs and one of the added-value of green approaches, which can be implemented in various ways, from R&D to incubators, Greentech and industrial ecology solutions, but also through the valorization of indigenous knowledge, natural and social capital governance models, alternative business models and more.

This chapter also highlights the importance of partnerships for successful IPs as a precondition for peer-to-peer learning, collaborations, technology transfer, performance evaluation and more.

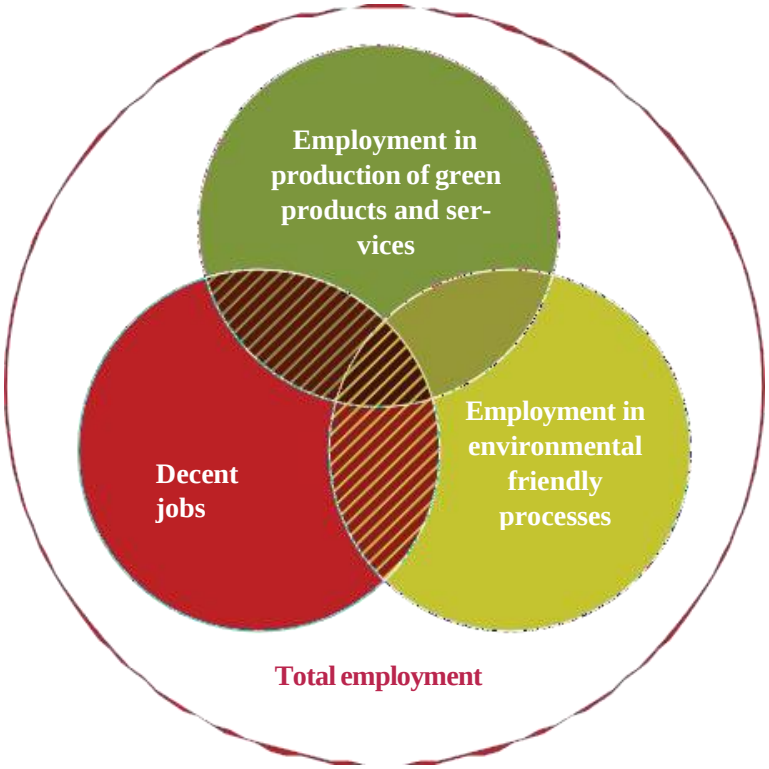


Figure 11: ILO Green Jobs definition.

Chapter 7: Innovation & Partnerships

7.1. Approach for Innovation

Broadly, Innovation can be understood as something new to a specific context. Thus, an innovation can be the adaptation of an existing solution into the local context. This relativity to the context is particularly relevant for developing countries. In IPs, innovation should also be understood in the local context and preferably support eco-innovation. IPs can therefore:

- Promote the experimentation on green technologies and approaches, the development of green services and the promotion of a green economy.
- Develop centers of excellence within the IPs (in close relationships with universities and schools) on specific sectors/areas (example marine environment, agro-forestry, cleantech, artisan dairy, eco-niche products, etc.).
- Promote the valorization of indigenous knowledge and resource particularly in locations biodiversity endowed. Indigenous knowledge relates to the know-how, techniques and innovation often non-documented and held by local communities. This knowledge mostly concerns:

  a. A considerable potential in biodiversity.

  b. Rural knowledge and traditional farming techniques adapted to local agricultural needs. In fact, innovation is often born out of the blending of indigenous knowledge with technological and organizational inputs.
- Promote social innovation to enhance social impact, it can for example be supportive of Youth or Gender inclusion.
- Promote urban integration within innovative green city models.
- Organizationally, it is possible to dedicate specific IPs to facilitate the integration of vulnerable groups (women, youth, elders, etc.) that would be designed with conditions that can lift pre-identified barriers such as access to finance, purchase or location of smaller land plots or due to the low scale nature of the products. It is particularly fitted for small-scale IPs or brownfield greening.
- Pilot innovative ecosystem services payments approaches.
- Facilitate the use of digital technologies.
- Help rebalance between foreign and domestic market especially in terms of importation of (semi) manufactured goods in order to favor green products. The current constraints are that without import, the current capacity of Ugandan firms to produce green qualitative products and parts may not be sufficient to respond to companies' demand. The free import policy may prevent the local use/production of less green products but may also be exporting pollution to cheaper labor markets.
- Promote eco-marketing message susceptible to influence consumers 'behaviors.

7.2. Approach for Partnerships

Collaborative relationships should be encouraged between investment projects in the zones and firms and research institutions in the local economy. Encouraging business networks and clusters between zone investments and outside zone investments increases transfers of know-how and skills to the local economy. It is also a way to rationalize limited resource by creating complementary centres of excellence in different parks and offer services to peer IPs. The challenge though would be for them to reach similar levels of development so that the mutual dependency would not hamper the growth of any one of the parks.

Collaboration with **Uganda Cleaner Production Centre (UCPC),** which is hosted by the Uganda Industrial Research Institute (UIRI) should be widely promoted. UCPC plays a key role in supporting adoption and diffusion of RECP to enterprises, especially industries, to improve their resource productivity and environmental performance, while at the same time, fostering improved competitiveness and profitability. It is recommended to include UCPC in all IPs working groups as well as in IPs assessments, performance and evaluation and to develop business cases. UCPC could also offer a contribution to green urbanization as the RECP and symbiosis approach apply seamlessly to both IPs and urban centers.
Besides regional and global partnerships should be fostered for example through:

a) Continued collaboration with global institutions involved in IPs development and particularly GGGI and the UNIDO Global EIP Pilot Program. Indeed, international support organizations and service providers can:
   - Provide customized support to policy processes, building on international experiences and learnings.
   - Promote international good practices on IP policy development.
   - Implementation through demonstration projects.
   - Develop practical policy tools.
   - Support capacity building processes.
b) Collaboration with other Cleaner Production Centers such as NCPC South Africa for methodology and expertise exchanges with the UNIDO Pilot (as NCPC is developing UNIDO new EIP policy tool).
c) Share knowledge and country-case fact sheet publication on WB and UNIDO platforms.
d) Establish a collaboration with peer countries presenting innovative green growth approaches as for example Costa Rica (ecosystem service payments, Green Gold and eco-tourism development, agro-exports) or Mauritius for (HR export and technological shift solutions, Green Incentives as well as SMEs support models) or Chili (Green Incentives, agro-exports).

Collaborations with universities and vocational training centres is cornerstone and requires the development of joint strategy and MOUs as well as PPPs to fill up the skills and technical gaps over the long term.

Chapter 8: Financing

Chapter 8 illustrates various financial instruments and investment opportunities for both greenfield and brownfield IPs such as public and private investments, self-generating revenues schemes to support park management, financial and non-financial incentives schemes, and how to ensure they can contribute to a Green Growth Pathway. The feasibility of these options will have to be tackled in a dedicated module revising current GoU schemes.

8.1. Financing Options

Depending on the business case model, the initial investment may primarily come from the government and the private sector while external institutional funding can be considered as a marginal complement to support the Business Case Development Proposal. IPs can also be set-up entirely by the private sector but may still require public funds to complement the infrastructure offer and urban integration, or simply to put in place the impact measurement systems necessary (for example: natural resource governance schemes), often to build the required capacity from the various levels of government to deploy or intensify its services in the IP location. Brownfield revitalization proposals may also need complementary external funds. Particularly in the case of SMEs or in association models functioning as poverty alleviation tools, may lack access to private funds and rely more on institutional funding though the business case proposal would need to show a clear exit strategy.

Green Funds can be pivotal to enable pilots and innovations that have then more prospects to generate a more diversified source of funding. The support from programs such as the GGGI and UNIDO (through their donors) is significant in terms of knowledge transfer and credibility more than in financial terms.

Some typical donors for Uganda may include the World Bank and African Development Bank, the African Union, the Green **Climate Fund (GCF)**, the **Global Environment Facility (GEF)**, **Bilateral donors (EU, DFID, GIZ, China, USAID, …)**, among others. It is beyond these policy scope to do a mapping of potential external and national funds to support green industrialization. However, it is key for GoU to facilitate this identification for potential developers and tenants' companies alike through a range of communication material and marketing strategies. At no point though should external institutional funding be sought to support a failing operational phase or the maintenance of non-viable PPP infrastructures.

Carbon Finance is another possible source of revenue. The Kyoto Protocol introduced three flexibility mechanisms which are Emissions Trading, the Clean Development Mechanism and Joint Implementation, which enable Parties to achieve emission reductions or to remove carbon from the atmosphere cost-effectively through interventions carried out in other countries. Under the Clean Development Mechanism, emission-reduction projects in developing countries could earn certified emission reduction credits. These saleable credits could be used by industrialized countries to meet a part of their emission reduction targets under the Kyoto Protocol.

The Article 6, the successor of the former flexibility instruments in the current Climate Policy Framework, is reaching beyond the notion of flexibility and aims to enhance international cooperation among countries and businesses to achieve environmentally integral emission reductions. Unlike Kyoto Protocol, the Paris Agreement requires all countries, including LDCs, to adopt their nationally determined contributions and reduce GHG emissions. Moreover, all countries have now the same opportunity to sell the excess quantity[14] of GHG emission reductions achieved on the emerging global carbon markets.

The applicability of carbon pricing policies and Article 6 of the Paris Agreement does not exclude any specific economic sectors from cooperation and transaction on the carbon markets. In contrary, carbon pricing can help the IP developers to decrease energy consumption, deploy more renewable energy, reduce and reuse waste and lower water / air pollution[15] and at the same time benefit from fiscal revenues i.e., carbon finance. Revenues from carbon / resource taxes or sales of carbon emission credits can be further deployed to incentivize innovation and new technologies or enhance economic efficiency by reduction of distortionary taxes. Another key advantage of carbon revenue is that it can reward carbon sinks (see Box 1) and thus contribute to conserving ecosystems.

Design and application of carbon pricing instruments is however data intensive and requires a close alignment with countries fiscal policies. In order for the countries and businesses to be ready to harness the potential of carbon finance, it is necessary that they invest in collecting the relevant information on ecosystems and specific pollutants, developing databases, and training or recruiting carbon finance experts that can come as a support to IPs developers.

14 Note that under the Article 6, only emission reductions that are additional to the agreed crediting baseline are applicable for sale on the global carbon markets.

15 Clearly not all aspects of water, air pollution or circular economy concerns can be addressed by pricing carbon. A related approach on environmental taxation is applicable with those environmental themes.

Box 1 Carbon finance and Carbon sinks

Carbon-rich ecosystems, which by definition store the most carbon from the atmosphere, are also the most biodiverse ecosystems. Carbon-dense ecosystems, such as primary forests, grasslands, peatlands, wetlands, drylands, and blue carbon systems, are being lost at an alarming rate because they are particularly vulnerable to land-use change including EIP development. All wetlands for example sequester carbon from the atmosphere through plant photosynthesis and by acting as sediment traps for runoff, though they are often seen as mere obstacles in IP construction.

It is essential to consider those ecosystems as primary providers of ecosystem services and productive assets by assessing their carbon sequestration capacity. Considering this capacity and reflecting its value through the carbon markets may offset economic value calculations in IP economic feasibility studies and lead to different choices of development more able to preserve the ecosystem features such as agrotourism parks or conservation areas. An eCBA is necessary in context with significant carbon sinks to assess the economic potential of various scenarios including the zero-emission park development scenario. Carbon sinks need to be considered as a resource and should be translated in payments for ecosystem services rather than traded off for industrial development without reflecting their true social value. Thus, carbon pricing can play a highly motivational role not only in conserving carbon sinks, but more broadly to incentivize countries' development along less emission and resource intensive path.

Several concerns have been raised about the inclusion of carbon sinks as creditable CDM projects, due to the complexity of the metrics and variability of carbon storage in biomass. These include potentially temporary character of emission reductions delivered by forestry sinks or uncertainties (and endogeneities) around the available methods of accounting for carbon storage in biomass. The most important however, the carbon price only reflects the contribution of forests to store carbon and neglects range of other important economic and environmental benefits. As a result, earning carbon credits could come at their expense. For example, limited focus on carbon sinks might lead to industrial scale monocultural plantations failing to reflect on the remaining pressing issues. However ,in a well conducted eCBA,considering carbon credits in addition to the valorisation of other ecosystem services and biodiversity can potentially modify the prioritization of productive sectors.

The CDM in its original shape has not been fit for purpose to meet commitments under the Paris Agreement. The Article 6, the successor of the former flexibility instruments in the current climate policy framework, is reaching beyond the notion of flexibility and aims to enhance international cooperation among countries and businesses to achieve environmentally integral emission reductions. Unlike Kyoto Protocol, the Paris Agreement requires all countries, including LDCs, to adopt their nationally determined contributions and reduce GHG emissions. Moreover, all countries have now the same opportunity to sell the excess quantity of GHG emission reductions achieved on the emerging global carbon markets.

8.2. Financial Sustainability

The IP Business Case Development Proposal should define the funding strategy. The key basic condition is for the IP to reach financial self-sustainability in its operational phase. That applies for the tenants' companies but also for the IP management and viability of the services and infrastructures offered, not only their maintenance but also their regular upgrade when needed. Therefore, the IP Business Case needs to describe the model of cost recovery envisioned for the IP and to ensure that:

a) the management cost of the IP is factored in the cost-recovery strategy and
b) tenants have a willingness to pay for the services offered by the IPs. In the cases where a PPP arrangement is found more sustainable or technically feasible, the willingness to pay extend to all the potential users and may factor a percentage of public finance (for example for public services addressing basic needs).

A transparent public finance allocation to the decentralized level is also necessary to avoid situations whereby municipalities may have to cater for additional service needs related to the IP, without the corresponding national budget allocation to afford them (particularly the case for waste management).

The land lease/purchase is a key component of a cost-recovery calculation and should not be under evaluated. Ideally, it should include contribution to the management or long-term resilience projects as well as a for the park rehabilitation at the end of the IP lifecycle. Common infrastructures operational costs should be accurately estimated and charged for. The latter requires a perceived (and preferably documented) value for money for the services, and lean management from the park management.

RECP measures as well as infrastructures mutualization (PPP) are direct contributors to cost-savings from the tenants of an IP and need to be well documented in order to generate more willingness to pay for the maintenance of the common services offered in an IP.

The conditions in which investors and tenants are invited may determine future willingness to pay. Nevertheless, the urge to make an IP attractive to foreign investment does not mean to systematically undermine efforts for cost-recovery. For example, while taxes exemptions can be done particularly in Green SEZ, they can also be designed as a progressive function of turnover or profit, thus facilitating the capacity from the municipality to co-fund or subsidize selected IPs costs (for example the operation of a waste management unit). The government may decide to fund or place staff for the park management positions. While this may be necessary in the beginning, it is nevertheless recommended to shift to a cost-recovery model as soon as possible.

The design of the park should optimize the contributions from various revenue sources such as common infrastructures or value chains with the city, together with a realistic business deal in the first place. When none of these sources can be tapped on or levies added to support the park management, subscriptions are then necessary despite the risk for non or delayed collection.

Figure 12 shows some possible source of revenue to sustain the park management operations and service deliveries.

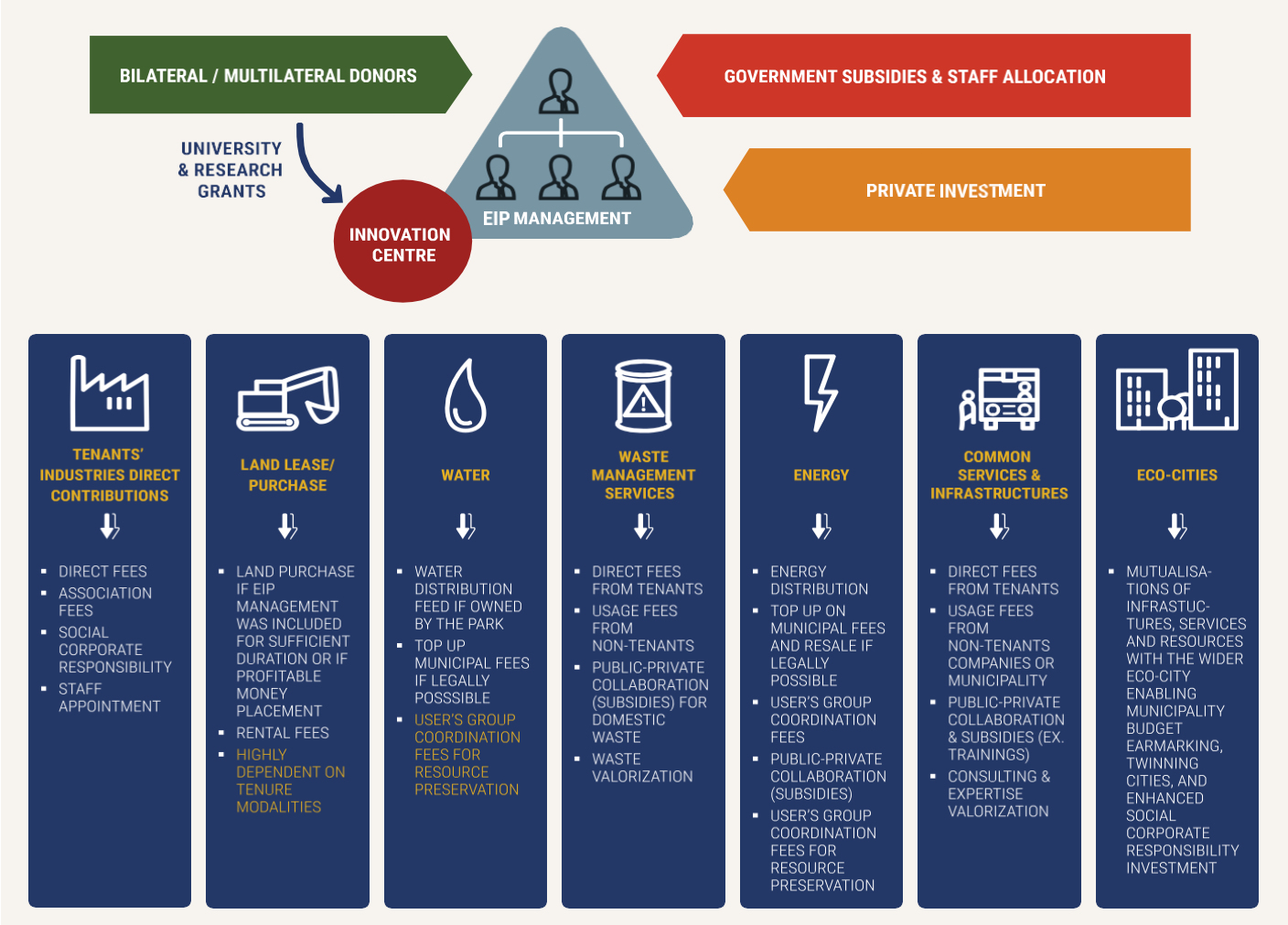


Figure 12: Examples of IP source of revenue (UNiDO EIP Handbook)

8.3. Incentives

The overriding consideration for a country seeking to attract investment is putting in place a healthy enabling environment (infrastructure, human capital, an investment-friendly regulatory environment, the rule of law, good public governance). Incentives can, at best, be a supplement to a good enabling environment, or be used to compensate for certain concrete shortcomings that cannot be otherwise addressed.

In a Green Growth perspective, incentives should not only be designed to attract foreign investment and reward export but to reward green practices implementing the measures proposed to ensure the sustainability of the natural and social capitals and the IP/Green SEZ performance on its combined economic, social and environmental results. It should therefore be designed with clear targets from the performance framework. Those incentives can also serve to facilitate the start-up investment for green technologies or RECP measures. Incentives are not and should not be the sole reason why investors and companies would adhere to an IP or Green SEZ concept. Such an approach is inherently attractive from an efficiency, visibility and best practices perspective. Rather they are designed to accelerate investment contributive to Green Growth, compensate for market failures and absorb part of the risks, which is an evolution away from Business as Usual towards green industrial development.

IPs can but do not necessarily benefit from different fiscal incentives from the rest of the industrial context but their collective dimension makes it easier to channel non-fiscal incentives. On the contrary, Green SEZ by definition benefit from special conditions on which they can serve as accelerator or to testing ground. Thus, some of those incentives may apply outside the SEZ, in which case, it is proposed to prioritize the SEZ or to ensure that a comprehensive package comprising several programs are provided jointly to the SEZ for a greater impact. Spill-over to the rest of the industrial sector is foreseen as well as upward linkages.

Because of the Green Growth rewarding and spillover vision, as well as the need to ensure sustainable public finance for the management of PPP or public services, financial incentives if kept at a zero level or for too long may actually undermine those objectives particularly when the refer to VAT or profit taxes. This is why a graduality may rather be considered. Coordination between the various authorities below MoFPED and other concerned ministries is needed.

The design and award of IPs/ Green SEZs incentives should be done in consultation with IPs developers, investors and businesses and very importantly, should not rely only on fiscal facilities.

Figure 13 shows the main applicable categories for fiscal and non fiscal incentives for IPs/SEZs. Table 12 shows in more details an example of possible IPs/Green SEZs package adaptable to a wide range of contexts. In particular they indicate possible adaptations to current GoU incentives.

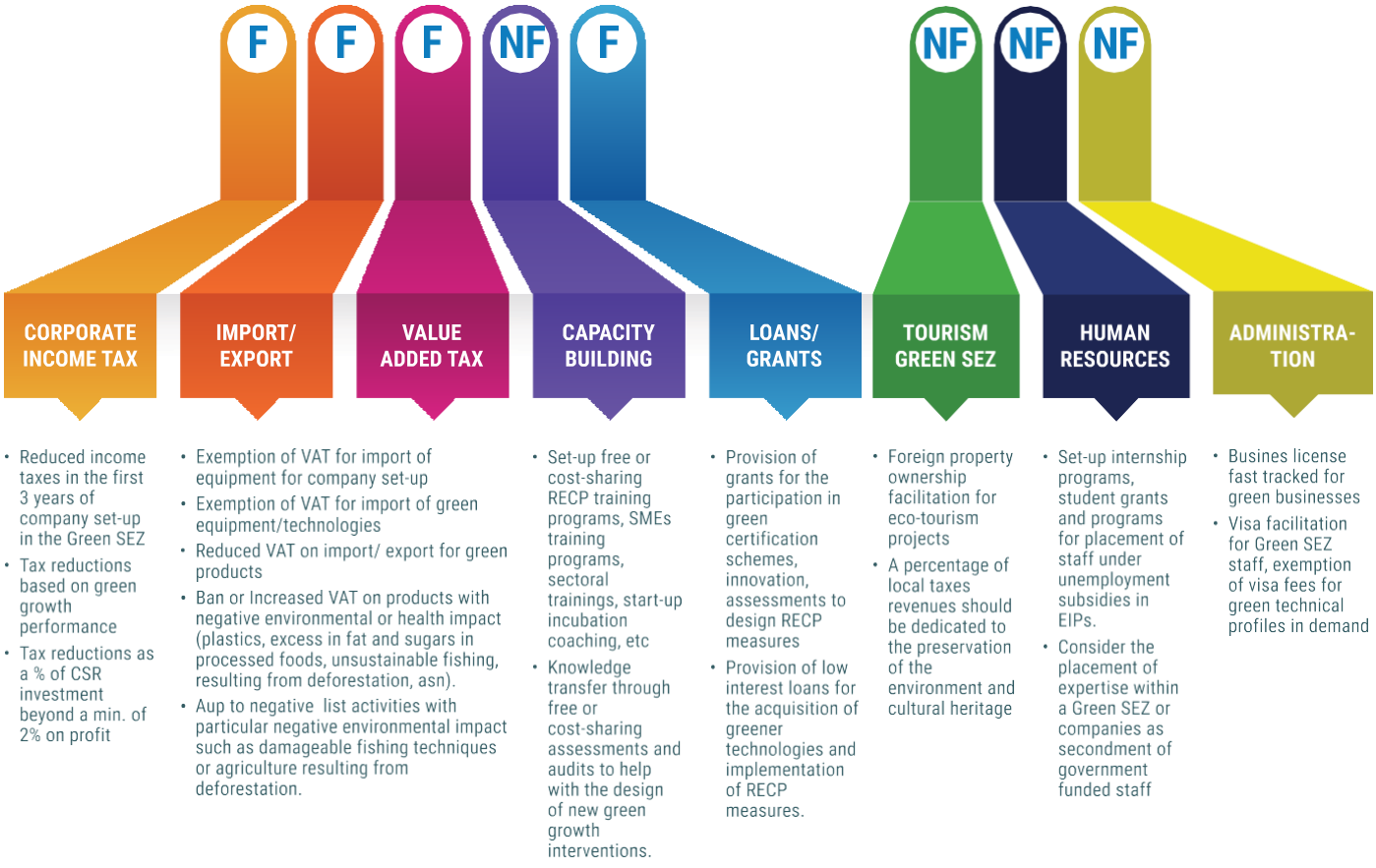


Figure 13: Main fiscal and non-fiscal incentives categories for EIPs/Green SEZs

Main fiscal and non-fiscal incentives for EIPs/Green SEZs	Green incentive example
CORPORATE INCOME TAX	• Reduced income taxes in the first 3 years of company set-up in the Green SEZ • Tax reductions based on green growth performance • Tax reductions as a percentage of CSR investment beyond a minimum of 2% on profit.
VALUE ADDED TAX AND SALES TAX ON LUXURY GOODS	• Exemption of VAT for import of equipment for company set-up • Exemption of VAT for import of green equipment/technologies • Reduced VAT on import and/or export for green products • Increased VAT on products with negative environmental or health impact (plastic bags for food packaging, plastic glass for water, excess in fat and sugars in processed foods, unsustainable fishing, resulting from deforestation, asn)
IMPORT DUTIES AND EXCISE	• See above
NEGATIVE LIST	• Consider to add up activities with particular negative environmental impact such as damageable fishing techniques or agriculture resulting from deforestation.
RESTRICTION AND LIMITATION TO EXPORT AND IMPORT	• Consider the ban of environmentally negative or unhealthy products (plastic bags for food packaging, plastic glass for water, excess in fat and sugars in processed foods, unsustainable fishing, resulting from deforestation, asn)
BUSINESS LICENSES	• Fast tracked for green businesses
FOREIGN PROPERTY OWNERSHIP IN TOURISM GREEN SEZ	• Facilitation for eco-tourism projects
LOCAL TAXES IN TOURISM GREEN SEZ	• A percentage of local taxes revenues should be dedicated to the preservation of the environment and cultural heritage.
LABOUR AND EMPLOYMENT	• Set-up internship programs, student grants and programs for placement of staff under unemployment subsidies in EIPs (whenever such a system exists).
IMMIGRATION	• Visa facilitation for Green SEZ staff, exemption of visa fees for green technical profiles in demand.
LAND TITLING	• Facilitate access to green businesses
LOW INTEREST LOANS	• Provision of low interest loans for the acquisition of greener technologies and implementation of RECP measures.
GRANTS	• Provision of grants for the participation in green certification schemes, innovation, assessments to design RECP measures
CAPACITY BUILDING, TRAINING AND COACHING	• Set-up free or cost-sharing RECP training programs, SMEs training programs, sectoral trainings, start-up incubation coaching, etc.… or mainstream green growth in existing programs.
TRAININGS	• Set-up free or cost-sharing RECP training programs, SMEs training programs, sectoral trainings, etc.. Or mainstream green growth in existing programs.
TECHNICAL ADVICE	• Takes the form of knowledge transfer through free or cost-sharing assessments and audits to help with the design of new green growth interventions.
HUMAN RESOURCE	• Consider the placement of expertise within a Green SEZ or companies as secondment of government funded staff.

Table 12: Main fiscal and non-fiscal incentives for IPs/Green SEZs

Providing financial incentives requires budgetary commitments and can be administratively demanding for the local government. Significant technical capacity and human resource is also requested to configure, implement and monitor incentives. When incentives are linked to EIP KPIs, solid monitoring systems need to be put in place for performance measurement. Those can be complex to quantify and leave a non-negligible margin of error.

Therefore, there may be disparities of measurement between parks and locations, which may give rise in unequitable incentives allocation. Therefore, mainstreamed systems of measurement would need to be designed and a complaint mechanism and retro feedback channel as well. Such performance-based incentive, called feed-in tariff, are one of the most commonly implemented policies to support renewable energy transition or RECP measures. They can involve a fixed per kWh price for electricity for example. Considerations such as technology, company size, location and/or resource quality need to apply. For best impact, they should be coupled with guaranteed access to the grid. FITs were implemented at the national or state levels in 108 countries (REN21 2015, UNFCCC 2015), with half of all feed-in tariffs enacted in developing countries (Huenteler 2014).

Other measures can be easier to implement such as the ban of particularly polluting products. As an example, the ban of polymer plastic for take-away food can provide an important incentive for companies in and outside the IP to design more eco-friendly alternative.

In addition to tax measures and performance-based incentives, rebates, loans and grants can be considered. Indeed, local governments can work with commercial banks to provide financial incentives, thus sharing or shifting the financial burden from the public to the private sector. A company situated in an IP could therefore be prioritized given the supplementary trust in bankability it provides as well as support from the IP management and possibly the One Stop Center to process the loan request.

Rebates are commonly used for energy efficiency appliances and on-site renewable energy systems. Grants can also be combined with subsidized loans to support RECP technology deployment. Some good examples are Singapore, Spain, Mauritius and Chile.

Chapter 9: Promotion and Marketing

Promotion and Marketing define the type of communication susceptible to encourage green investment and green products demand, as well as reporting on IP performance including through certifications both for collective IP efforts and individual companies.

The Promotion and Marketing strategy for IPs should be articulated around 3 components:

a) The marketing towards potential investors.
b) The marketing towards potential companies to enter the IP.
c) The marketing of IPs green products towards customers.
d) The promotion of green IPs approaches in peer-to-peer, technical fora and through business or sectoral associations in order to generate a spill-over of Green Growth good practices.

As a prerequisite, IPs need to be able to formulate their Unique Selling Point (USP) through branding and segmented diffusion channels. To attract foreign investors requires promoting and marketing zones at national and international events. IP management is typically responsible for marketing an IP in coordination with other relevant stakeholders, such as the regulatory body and investment promotion agencies. Faced with competition, industrial parks must differentiate themselves, by promoting specific assets of their location, an image and a brand that can be quickly and easily recognized, to generate pride in being a tenant of the park and a feeling of being part of a community. Indeed, though the marketing towards potential investors may concentrate most of the efforts especially in the design phase, one shouldn't neglect that the failure to generate full or sufficient occupancy may jeopardizes the IPs sustainability.

GoU needs to integrate IPs marketing in all its current economical promotion instruments such as through the Chamber of Commerce, regional negotiations and other principal markets and should not see this responsibility as solely resting on the IP management authority. An information platform detailing the IPs activities needs to be designed in a user-friendly manner. Investors and customers should be able to find the list of companies within the IPs and their activities easily. This comes in complement to the Industrial Database foreseen by GoU.

The marketing of IPs products requires creativity in the form of events and sponsorships (for example green awards) but can also be achieved through smart regulations (for example through labelling requirements).

The functions of investment promotion agencies include:

a) Image building: These include; advertising in general financial media, participation in investment and green products exhibitions, advertising in industry-or sector-specific media including social media, conduct general investment missions from the source country to the host country and vice versa and conduct general information seminars on investment opportunities. Embassies and consulates are also mandated to pitch for the various businesses outside Uganda and mostly in the targeted markets. Table 13 provides examples of important trade shows of interest for the promotion of green products and services in some of Uganda's key markets:

Name	Topic
BioFach Germany and Vivaness	Two-in-one trade show for organic products and natural cosmetics.
BioFach China	A spinoff from BioFach focusing on certified organic products.
China Internationa Organic & Green Food Industry Expo	Food, beverage, textiles, equipment and organic farm/production suppliers.
SIAL China	Arguably Asia's largest Food Innovation Exhibition
Hong Kong Natural & Organic Producs Asia	Organic and natural foods, personal care, lifestyle products and natural health.
NATEXPO France	Organic products: organic food, health, natural beauty, daily ecology, ingredients.
Vitafoods Europe	Global nutraceutical event
Eco Expo Asia (Hong Kong)	Environmental Protection

Name	Topic
The Greener Manufacturing Show (Germany)	Environmental and Sustainable Manufacturing Solutions
China international import expo	China main import match-making show
Middle East Organic and Natural Product Expo (Dubai)	Organic and Natural Products

Table 13: Key trade shows of interest for the promotion of green products and services in some of Uganda's key markets.

b) Investment generation: Engage in direct mail or telemarketing campaigns, conduct industry-or sector-specific investment missions from source country to host country or vice versa, conduct industry-or sector-specific information seminars, engage in firm-specific research followed by sales presentations.

c) Investor services: Provide investment counselling services, Expedite the processing of applications and permits, Provide post investment services.

d) Policy advocacy: Participate in policy task forces, Develop lobbying activities, Draft laws or policy recommendations and Report investors' perceptions.

While the engagement of GoU in IP promotion needs to be continuous, once a park developer and operator are appointed, they need to take charge of the bulk of the marketing activities and particularly the brand identity development, the promotion of the park's companies and products (though each company remains primary responsible for their own product promotion) and attracting potential companies. While the attraction of companies to the site initially depends on presenting the advantage of the park amenities, incentives and reputation, with the pass of time it should be as much the companies' performance that should be the primary attraction factor.

IPs by developing green processes, promoting green products and through their reputation, respond to the shift of global consumer preferences towards more sustainable products and ethical trade practices. Ideally, the IP should encourage companies to adopt eco-labelling and certifications but access to those labels may be expensive for many companies.

On a collective level though, **Green Certification** of the IP can offer premium marketing tool to attract high-quality investment from the ever-growing international pool of green finance and/or product promotion for the tenants as more consumers become aware of the green agenda. The set-up of a national, regional or globally aligned certification schemes (mainly through UNIDO Pilot EIP Program) can emulate IPs between themselves and serve as a strong contributor to the IPs image for consumers. Figure 14 illustrates UNIDO Eco-Industrial Parks Certification Scheme.

IP certification and particularly beyond compliance performance champions are also more likely to be more resilient to a number of risks giving further bankability to both IP and tenants. UNIDO approach proposes a certification scheme to reward beyond compliance performance together with suggested indicators. According to the 3 Green Growth scenarios proposed a) greening, b) evolution towards Green IP status (EIP) and c) EIP/Green park status obtention, a Bronze, Silver and Gold certification (for beyond compliance) could be awarded.

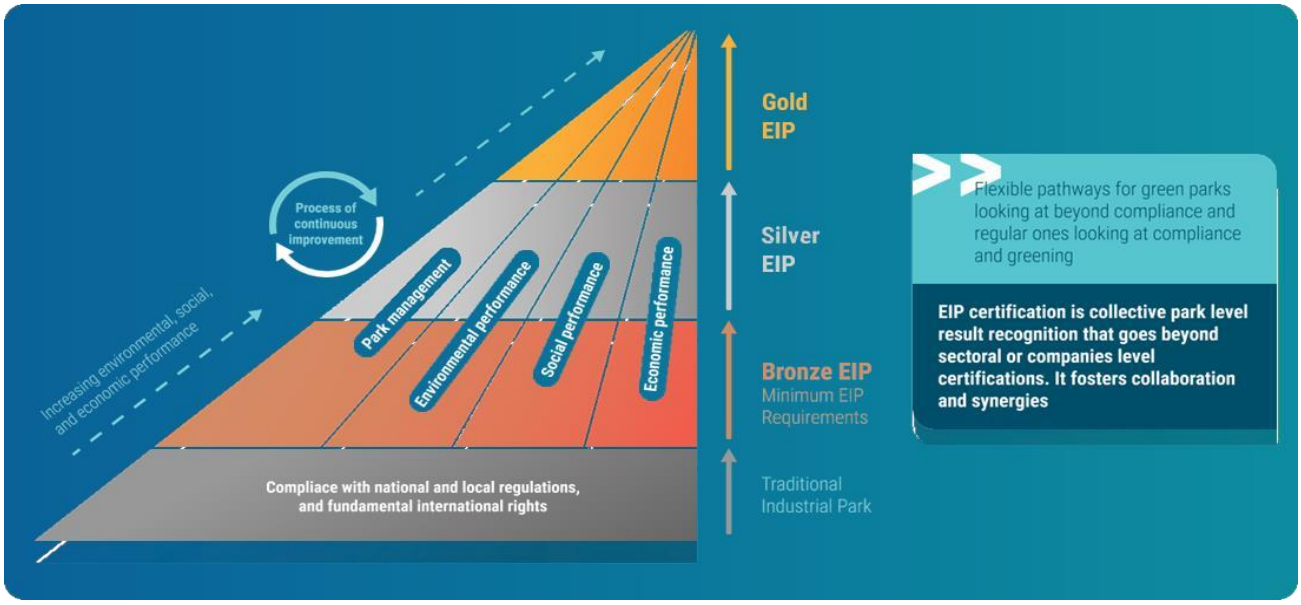


Figure 14: An illustration of the UNIDO EIP Certification Scheme (UNIDO EIP Handbook).

Another way to contribute to the brand image is **Corporate Social Responsibility** actions. Those can be performed individually by companies but the EIP offers the opportunity to channel those initiatives in a collective manner reaching greater impact. CSR can be practiced through direct charitable activities but they can also support the KPIs in engaging in environmental protection community activities or assist the communities in times of need by sharing their supply (water during dry heat for example).

Chapter 10: Resilience

Chapter 10 shows how an IP approach can contribute to business resilience and tackle local and global challenges such as epidemics as illustrated by the recent covid-19 crisis.

10.1. Approach

IPs are complex systems requiring a risk management approach. UNIDO guidelines proposes a general risk management cycle which is based on 5 steps as illustrated by Figure 15:

a) **Risk Identification:** This exercise should take place during the IP Business Case Development Proposal but should be updated by the IP management in the operational phase.

b) **Risk Analysis and prioritization:** should be done along with the risk identification.

c) **Risk Prevention and Mitigation:** A risk management framework should be designed layering several specific risk management plans such as the Environmental and Social Safeguards Assessment and plan or the financial risk management plan, etc. The eCBA should analyze as comprehensively as possible all the business continuity risks in order to present the various scenarios. The plan should identify amongst 4 types of measures by order of preference: i) prevention/avoidance, meaning eliminating the causes; ii) reduction of the risk, meaning to reduce the probability or impact of the risk; iii) Sharing, aiming to share the burden of risk with another party and iv) retention, aiming to design contingency plans.

d) **Controlling and feedback:** It is a core duty of the IP management during the operational stage and particularly in the monitoring and evaluation stage where the feedback loop enables to correct the assumptions, estimates, indicators and targets performed in the previous stages. It is very important to integrate both the IP collective risks and sectoral/individual companies risks including in their value chains. Each company entering an IP should commit to perform its own risk assessment and to be reviewed by the park management and the regulator. Exception can be made for the financial risk due to business confidentiality. However, sooner or later a company's poor financial performance and its eventual closure would affect the rest of the park, particularly if the company leads in managing infrastructures or circular economy services.

e) **Awareness:** Risks can often be reduced by implementing advanced monitoring and hazard source tracing technologies, as well as setting clear safety standards and operation guidelines. For example, the use of real-time monitoring systems in IPs enables a timely collection of data about production safety and improves the prevention of production hazards.

The potential (non exhaustive) risks can fall in the following categories given in Table 14. An IP approach contributes directly to improve business continuity for many reasons:

- The industrial ecology approach provides opportunities for diversification, closed-loops, efficiency gains that all contribute to the resilience of the IP.
- The strict environmental and social safeguards associated with key green growth tools such as eCBA, capitals valuation and performance evaluation ensure risks are assessed early on and monitored effectively.
- The overall business ethics sustaining the Green Growth agenda ensures that companies joining an IP (through for example the agreement on a chart) would be more aware and responsive of risks as well as more willing to comply with good social practice (for example by adopting insurance systems).
- Risks sharing mechanisms can be facilitated through the IP management and particularly the set-up or upgrade of collective infrastructures that can offer more resilience than if companies had to address risks individually.
- By integrating the community and fostering spill-over, the IP approach contributes to the well-being of the community reducing conflicts.

Type of Risks		
1. PLANNING RISKS • Planning compliance • Surrounding population density • Traffic and congestion • Adjacent projects • Utilities capacity • Enterprise layout • Land acquisition (see Chapter 5.1) • Demand risks • Economic justification	**2. STRATEGIC & OPERATIONAL RISKS** • Construction risks • Supplier and partner non-performance risks • Policy instability • Promoter capacity • Operations • Governance • Technology • Regulatory framework	**3. FINANCIAL RISKS** • Stock exchange /capital market fluctuations • Exchange and interest rate fluctuation • Liquidity / cash flow • Fraud • Financial viability
4. MARKET, COMMERCIAL & INTELLECTUAL PROPERTY RISKS • Competitors/ Market share/ • Reputational • Business interruption • Counterfeits • Copyright pirates • Trade secret thieves	**5. HUMAN RESOURCE, OCCUPATIONAL & SOCIAL RISKS** • Accidents/health • Operational safety • Knowledge management • Emergency support • Management • Community conflicts • Discrimination, Gender, asn	**6. ENVIRONMENTAL & HAZARDS** • Natural disasters (ex: storm, flood, fire…) • Industrial disasters (hazardous materials handling, wase and wastewater disposal, …) • Climate Change • Interruption of ecosystems services or depletion of natural stocks. • Pests control • Genetic contamination
7. FIXED ASSET RISKS • Security • Energy supply • Property/Infrastructure damage • Machinery breakdown	**8. GLOBAL RISKS: EPIDEMICS, POLITICAL, ECONOMICS** • Covid-19 • Global financial crisis • Conflicts	**9. IT/DATA PROTECTION RISKS** • Hardware and software failure • Malicious attacks and viruses • Loss & theft of personal data

Table 14: Key IP Risks.

Chapter 11: Performance Monitoring & Evaluation

This chapter presents four concepts of performance and its measurement. The first concerns the public sector in the sense of delivering a functioning IP. Its bottom line is that of being 'investment ready' for incoming investors. The second concerns business performance. This means profitability and underlying fiscal resilience as tested by various financial ratios. The third concerns IP performance indicators and the last companies level indicators.

Figure15:IPRiskManagement Cycle

11.1. Approach

What is important is to understand the various levels of performance assessment. There are three:

a. Delivering the industrial park or freezone, economically, efficiently and effectively.
b. Witnessing the profitable performance of the enterprise(s) in the park.
c. Reviewing the wider performance of the park itself.

One more dimension to be considered is the Green Growth indicators in relation to government's National Development Plan (at present, NDPIII) programmes. Thus, what is equally important is not only to assess the provision and operation of the park or freezone itself but also, to understand its contribution to national development and the UGGDs, filtered through NDP.

11.2. Public Sector Performance

This concerns the mandated MDA to deliver the IP, as applicable. In essence, it is the delivery of any park, economically, efficiently, and effectively. Their meaning:

1. Economy of inputs *(the lowest unit cost; spending to budget)*;
2. Efficiency of outputs *(delivering to time and to specification)*;
3. Effectiveness of impact *(the problem to be solved; the opportunity to be exploited. Is the client satisfied)*?

If these three tests are applied, the delivering organization can be measured against these '3Es'. This measurement framework comes from early developments in performance budgeting (PB). This was an attempt to give a counterweight to the conventional business sector judgments on performance.

11.3. Business Performance

Business concerns the ability to make a profit after all operational costs have been covered. Unit costs and delivering to time and specification apply equally. In contrast however, the impact is on both the business' financial viability (the enduring profit) but also, its financial structure. This concerns various key financial ratios. The most obvious is the debt-equity balance. There are others but these are of no concern here – simply the test of the developer's financial proposal and its underlying analysis. Once the enterprise is established in the industrial park or enterprise zone, it is simply a matter of its sustainability and ideally, growth. Job creation and environmental impact are sub-sets.

11.4. IP Performance Indicators

IP performance can be seen as the collective results achieved on an agreed range of minimum common indicators covering economic, social and environmental impacts as well as IP management performance. This is the approach taken by UNIDO to build consensus and ensure a fairly reproductible performance evaluation grid. While of course individual companies' results contribute to the collective, with this approach there are no indicators set individually (besides sheer compliance).

UNIDO guidance "An international framework for Eco-Industrial Parks" proposes minimum indicators to measure EIPs performance as per Figure 16, though they are lacking in the area of Business & Biodiversity for example. Therefore, to complement them, it is recommended to follow the process of the Natural and Social Capitals approach to determine materiality first and then identify the indicators and targets.

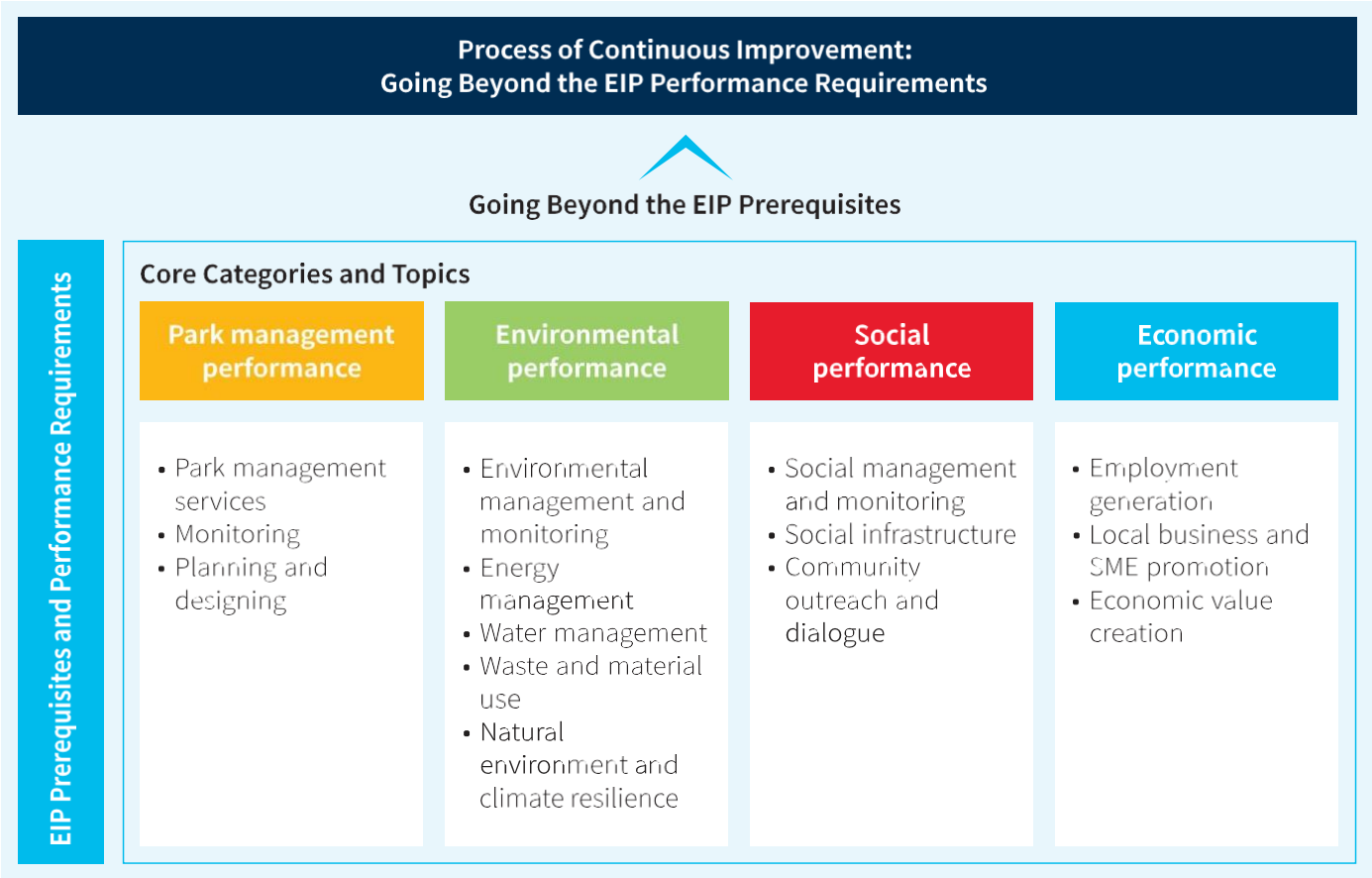


Figure 16: UNIDO EIP beyond compliance performance requirements.

These indicators have been interpreted to a practical level to give real meaning when testing the impact of industrial development. They are taken from and expanded into a planning template. It is important to have both process and impact indicators. They are in Table 15. It focuses on indicators, target values, green and health impact. Targets are indicative and should be reevaluated and negotiated yearly.

Table 15: Proposed IP performance indicators.

Category	KPI	Unit	Example of possible Target	Green and/or health impact
Park Management Performance	Firms with signed residency contract, code of conduct, etc (Note: no firms should be granted tenure without this. Additional indicator could be % of occupancy for which the 90% target would be very good)	%	100%	
	The park management entity provides and facilitates efficient common services and infrastructure to resident firms.	By infrastructure	Specifications by infrastructure	
	Firms satisfied with regard to provision of services by management (Note: this is merely a perception and not sufficient indicator, thus the proposed indicator below.)	%	75%	
	Firms willingness to pay for the provision of services by management (when applicable)	% of management budget submited to tenants contributions	90%	
	Frequency of reports on compliance with environmental, economic, social and critical risk indicator targets (report on mitigation plans)	Count	Every 6 months	Maintain green development standards
	Frequency of reports on compliance with environmental, economic, social performance targets	Count	Every 6 months	
	Disaster Risk Management Plan at Park level exists and is regularly updated.	1	Every year	
	% of firms utilizing the innovation facilities (Note: possible also to measure satisfaction levels)	%		
	% of firms utilizing the One Stop Center services : (Note: possible also to measure satisfaction levels. Though this service is not under the management responsibility, it is a vital information for GoU to enhance its service delivery.<)	%		
Environmental (Energy, Water, Waste, Climate change adaptation and mitigation)	Firms with a functional environmental management systems (EMS) by world standards. Summary information from these management systems is provided to park management, who will aggregate and report on data at the park level	%	100%	Green impact data
	Proportion of combined park facilities and firm-level energy consumption for which metering and monitoring systems are in place	%	90%	Green energy standards
	Total renewable energy use equal to or greater than annual national average energy mix	%	>150%	Green energy standards
	Management sets and works towards ambitious maximum carbon intensity targets	kg Co2e/Kwh	Calculate the contribution as per Uganda reduction commitments	Reduction in carbon-based energy use
	Management sets and works towards ambitious maximum energy targets per production unit	Kwh/$ turnover	Ditto	Achieving lowest unit costs through green energy deployment
	Total water demand does not have significant negative impacts on local water sources or local communities	% of water demand	100%	Reduction in water-based environmental degradation
	Proportion of industrial wastewater generated and treated to appropriate environmental standards (Note: this is insufficient to reduce water consumption)	% of waste water treated/total waste water	95%	Reduction in water pollution
	Water savings systems in place		80%	
	Proportion of total waste water reused responsibly inside or outside firm/park	% of water reused/total waste water	60%	Increased water recycling.

Category	KPI	Unit	Example of possible Target	Green and/or health impact
Environmental (Energy, Water, Waste, Climate change adaptation and mitigation)	Proportion of solid waste generated by firms, which is reused, recycled or upcycled by other firms, neighbouring communities or municipalities	% of solid waste reused/total waste	>50%	Reduction in the solid waste
	Proportion of solid waste reduced through efficiency measures	% of solid waste reduction	20%	
	Percentage of firms that appropriately handle, store, transport and dispose of toxic and hazardous materials	%	100%	Reduction in toxic pollution
	Percentage of firms with clear targets to reduce and avoid the use of dangerous and hazardous materials by firms in the park.	%	100%	
	Maximum proportion of waste that goes into landfills	%	<40%	Reduction in polluting landfill use
	Contribution to the conservation of native flora and fauna in the communities	As per natural capital assessment		
	Minimum proportion of open space in facility used for native flora and fauna including nature inclusive design	%	15%	Environmental and visual health benefits
	Proportion of firms with pollution prevention and emission reduction strategies beyond national regulations	%	>60%	Reduction in air and environmental pollution
	Proportion of largest polluters with risk management framework in place that identifies aspects with environmental impact and assigns level of significance to each aspect	% of largest emitters	100%	Increased knowledge of polluter knowledge to allow interventions.
Social	Percentage of firms with more than 250 employees with wellfunctioning OH&S management system in place	%	75%	Increased feeling of well-being.
	% firms with effective grievance mechanisms	%	100%	
	% of grievances received by management entity and handled within 90 days	%	100%	Increased feeling of well-being.
	Percentage of grievances received by management entity which brought to conclusion	%	90%	Increased feeling of well-being.
	Percentage of firms with more than 250 employees with code of conduct system in place to deal with grievances		75%	Increased feeling of well-being.
	Percentage of firms with more than 250 employees with harassment prevention and response system in place	%	100%	Increased feeling of well-being.
	Percentage of surveyed employees satisfied with the social infrastructure	%	80%	Increased feeling of well-being.
	Percentage of reported security and safety issues that are adequately addressed within 30 days		100%	Feeling secure; reduction in worry.
	Number of security and safety issues			
	Percentage of firms with more than 250 employees with program for vocational/skills training and development	%	75%	Increased skills & morale.
	Percentage of female workers who benefit from available supporting infrastructure/programs for skills development	%	>= 20%	Strengthening women's economic worth & morale
	% of women employment by firm			
	% of women in management position by firm			

Category	KPI	Unit	Example of possible Target	Green and/or health impact
Social	Over 80% of surveyed community members are satisfied with the community dialogue	%	80%	Good morale.
	Number of outreach activities implemented by management entity annually that are regarded as positive by over 80% of surveyed community members	Number	Every 4 months	Good morale.
Economic	% of total workers employed who live within daily commuting distance	%	60%	Reduces solo transport / energy use, time & pollution.
	% of workers employed through direct employment (that is, not employed on a fee-for-output basis or provided through a labor supply firm) and permanent contracts	%	>35%	Job security; peace of mind.
	% of firms using local suppliers or service providers for at least 80% of their procurement value	%	25%	Using local materials rather than importing
	% of local procurement value of management entity supplied by local firms or service providers	%	90%	
	Ratio of rented or used space by firms compared to total amount of available space earmarked for resident firms in industrial park	Avg occupancy rate	50%	Efficient use of space green buildings
	Post-harvest loss reduction	%	50%	
	Proportion of green jobs to total jobs	%		
	% salary deviation between the highest and lowest in the firm	%		
	% lowest salaries above household economic analysis needs value and above minimal wage	%	100%	Decent work

11.5. Companies level indicators

The IP collective performance monitoring and evaluation should be complemented by similar measures at the level of IPs tenants' companies. Thus, the IP management should also have the capacity to monitor and evaluate the IP effectively. Setting out clear reporting requirements and M&E plans can ensure that zone authorities can regularly track whether the investor is fulfilling its social, economic and environmental objectives and whether each tenant's company contributes effectively, respects the IP charter and the scope of extension to its value chain. Performance expectations should go beyond national standards and regulations where they fall short of international standards and whenever relevant, sectoral certifications schemes may also be fostered at company level and facilitated by the IP management.

Monitoring tools and approaches to be used are the ones presented in these guidelines as they can be extended to each individual companies. They comprise the non-exhaustive list of:

- Ecological footprint analysis.
- Risk assessments, including climate risk assessments and industrial safety.
- Water footprint analysis.
- Social impact assessment.
- Life cycle assessment.
- Material and energy flow accounting.
- Market segmentation analysis
- Strategic environmental assessment.

The life cycle assessment may be more specific at individual companies' level as it goes beyond the collective estimate made at IP level on material flows or the scope of the value chains considered to measure the IP spillover. Once the IP development authorization is done, the applicant company shall start its operation within three years and the implementation works should be monitored and evaluated every six months (in complement to a real-time monitoring mechanism), while the IP collectively can be evaluated every year. The regulator may evaluate on a different timeline depending on capacity.

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