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# Monitoring, Reporting and Verification of Eco-Industrial Park Performance in Vietnam



**GEIPP**

VIET NAM

GLOBAL ECO-INDUSTRIAL PARKS PROGRAMME



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# CONTENTS

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Acknowledgements	3
Abbreviations	4
This report	5
Introduction	6
National policies in the development of eco-industrial parks	7
Key stakeholders in the MRV of eco- industrial parks performance in Vietnam	11
Stakeholder involvement in MRV of EIP indicators	16
Capacity development recommendations	23

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# Abbreviations

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BAT	Best Available Technology
COVID	Corona Virus Disease
DOIT	Department of Industry and Trade
DOLISA	Department of Labour, Invalids and Social Affairs
DONRE	Department of Natural Resources and Environment
DOST	Department of Science and Technology
DPI	Department of Planning and Investment
EIA	Environmental Impact Assessment
EIP	Eco-Industrial Park
EIPs	Eco-Industrial Parks
EPR	Extended Producer Responsibility
ESG	Environmental Social Governance
GEIPP	Global Eco-Industrial Parks Programme
GHG	Greenhouse Gas
IP(s)	Industrial Park(s)
IPA	Industrial Park Authority
IPCC	Intergovernmental Panel on Climate Change
IS	Industrial Symbiosis
ISO	International Organization for Standardization
LEP	Law on Environmental Protection
MOC	Ministry of Construction
MOIT	Ministry of Industry and Trade
MOLISA	Ministry of Labour, Invalids and Social Affairs
MONRE	Ministry of Natural Resources and Environment
MOST	Ministry of Science and Technology
MPI	Ministry of Planning and Investment
MRV	Monitoring, Reporting and Verification
NCPC	National Cleaner Production Centre
POPs	Persistent Organic Pollutants
PPC	Provincial People's Committee
RECP	Resource Efficient and Cleaner Production
SEC	Specific Energy Consumption
SECO	Swiss State Secretariat for Economic Affairs
SME	Small and Medium Enterprise
SMME	Small, Medium and Micro Sized Enterprise
UNIDO	United Nations Industrial Development Organization

# This report

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The objective of this report is to identify relevant stakeholders and to analyse the type of support or authority they would require to be able to perform their tasks in monitoring, reporting and verification (MRV) of EIPs performance in Viet Nam. The report is built on the inputs from stakeholder analysis and the first capacity assessment report developed by the project team . It is supplemented by a desk study and the project's direct engagement in the EIP implementation in Vietnam over the previous years.

The management and supervision mandates including MRV are mainly placed on the public sector at central and local levels. MRV refers to “the process of collecting, tracking and reporting the data on the implementation progress and impact of EIP actions as well as the finance used to support these actions”.

The report focuses primarily on the stakeholders' roles in the MRV requirements for EIP performance indicators, according to the provisional national EIP performance indicators identified by UNIDO and MPI. For each key stakeholder, the following information is highlighted:

- Name of agency;
- Relevant coverage and process indicators;
- Description of actions;
- Objectives of actions and steps taken or envisaged to achieve that action;
- Progress of implementation of the actions;
- Capacity development needs.

The report is divided into three sections:

- » Part 1: Identifying and introducing relevant national policies for EIP development;
- » Part 2. Analysis of key stakeholders in MRV for EIPs;
- » Part 3. Identifying capacity gaps in the performance of their roles. On that basis, capacity development training will be proposed to fill these gaps

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<sup>1</sup> <http://eip-vietnam.org/file/?url=vufood/ads/f8899353cb206b94e36b3548f9d41144.pdf>

# Introduction

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The Global EIP Programme (GEIPP) is funded by SECO and is being implemented by UNIDO since 2019 in seven developing and transforming countries: Colombia, Egypt, Indonesia, Peru, South Africa, Ukraine and Viet Nam.

The objectives of the country-specific project, GEIPP-Vietnam, are aligned with the objectives of the wider GEIPP. It demonstrates the feasibility and benefits of EIP approaches in improving resource efficiency, as well as the economic, environmental and social efficiency of enterprises. Thus, it contributes to sustainable and comprehensive industrial development in Viet Nam. The project supports the development of a national policy framework to uphold the eco-industrial park model and, at the same time, will promote the demonstration of eco-industrial park solutions in targeted industrial zones across Viet Nam.

The project activities to date have revealed the roles of key stakeholders in the MRV during the EIP implementation process. The present report identifies specific stakeholders, assesses their performance in MRV and identifies gaps in the performance of their MRV responsibilities for monitoring the development of EIPs in Viet Nam.

# National policies in the development of eco-industrial parks

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Viet Nam's state management policies for industrial parks and economic zones have been recently formed and improved in all aspects. The policies partially already cover MRV in water resources, energy, chemicals, waste materials for EIPs.

**Law No. 72/2020/QH14 on Environmental Protection issued on 17 November 2020** (in Clause 1, Article 50, 51, 52 and 53) regulates the environmental management of industrial parks. The law stipulates:

- Investments in the construction, management and operation of environmental protection infrastructure work in industrial parks to ensure that the treated wastewater meets the requirements for environmental protection before being discharged into the environment. The industrial parks management board is required to have the plan to prevent and respond to environmental incidents for wastewater and have an automatic and continuous wastewater monitoring system;
- Coordination with the State management agency in charge of environmental protection to organize the implementation of environmental protection activities; coordination in organizing inspection of environmental protection carried out by establishments in the industrial cluster;
- Inspection of the fulfilment of environmental commitments made by investment project owners and establishments when registering their

investment in the industrial parks;

- Detection of violations of the law on environmental protection committed by organizations and individuals and proposal of penalties thereof as prescribed by law;
- Promulgation of regulations on environmental protection of industrial parks in accordance with requirements on environmental protection;
- Submission of the report on the environmental protection of the industrial parks and send it to the provincial-level specialized environmental protection agency, the environmental licensing agency and the district-level People's Committee.

**Decree 35/2022/ND-CP issued on 28 May 2022** on the management of industrial parks and economic zones stipulates state management responsibilities. The decree provides details on the responsibilities of ministries and ministerial-level agencies, the direction of park construction, and development plans for the system of industrial parks and economic zones. It further includes regulations on infrastructure investment, establishment operation, development policies and state management. The decree sets some guidelines on reusing and recycling waste and scrap, excess water and energy in eco-industrial parks that are managed under the state's authority and responsibility (Article 58, 65).

## WATER RESOURCES

**Decree 53/2020/NĐ, issued on May 5th, 2020**, provides detailed guidelines for protecting the environment by imposing fees on wastewater. This decree stipulates the fees for releasing wastewater, identifies the entities responsible for collecting and paying fees, specifies the circumstances under which exemptions from fees may apply, establishes the rates of fees to be paid, outlines the procedures for determining the number of payable fees, and outlines how environmental protection fees on wastewater are to be managed, transferred, and utilized.

**Decree 40/2019/ND-CP issued on 13 May 2019 and Decree 08/ND-CP/2022 dated 10 January 2022** on amendment of some articles in Decrees for implementation of Law on Environmental Protection.

**Circular 35/TT-BTNMT/2015 issued on 30 June 2015** on Environmental protection for economic zones, industrial parks, export processing and high-tech zones.

## ENERGY

**Law 50/2010/QH12 on economical and efficient use of energy issued on 17 June 2010** establishes provisions on the economical and efficient use of energy; policies and measures to promote the economical and efficient use of energy; and the rights, obligations

and responsibilities of organizations, households and individuals in economical and efficient use of energy.

**Decree 21/ND-CP/2011 issued on 29 March 2021** provides details on the law on the economical and efficient use of energy and measures for its implementation.

**Decision 04/2017/QĐ-TTg issued on 09 March 2017** provides the list of equipment and devices that are subject to energy labelling, application of minimum specific energy consumption (SEC) and its implementation roadmap.

**Circular 25/2020/TT-BCT issued on 13 November 2020** stipulates requirements for planning and reporting activities related to savings and efficient use of energy and implementation of the energy audit.

## CHEMICALS

**Law 06/2007/QH12 on chemicals issued on 21 November 2007** provides regulations on chemical-related activities, safety in chemical-related activities, rights and obligations of organizations and individuals engaged in chemical-related activities, and state management of chemical-related activities.

**Decree 113/2017/ND-CP issued on 9 October 2017** specifies and provides

guidelines for the implementation of certain articles of the Law on Chemicals.

**Circular 32/2017/TT-BTC issued on 28 December 2017** provides detailed guidance on the implementation of the Law on chemicals and Decree 113/2017/ND-CP dated Oct. 09, 2017.

## **WASTE MATERIALS**

**Law No. 72/2020/QH14 on Environmental Protection issued on 17 November 2020** (in Clause 1, Article 54, 55) regulates environmental management for industrial parks.

**Decision 2149/QĐ-TTg issued on 17 December 2009** approves the national strategy for integrated management of solid waste up to 2025, with a vision for 2050.

**Decree 59/2007/NĐ-CP, issued on 9 April 2007**, on solid waste management (waste and hazardous substances). It applies to domestic organizations, households and individuals and foreign organizations and individuals engaged in solid waste-related activities in the Vietnamese territory.

**Decree 38/2015/NĐ-CP issued on 24 April 2015** outlines comprehensive regulations for managing waste and discarded materials. This decree provides

guidelines for the proper disposal and handling of hazardous waste, daily-life solid waste, ordinary industrial solid waste, liquid waste products, wastewater, industrial emissions, and other specific types of waste. It includes regulations related to environmental protection in the importation of discarded materials

**Decree No. 08/2022/ND-CP issued on 10 January 2022** provides details for several articles outlined in Law on Environmental Protection 2020, stipulates requirements for various environmental domains including environmental impact assessment (EIA), environmental licensing, extended producer responsibility (EPR), import of waste, persistent organic pollutants (POPs), best available technology (BAT) for pollution control, factory effluent and exhaust gas monitoring, responding measures against environmental accidents, and governmental green procurement (Section 3. Ordinary industrial solid waste management and Section 4. Hazardous waste management under Chapter V. Waste management);

**Circular 02/2022/TT-BTNMT issued on 10 January 2022** provides details on the implementation of several articles of the LEP (providing the list of hazardous waste, industrial waste subject to regulatory control and ordinary industrial

waste (Article 24); Ordinary industrial waste management (Article 33, Article 34); Hazardous waste management (Article 35, Article 37, Article 38, Article 39, Article 40); **Circular 13/2007/TT-BXD issued on 31 December 2007** provides guidance on several articles of Decree No. 59/2007/ND-CP dated 09/4/2007 issued by the Government pertaining to solid waste management.

**Circular 35/TT-BTNMT/2015 issued on 30 June 2015** provides the regulatory measures to ensure environmental protection for economic zones, industrial parks, processing zone and high-tech zones.

**Circular 36/2015/TT-BTNMT issued on 1 September 2015** outlines the management of hazardous waste.

**Decision 16/2015/QĐ-TTg issued on 22 May 2015** contains regulations on the recall and treatment of discarded products.

## **SOCIAL RESPONSIBLE SYSTEM**

**Labour Code No. 45/2019/QH14 issued on 20 November 2019** sets forth labour standards; rights, obligations and responsibilities of employees, employers, internal representative organizations of employees, representative organizations of employers in labour relations and other relations directly related to labour relations; and state management of labour.

**Decree 145/2020/ND-CP issued on 14 December 2020** elaborates on some articles of the labour code on working conditions and labour relations.

# Key stakeholders in the MRV of eco-industrial parks performance in Vietnam

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## THE STAKEHOLDER ANALYSIS IN MRV

MRV includes collecting, measuring, aggregating, reporting and evaluating performance and making recommendations for improvement. Continuous monitoring allows all stakeholders to get some updates on the status quo and uncover areas that might require improvement. It takes corrective or preventive measures and/or adjustment-making on the plan to solve problems that arise during implementation.

Identifying the roles and responsibilities of the parties involved in the MRV for the development of eco-industrial parks is necessary for EIP performance in Viet Nam. By identifying the roles and responsibilities of the respective stakeholders, the tasks can be performed effectively. The roles and responsibilities of the stakeholders are divided into:

**1. Competent authority:** Ministries, Provincial People's Committee (PPCs) - the highest authority in the national and provincial MRV system responsible for promulgating regulations, receiving, examining and approving MRV reports from the Focal Point. The following actors fall under this category:

- At the central level: MPI, MONRE, MOIT, MOC, MOST, MOLISA
- At the provincial level: PPC

**2. Focal point:** Industrial Park Authority (IPA) - The focal point for MRV is defined as the agency that directly manages the MRV system. This agency manages and

supervises all MRV activities with the main tasks of synthesizing, reviewing assessment reports, and understanding the entire local database system.

**3. Collaborating agencies:** The main tasks of these agencies are to review plans and results for all activities in their parks, compile monitoring reports submitted by implementing units, and submit a monitoring and evaluation report to MRV focal point. The following actors fall under this category:

- DPI, DOST, DONRE, DOIT, DOLISA

**4. Implementing units:** Industrial Park developers and Tenant companies - Specifically, the implementing agencies are the agencies that are directly engaged in MRV activities, represented by the industrial park developers and tenant companies operating in industrial parks. Their tasks include defining and creating a list of MRV works, taking steps to measure and monitor the IP activities, calculating the effectiveness of the activities and reporting to the collaborating agencies. The following actors fall under this category:

- Industrial Infrastructure Investment and Development Companies
- Tenant companies

**Table 1: Mandates of stakeholders in MRV task for EIP**

No.	Stakeholder	MRV requirements for EIP in Decree 35
<b>I</b>	<b>COMPETENT AGENCIES</b>	
<b>1</b>	Ministry of Planning and Investment (MPI)	<p>Article 53 (b) ‘Guide the construction of eco-industrial parks, supporting industrial parks, specialized industrial parks, hi-tech industrial parks, industrial-urban-service parks’</p> <p>Article 40 (3) ‘Guide the forms of documents’ specified in Clause 2, Article 41, Clause 2, Article 42, Clauses 1 and 2, Article 43, the form of Certificate of Eco-Industrial Park and Certificate of Eco-Enterprise.</p>
<b>2</b>	Ministry of Natural Resources and Environment (MONRE)	<p>Article 58 (1) Formulate and submit to competent authorities for promulgation or promulgate according to their competence legal documents, technical regulations, technical instructions and technical regulations on environment related to environmental protection, industrial parks and economic zones in accordance with the law on environmental protection. (2) Guide the treatment, recycling and reuse of waste and scrap in the eco-industrial park in accordance with the law on environmental protection.</p> <p>Article 65 (2) ‘To guide the reuse of waste, scrap, excess water and energy in eco-industrial parks under the authority and responsibility for state management of their respective agencies’.</p>
<b>3</b>	Ministry of Construction (MOC)	<p>Article 56 (1) ‘To promulgate regulations guiding the Management Boards of industrial parks and economic zones to perform the state management of plannings for construction of industrial parks, economic zones and construction works for technical infrastructure works and construction works in industrial parks and economic zones; building and developing houses, service works and public utilities for employees working in industrial parks and economic zones; urban management and development in industrial - urban - service zones and economic zones’.</p>
<b>4</b>	Ministry of Industry and Trade (MOIT)	<p>Article 57 (1) To perform the state management of industry, import and export activities and commercial activities in industrial parks and economic zones; direct and orient the development of industries in industrial parks and economic zones.</p>
<b>5</b>	Ministry of Science and Technology (MOST)	<p>Article 59 ‘To guide the Management Boards of industrial parks and economic zones in performing the state management of science and technology in industrial parks and economic zones’.</p>

6	Ministry of Labour, Invalids and Social Affairs (MOLISA)	Article 68, point 3 (c) 'Receive reports on the dismissal of many employees; receive explanatory reports of enterprises in industrial parks and economic zones on the demand for using foreigners for each job position that Vietnamese people have not met'
7	Ministry of Public Security	Article 61 (1) 'To perform the function of state management of security, order, fire prevention and fighting in industrial parks and economic zones; on entry, exit, transit and residence of foreigners in industrial parks and economic zones'.
8	Provincial People's Committee (PPC)	<p>Article 40 (1) Grant an eco-industrial park certificate for the industrial park that meets the criteria specified in Article 37.</p> <p>Article 66 (9) 'To promulgate and supervise the implementation of the Regulation on coordination between the Management Board of industrial zones and economic zones and agencies of the Provincial People's Committees; guide and prescribe the decentralization and authorization of management boards of industrial parks and economic zones to perform a number of state management tasks in the fields specified in this Decree'.</p> <p>(12) To assume the prime responsibility for, and coordinate with competent state agencies in performing the task of inspecting, inspecting and supervising the settlement of problems arising in the process of developing industrial parks and economic zones according to regulation, provisions of law; for matters beyond their competence, they shall coordinate with ministries and ministerial-level agencies in settling them or submitting them to the Prime Minister for consideration and decision.</p>
<b>II FOCAL AGENCIES</b>		
9	Industrial Park Authority (IPA)	<p>Article 36 (5) Management boards of industrial parks and economic zones shall assume the prime responsibility for, and coordinate with concerned agencies in building, providing information and databases on efficient use of resources and cleaner production in their localities in order to certify, monitor, supervise and evaluate the effectiveness of the implementation of eco-industrial parks, eco-enterprises; fully, promptly and accurately update relevant information into the information system on industrial parks and economic zones in the area and the national information system on industrial parks and economic zones.</p> <p>Article 40: (2) Grant an EIP certificate for enterprises in eco-industrial parks that participate in activities and meet the criteria specified in Clause 2, Article 37.</p> <p>Article 41 (3) the Management Board of the industrial park and economic zone shall send the dossier for consultation with the Ministry of Planning and Investment, the Ministry of Natural Resources and Environment, and the Ministry of Science and Technology, Ministry of Industry and Trade, Ministry of Construction.</p> <p>Article 68 (2) (e) Perform environmental protection responsibilities of the Management Board of industrial</p>

		parks, export processing zones and hi-tech parks in accordance with the law on environmental protection; (o) Support and provide information for enterprises in industrial parks and economic zones to link and cooperate with each other to implement industrial symbiosis, cleaner production measures, and convert them into eco-industrial parks;
<b>III</b>	<b>COLLABORATORS</b>	
<b>10</b>	Departments of Planning and Investment, Science and Technology, Resources and Environment, Industry and Trade, Construction	Article 42 (3) the Management Board of the industrial park and economic zone shall send the dossier to the Departments of Natural Resources and Environment, Science and Technology, Industry and Trade, Construction for the opinions.
<b>IV</b>	<b>IMPLEMENTERS</b>	
<b>11</b>	Industrial Infrastructure Investment and Development Company	<p>Article 37 (b) Ensure all basic services in the industrial park as prescribed by law, including: essential infrastructure services (electricity, water, information, fire prevention, fighting, wastewater treatment, other essential infrastructure services) and related services, supporting enterprises in the industrial park to perform industrial symbiosis;</p> <p>(c) Develop and implement a mechanism to coordinate input and output supervision on the use of raw materials, materials, water, energy, chemicals, waste and scrap in the industrial park; make annual reports on results achieved in efficient use of resources, cleaner production and emission monitoring of industrial parks, report to Management Boards of industrial parks and economic zones;</p> <p>(d) Annually, publish a report on environmental protection and social responsibility towards the surrounding community, send it to the Management Board of industrial parks and economic zones and post it on the enterprise's website;</p> <p>Article 43 (1) make reports on the implementation of eco-industrial parks and send them to the Management Board of industrial park and economic zones to monitor and supervise the following contents: (a) The situation of implementing and maintaining efficient use of resources and cleaner production of enterprises in the industrial park and the efficiency; (b) The situation of industrial symbiosis implementation, the results obtained and new enterprises participating in the symbiosis (if any); (c) Results of saving raw materials, materials, water, energy, chemicals and reducing emissions to the environment of the industrial park.</p>
<b>12</b>	Tenant company	Article 36 point 2 (a) Enterprises in the industrial park shall cooperate with each other to jointly use technical infrastructure works, social infrastructure, services, raw materials, materials and inputs for production; reuse raw materials, materials, water, excess energy, waste, scrap of themselves and of other enterprises in the industrial park to reduce costs, improve operational efficiency and competitiveness; (b) Enterprises in industrial parks may

with third parties to implement industrial symbiosis. Third parties include investors implementing investment projects on construction and trading of industrial park infrastructure and other enterprises through the provision of infrastructure works or the provision of services to support the construction and implementation of industrial symbiosis;

Article 37 (2) (b) Implement at least 01 industrial symbiosis and enterprises participating in industrial symbiosis in the industrial park apply the production and environmental management system according to the standards of the International Organization for Standardization (ISO); (c) At least 20% of enterprises in industrial parks apply solutions for efficient use of resources and cleaner production, resulting in savings in raw materials, materials, water, energy, chemicals, and waste. waste and reduce emissions to the environment.

Article 43 (2) report on the implementation and maintenance of efficient use of resources and cleaner production; the situation of implementing industrial symbiosis; results of saving raw materials, materials, water, energy, chemicals and reducing emissions into the environment, sent to investors implementing investment projects on construction and business of infrastructure of industrial parks and the Management Board of industrial parks and economic zones for monitoring and supervision.

# Stakeholder involvement in MRV of EIP indicators

Based on the provisional national EIP indicators, the agencies responsible for collecting, reporting and verifying the information needed for the measurement of the indicators are listed in the following tables:

**Table 2: MRV responsibilities of key stakeholders for measuring EIP indicators**

No.	Indicator	Information for the measurement of the specific indicator	Monitoring, Reporting and Verification (MRV)	
I	ENVIRONMENT			
1	Number of IS realized	Number of industrial symbiosis implemented in the industrial park.	M <sup>3</sup>	IP developer keeps records of IS implemented in the IP;
			R <sup>4</sup>	IPA collects this information and reports it to MPI;
			V <sup>5</sup>	IPA verifies that IP developer keeps appropriate records;
2	Percentage of firms within IPs having RECP implemented	Number of enterprises in industrial parks which apply solutions for efficient use of resources and cleaner production, resulting in savings in raw materials, materials, water, energy, chemicals, and waste. waste and reduce emissions to the environment	M	IP developer keeps records of IS implemented in the IP;
			R	IPA collects this information and reports it to MPI;
			V	IPA verifies that IP developer keeps appropriate records;
3	Percentage of total industrial wastewater from firms that is reused/recycled responsibly within or outside the IP	At present treated waste water is being reused for irrigation and firefighting purpose at some facilities. It can be reused for industrial and environmental purposes.	M	Tenant companies monitor daily/internally and quarterly sample testing (at company level); IP developer monitors WWTP and keeps records of wastewater reused/recycled in the IP (at IP level);

<sup>2</sup> Provisional National EIP indicators

<sup>3</sup> M: Monitoring

<sup>4</sup> R: Reporting

<sup>5</sup> V: Verification

			R	Tenant Companies report IP developer quarterly; IP developer reports the quality and amount of wastewater reused/recycled to the EIA issuing agencies (i.e MONRE, IPA); IPA reports to MPI;
			V	The authorized agencies who issued the EIA (i.e MONRE) verify the quality and amount of waste water reused/recycled in the IP;
4	A programme is established with clear evidence of steps taken to monitor, mitigate and/or minimize GHG emissions such as carbon dioxide (CO2), methane (CH4), and nitrogen oxides (NOx)	The energy intensive industries have to annually conduct GHG inventory (Decision 01/2022/QD-TTg)	M	Tenant companies monitor their emission and transmit data to DONRE;
			R	Tenant companies submit the environmental protection reports to the authorized agencies i.e MONRE, DONRE and IPA; IPA reports to MPI;
			V	The authorized agencies (MONRE, DONRE, IPA) verify the results and calculates the emission estimation
5	Infrastructure developer enterprises in industrial parks shall establish a mechanism for coordination in monitoring inputs and outputs of materials including the use of energy, water, chemicals, raw materials and materials in industrial parks; make the annual reports on results achieved in RECP and emission control, report to IP developer	It could supplement mandate for IPA (i.e im-ex division) to collect and analyse the data (Article 37, Decree 35/2022/ND-CP)	M	Tenant companies monitor periodically inputs and outputs of materials;
			R	Tenant companies report to IPA (i.e ex-import division under IPA) the inputs and outputs of materials to MPI Platform (under construction). IPA manages and shares the monitoring results with the relevant agencies i.e IP developer; DONRE, DOIT (chemical management).
			V	IPA (ex-import division) verifies the material balance of inputs and outputs the IP (at IP level);
6	Annually IP and business of the industrial zones shall publish reports on the environmental protection and social	Tenant companies submit their environment protection report to the authorized agencies (MONRE, DONRE, IPA, IP developer) as defined in the EIA (at company level);	M	IP developer monitors the publishing reports on the website of tenant companies;

	<p>responsibility towards employees and surrounding communities to the IP developer, to be posted on the enterprise's website.</p>	<p>IP developer submits the environment protection report to the authorized agencies (MONRE, DONRE, IPA) as defined in EIA (at IP level); Note: The social responsibility report is on voluntary basis, not compulsory.</p>	R	<p>IP developer reports to IPA and IPA reports to MPI;</p>
			V	<p>IPA verifies and maintains the statistical report;</p>
7	<p>Park management entity maintains an EIP framework monitoring system in place, tracking and reporting:</p> <ul style="list-style-type: none"> <li>• Critical risk factors and related responses, at least for: <ul style="list-style-type: none"> <li>» Risk points for the accidental release of hazardous solid, liquid and gaseous effluents, including during transportation and disposal when fire hazards are possible</li> <li>» Applicable natural disaster risks (for example, earthquakes);</li> <li>» Critical risk management at the level of the park</li> </ul> </li> <li>• Acts as monitoring and pre-clearing institution for environmental issues on behalf of the regulatory bodies, as delegated.</li> <li>• May operate a central environment control unit with an emergency alert system for environmental and other hazards.</li> </ul>	<p>The tenant companies and IP developer are also responsible for reporting on EIA, including:</p> <ul style="list-style-type: none"> <li>– Make plans for prevention and response to environmental incidents;</li> <li>– fire prevention plan for the IP</li> <li>– install equipment, tools and means of respond to environmental incidents;</li> <li>– implement regular inspection regime and apply safety measures;</li> <li>– take measures to eliminate causes of environmental incidents when detecting signs of environmental incidents;</li> <li>– organize incident response drills and training;</li> <li>– Environmental persons in charge of environmental issues;</li> </ul> <p>This EIP international framework monitoring system might be streamlined into current monitoring system e.g., for EIA, SEIA, environment, social, economic performance, plan for climate change, response plan to environmental incident/accidents.</p>	M	<p>IPA monitors the maintenance of monitoring, tracking and reporting system of IP developer;</p>
			R	<p>IPA reports the risk and environment issues to MPI;</p>
			V	<p>DONRE verifies the risk and environment measures in the annual environment</p>
8	<p>Park management has a plan, to be updated every seven years, in place to react to possible negative impacts due to climate change (heat</p>	<p>Environment unit to collect information related to negative impacts due to climate change from all sides via mail box, email and hotline etc.;</p> <p>This plan might be streamlined into</p>	M	<p>IP developer (environmental unit) monitor the update plan; IP developer;</p>

	waves and droughts, storms and floodwater events)		R	IP developer report to DONRE, IPA; IPA reports to MPI;
			V	DONRE verifies the climate change action plan in line with the national/regional
9	The management board of the industrial park shall assign a public non-business unit directly under the management board or an appropriate unit to perform the function of building, providing information and database on the resource efficient and cleaner production (RECP); proposing solutions and connect enterprises to implement industrial symbiosis; providing supporting services for transition or new construction of eco-industrial parks	Environment management division under IPA in charge of building database system; A shared database w.r.t RECP, IS, services to support in EIP transition and new EIP should be developed between this unit and IP developer.	M	IP developer keeps records of RECP and IS implemented in the IP
			R	IPA collects this information and reports it to MPI
			V	IPA verifies that IP developer keeps appropriate records and updates database
10	Investors implementing investment projects on infrastructure construction are required to register for investment attraction industries and trades; estimate emission loads for each industry; propose a plan for realization of industrial symbiosis, the plan for setting-up and implementation of a mechanism to monitor the inputs and outputs of the industrial park on the use of raw materials, materials, energy, water, chemicals and the implementation plan of social responsibility	Dossier of investment project on the infrastructure construction and business of the industrial park i.e investment decision, investment registration certificate, EIA in the process of developing new EIP, new investments in the IP/region which will support the industrial symbiosis	M	IPA keep records of dossiers of investment projects of IPs and tenant companies;
			R	IPA reports to MPI and PPC;
			V	IPA verifies that IP developer implements the appropriate registered plan;

	responsibility towards employees and the surrounding community in the dossier of investment project on the infrastructure construction and business of the industrial park			
<b>II</b>	<b>SOCIAL</b>			
<b>11</b>	Proportion of firms with more than 250 employees that have a code of conduct system in place to deal with grievances (≥75%)	IP developers synthesize and forecast the labour needs of enterprises in terms of labour recruitment and vocational training needs; Check and inspect the recruitment and management of foreigners working at tenant companies; entry/exit and residence at IP; Monitor and report periodically the situation of foreign labours at IP; Inspect and supervise the implementation of labour regimes and policies; Investigate fatal and injured occupational accidents, settle labour disputes, and employee complaints; strike;	M	IP developer keeps records of firms having the code of conduct system to deal with grievances;
			R	IP developer report to IPA and DOLISA; IPA reports to MPI;
			V	IPA verifies the implementation of labour regimes and policies including the code of conduct system;
<b>12</b>	Proportion of firms that have a Disclosure and Accountability System fully provided in the site master plan and are fully operational within the park (≥75%)	Tenant companies have the disclosure and accountability system about the activities of enterprises and industrial zones such as infrastructure, cleaner production etc.	M	IP developer keeps records of firms having the disclosure and accountability system in plan and in operation;
			R	IP developers report to IPA; IPA reports to MPI;
			V	IPA verifies the implementation of IPs and tenant companies;
<b>13</b>	Essential primary social infrastructure has been adequately provided in the site master plan and is fully operational in the park	IP developer provides essential infrastructure services (electricity, water, information, fire prevention, fighting, wastewater treatment, other essential infrastructure services) and related services, supporting enterprises and employees working in IP (i.e medical, educational, social, cultural and sports services in the area);	M	IPA monitors the development and operation of social infrastructure as approved in the master plan of IP;
			R	IPA reports the development and operation of social infrastructure in the IP to DOC;
			V	DOC verifies that IP developer provides adequate infrastructure;

14	Percentage of all firms in the industrial park with more than 250 employees that apply gender equality at work in the aspects of social insurance, health insurance, medical check-up, occupational safety training, cleaner production training (≥50%).	DOLISA inspects and urges the implementation of regimes and policies on social insurance, health insurance and unemployment insurance for employees;	M	IP developer keeps records of firms in IP applying gender equality at work;
			R	IPA collects this information and reports it to MPI;
			V	IPA verifies that IP developer keeps appropriate records;
15	Proportion of firms with more than 250 employees that have a harassment prevention and response system in place (≥75%).	DOLISA inspects and supervises the implementation of labour regimes and policies i.e social security, training on occupational and safety.	M	IP developer keeps records of firms in IP having a harassment prevention and response system;
			R	IP developer reports to IPA; IPA reports to MPI;
			V	IPA verifies the IP developer keeps and updates appropriate records;
16	Dedicated personnel exist (as part of the park management entity) to plan, manage and enforce social quality standards.	There is no person in charge of social indicators, in fact, ESG department in the IPA in charge of monitoring, collecting data and engaging on social indicators. There should be a focal point for social indicators at the IPA.	M	IP Developer recruits and dedicates personnel in charge of social and environmental issues;
			R	IP developer reports to IPA; IPA reports to MPI;
			V	IPA verifies the IP keeps report related to the social issues in IP;
17	Increase in annual spending towards local community engagement and annual dialogue.	Many firms and IPs have expenses for activities with the local community i.e. charity fund for children, the poor, the disabled, war invalids, community events, tree planting, waste sorting and recycling campaign, afforestation, free bags at schools, supermarkets etc.	M	IP developer keeps records of the community activities of tenant companies in IP;
			R	IPA collects this information and reports it to MPI;
			V	IPA verifies that IP developer keeps appropriate records;
III	<b>ECONOMIC</b>			
18	The park management entity has a plan with clear evidence to develop economic synergies across their tenant companies and thereby realize economies of scale and greater bargaining power in	Support and link enterprises in IPs to implement IS, RECP and value chain linkages via an information management system to exchange information between companies in the IP.	M	IP developer keeps records of supports and links enterprises in IP;
			R	IP developer reports to IPA; IPA reports to MPI;

	business transactions.		V	IPA verifies that IP developer keeps appropriate records;
19	Park management entity is responsible for marketing the park and EIP concept to potential national and international investors.	State agencies will organize seminars to connect the industrial parks with international investors, and this can help to raise awareness about eco-industrial parks for investors and companies in the industrial park.	M	IP developer keeps marketing records for park concepts;
			R	IP developer reports to IPA; IPA reports to MPI;
			V	IPA verifies that IP developer keeps appropriate records;
20	Park management entity has a strategy in place to create job opportunities for people living within 100 km radius from the industrial park.	The establishment of career counselling centre in IP for researching the local workforce and providing information on the recruitment needs of the IP from the local workforce.	M	IP developer manages and keeps records of the local business strategy;
			R	IP developer reports to IPA;
			V	IPA verifies the that IP developer implements and keeps appropriate records for it;
21	Park management entity allows and promotes the establishment of SMEs that provide services and add value to park residents.	Link SMEs with the vocational and training schools and tenant companies in IP;	M	IP developer monitors and keeps records of SME establishment;
			R	IP developer reports to IPA; IPA reports to MPI;
			V	IPA verifies that IP developer promotes the establishment;
22	The park management entity uses local suppliers where possible and provides local business with opportunities to grow.	The percentage of firms that have the procurement percent of the value of the input that is at least 50%.	M	Tenant companies keeps records of using local suppliers;
			R	IP developer collects information and reports to IPA; IPA reports to MPI;
			V	IPA verifies that IP developer keeps records of suppliers;
23	IPs can render its services at realistic costs to cover operational expenditures.	The percentage of firms that have the procurement percent of the value of the input that is at least 50%.	M	IP developer monitors and keeps records of service costs;
			R	IP developer reports to IPA; IPA reports to MPI;
			V	IPA verifies that IP developer keeps records of expenditures;

# Capacity development recommendations

Based on the analysis of the stakeholders and agencies, the following topics are recommended for capacity development. The topics are adjusted to the need of each relevant agency to enable them to monitor, report and verify the indicators. The relevant topics for capacity building are identified as follows :

**Table 3: Recommended topics for capacity development**

No.	Indicator	Current status of capacity	Recommended topics for capacity development	Who
1	Number of IS realized	Various training courses on EIP, RECP and IS were provided by EIP project to a limited number of IP developers.	Develop a shared database of wastes in which companies can publish what waste they generate. (Link with 1, 9, 18)	IP developers
2	20% of firms within IPs having RECP implemented	Various training courses on EIP, RECP and IS were provided by EIP project to a limited number of IP developers.	-	-
3	Percentage of total industrial wastewater from firms that is reused/ recycled responsibly within or outside the industrial park	At present treated waste water is being reused for irrigation and firefighting purpose at some facilities. It can be reused for industrial and environmental purposes. Wastewater flow reused/ recycled is not measured.	Training on wastewater flow measurement and on methods to estimate waste water flows reused/ recycled	IP developers and tenant companies
4	A programme is established with clear evidence of steps taken to monitor, mitigate and/or minimize GHG emissions such as carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ), and nitrogen oxides (NO <sub>x</sub> )	GHG emission is not measured, but concentration of major air pollutants.  Update a list of companies to conduct GHG inventory (Decision No 01/2022/QĐ-TTĐ) and Support in conducting GHG inventory and planning mitigation activities.	Training need assessment;  Training on GHG measurement methodologies, GHG inventory and relevant guidelines/norms (IPCC)	IP developers, tenant companies, PMAs and DONRE
5	Infrastructure developer enterprises in industrial parks shall establish a mechanism for coordination in monitoring inputs and	It is regulated in Decree 35, but not implemented yet.	Training on the inputs and outputs monitoring methodology and software	IPA (im-ex division is the focal unit), tenant companies

	<p>outputs of materials including the use of energy, water, chemicals, raw materials and materials in industrial parks; make the annual reports on results achieved in RECP and emission control, report to IP developer</p>			and IP developers
6	<p>Annually IP and business of the industrial zones shall publish reports on the environmental protection and social responsibility towards employees and surrounding communities to the IP developer, to be posted on the enterprise's website.</p>	<p>It includes in the environment protection report but social responsibility reporting (optional for publishing on website).</p>	<p>Training on developing the template of social responsibility report</p>	<p>IP developers, tenant companies, PMAs</p>
7	<p>Park management entity maintains an EIP framework monitoring system in place, tracking and reporting:</p> <ul style="list-style-type: none"> <li>• Critical risk factors and related responses, at least for: <ul style="list-style-type: none"> <li>» Risk points for the accidental release of hazardous solid, liquid and gaseous effluents, including during transportation and disposal when fire hazards are possible</li> <li>» Applicable natural disaster risks (for example, earthquakes);</li> <li>» Critical risk management at the level of the park</li> </ul> </li> <li>• Acts as monitoring and pre-clearing institution for environmental issues on behalf of the regulatory bodies, as delegated.</li> <li>• May operate a central environment control unit with an</li> </ul>	<p>This EIP international framework monitoring system might be streamlined into current monitoring system i.e EIA, SEIA, environment, social, economic performance, plan for climate change, response plan to environmental incident/accidents.</p>	<p>Training on developing the monitoring, tracking and reporting system on risk management and responses</p>	<p>IPA, IP developer</p>

	emergency alert system for environmental and other hazards.			
8	Park management has a plan, to be updated every seven years, in place to react to possible negative impacts due to climate change (heat waves and droughts, storms and floodwater events)	The EIA report includes the prevention and response plan to environmental incidents and implement regular inspection regime and apply safety measures; IP has no climate change impact assessment report;	Capacity building on GHG emissions measurement <i>(Link with indicator 4)</i>	IPA, IP developer
9	The management board of the industrial park shall assign a public non-business unit directly under the management board or an appropriate unit to perform the function of building, providing information and database on the resource efficient and cleaner production (RECP); proposing solutions and connect enterprises to implement industrial symbiosis; providing supporting services for transition or new construction of EIPs.	It is not yet available. It is more relevant to supplement the additional function of Environment management division under IPA in charge of building database system;	A shared database w.r.t RECP, IS, services to support in EIP transition and new EIP should be developed between this unit and IP developer <i>(Link with indicator 1, 9, 18)</i>	IP developer, tenant companies
10	Investors implementing investment projects on infrastructure construction are required to register for investment attraction industries and trades; estimate emission loads for each industry; propose a plan for realization of industrial symbiosis, the plan for setting-up and implementation of a mechanism to monitor the inputs and outputs of the industrial park on the use of raw materials, materials, energy, water, chemicals and the implementation plan of social responsibility towards employees and the surrounding community in the dossier of investment project on	It is regulated by Decree 35 which is relevant for newly developed EIPs and IS identification.	Training on new EIP development guideline	IPA, IP developer, tenant companies

	the infrastructure construction and business of the IP.			
11	Proportion of firms with more than 250 employees that have a code of conduct system in place to deal with grievances ( $\geq 75\%$ )	Many enterprises have regulations for receiving and resolving complaints from employees and the community. However, there is a lack of specific rules for collection, statistics and reporting in place.	Survey to collect and update information	IP developer, tenant companies
12	Proportion of firms that have a Disclosure and Accountability System fully provided in the site master plan and are fully operational within the park ( $\geq 75\%$ )	Enterprises and IPs have regulations on information disclosure and explanation. However, there is a lack of specific rules for collection, statistics and reporting in place.	Survey to collect and update information	IP developer, tenant companies
13	Essential primary social infrastructure has been adequately provided in the site master plan and is fully operational in the park.	IPs already provide essential infrastructure and proper operation. More specific rules for collection, statistics and reporting should be in place.	Survey to collect and update information	IP developer, tenant companies
14	Percentage of all firms in the industrial park with more than 250 employees that apply gender equality at work in the aspects of social insurance, health insurance, medical check-up, occupational safety training, cleaner production training ( $\geq 50\%$ ).	Most firms are interested in gender equality in skills training. There is a lack of statistics and reports.	Survey to collect and update information for reporting	IP developer, tenant companies ( $\geq 250$ employees)
15	Proportion of firms with more than 250 employees that have a harassment prevention and response system in place ( $\geq 75\%$ ).	Enterprises have regulations on preventing harassment in the workplace in line with the provisions of the labour law.	Survey to collect and update information for reporting	IP developer, tenant companies
16	Dedicated personnel exist (as part of the park management entity) to plan, manage and enforce social quality standards.	PMA is responsible for general management for all IPs in the whole province, no dedicated one in charge of social indicators only. In fact, ESG division in charge of social issues.	There should be a focal point for social indicators at IPA	IPA

17	Increase in annual spending towards local community engagement and annual dialogue.	Expenses for support and dialogue with the community are quite common among enterprises and industrial zones. However, there is a lack of statistics and reports.	Survey to collect and update information for reporting	IP developer, tenant companies
18	IPs offer a unique opportunity to consolidate business actions across their tenant companies and thereby realize economies of scale and greater bargaining power in business transactions (Park management entity has a plan with clear evidence)	It depends on different IPs to support tenant companies in value chain linkages.	A shared database system to exchange information between companies in IP (Link with indicator 1, 9, 18)	IP developer, tenant companies
19	Park management entity is responsible for marketing the park and park concepts (EIP concept) to potential national and international investors	It has been integrated and introduced at the annual investment promotion workshops and customers' events.	Awareness raising events	IP developer, investors
20	Park management entity has a strategy in place to maximize local benefits	Local business development including local labour recruitment and services; Organize site visit for students to IP; Organize annual job fairs outside IP;	Career counselling and development centre in IP to provide information on the needs of human resources in IP to local workforce.	IP developer
21	Park management entity allows and promotes the establishment of SMEs that provide services and add value to park residents	The percentage of value procurement of inputs.	-	-
22	An EIP must use local suppliers where possible. EIPs provide local business with opportunities to grow	Support and purchase products from the local suppliers via establishing business relationships with each other.	-	-
23	IPs can render its services at realistic costs to cover operational expenditures	Buying goods and services from local suppliers at low cost, to reduce cost and increase the revenue	-	-

 Vienna International Centre  
Wagramerstr. 5, P.O. Box 300,  
A-1400 Vienna, Austria

 +43 1 26026-0

 [www.unido.org](http://www.unido.org)

 [unido@unido.org](mailto:unido@unido.org)



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION