

INDEPENDENT EVALUATION DIVISION
OFFICE OF EVALUATION AND INTERNAL OVERSIGHT

MID-TERM EVALUATION

Global

GLOBAL ECO-INDUSTRIAL PARKS PROGRAMME (GEIPP)

UNIDO PROJECT ID: 170222



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Global Eco-Industrial Parks Programme (GEIPP)

Photo above: East London Industrial Development Zone, South Africa; one of 21 industrial parks in seven countries participating in the GEIPP.

UNIDO Project No.: 170222 (main program document)

UNIDO Project No.: 180318 (GEIPP-Peru country level intervention)

UNIDO Project No.: 180319 (GEIPP-Colombia country level intervention)

UNIDO Project No.: 180320 (GEIPP-Ukraine)

UNIDO Project No.: 180321 (GEIPP-Viet Nam country level intervention)

UNIDO Project No.: 190088 (GEIPP-Egypt country level intervention)

UNIDO Project No.: 190324 (GEIPP-Indonesia country level intervention)

UNIDO Project No.: 200019 (GEIPP-South Africa country level intervention)

Abbreviations and acronyms

| Abbreviation | Definition |
|---------------------|---|
| CHF | Swiss Francs |
| CP | Cleaner Production |
| CPC | Cleaner Production Centre |
| CSSC | Country Specific Steering Committee (of the GEIPP) |
| CTA | Chief Technical Advisor |
| EE | Energy Efficiency |
| EIP | Eco-Industrial Park |
| EMS | Environmental Management System |
| EST | Environmentally Sound Technologies |
| EUR | Euro |
| FGD | Focus Group Discussion |
| GEF | Global Environment Facility |
| GEIPP | Global Eco-Industrial Park Programme |
| GHG | Greenhouse Gas |
| GIZ | Deutsche Gesellschaft für Internationale Zusammenarbeit (main commissioning party of the German Federal Ministry for Economic Cooperation and Development, BMZ) |
| GQSP | Global Quality and Standards Programme (a UNIDO programme funded by SECO) |
| HQ | Headquarters |
| IED | Independent Evaluation Division (UNIDO) |
| IRPF | Integrated Results and Performance Framework (UNIDO) |
| IS | Industrial Symbiosis |
| M&E | Monitoring and Evaluation |
| MTE | Mid-term Evaluation |
| NCPC | National Cleaner Production Centre |
| RBM | Results Based Management |
| RECP | Resource Efficient and Cleaner Production |
| SC | Steering Committee |
| SDG | Sustainable Development Goals |
| SECO | State Secretariat for Economic Affairs (Swiss Government) |
| SME | Small and Medium-sized Enterprise |
| ToC | Theory of Change |
| ToR | Terms of Reference |
| UN | United Nations |
| UNIDO | United Nations Industrial Development Organization |

Glossary of evaluation-related terms

| Term | Definition |
|---|---|
| Baseline | The situation, before an intervention, against which progress can be assessed. |
| Effect | Intended or unintended change due directly or indirectly to an intervention. |
| Effectiveness | The extent to which the development intervention's objectives were achieved or are expected to be achieved. |
| Efficiency | A measure of how resources/inputs (funds, expertise, time, etc.) are converted to results. |
| Impact | Positive and negative, intended and non-intended, directly and indirectly, long term effects produced by a development intervention. |
| Indicator | Quantitative or qualitative factors that provide a means to measure the changes caused by an intervention. |
| Lessons learned | Generalizations based on evaluation experiences that abstract from the specific circumstances to broader situations. |
| Log frame (logical framework approach) | A management tool used to facilitate the planning, implementation, and evaluation of an intervention. It involves identifying strategic elements (activities, outputs, outcome, impact) and their causal relationships, indicators, and assumptions that may affect success or failure. Based on RBM (results-based management) principles. |
| Outcome | The likely or achieved (short-term and medium-term) effects of an intervention's outputs. |
| Outputs | The products, capital goods, and services which result from an intervention; may also include changes resulting from the intervention which are relevant to the achievement of outcomes. |
| Relevance | The extent to which the objectives of intervention are consistent with beneficiaries' requirements, country needs, global priorities, and partners' and donor's policies. |
| Risks | Factors, generally outside the scope of an intervention, which may affect the achievement of an intervention's objectives. |
| Sustainability | The continuation of benefits from an intervention, after the development assistance, has been completed. |
| Target groups | The specific individuals or organizations for whose benefit an intervention is undertaken. |
| Theory of Change | A set of hypotheses on how and why an initiative works. |

Executive summary

Programme profile

| | |
|---|--|
| Programme title | Global Eco-Industrial Parks Programme (GEIPP) in Developing and Transition Countries |
| Programme objective | To demonstrate the viability and benefits of the eco-industrial park approach in scaling up resource productivity and improving economic, environmental and social performances of businesses and thereby contribute to inclusive and sustainable industrial development in the participating developing and transition economies. |
| Programme components | Component 1: Country level interventions in Colombia, Egypt, Indonesia, Peru, South Africa, Ukraine, Viet Nam Component 2: Global level for knowledge development and sharing |
| Start date (as per original letter of agreement) | 1.12.2018 |
| Completion date (as per original letter of agreement) | 31.12.2023 (5 years) |
| Expected completion date | 31.12.2023 |
| Donor | Swiss Confederation through the State Secretariat of Economic Affairs (SECO) |
| Total budget | CHF 17,184,395 (incl. 13% support costs) EUR 15,533,214 (as per UN exchange rate of March 2021: 1 Euro =1.1063 CHF) |

About the evaluation

The purpose of the mid-term evaluation (MTE) is to assess independently the progress towards the achievement of the programme objectives to help the programme management and key stakeholders improve performance to reach the expected results. In that, the MTE is very much a learning exercise. The evaluation has three specific objectives:

- 1) Assess the programme's performance and progress towards the achievement of the expected results;
- 2) Assess remaining barriers and risks in programme design, programme management and performance of partners to identify necessary changes to set the programme on-track to achieve its expected results;
- 3) Develop recommendations so that programme management could develop and implement a follow-up plan on necessary corrective actions.

Findings

Summary finding 1: The GEIPP is seen as highly relevant by stakeholders. The most prominent argument in support of the GEIPP is related to the expected competitive advantage for the participating industrial parks and companies having implemented the GEIPP. The contribution to

the adjustment of the regulatory framework in order to create an enabling environment for eco-industrial parks to thrive is seen as particularly relevant. More generally, the parallel multi-level approach at the micro, meso, macro and global level is judged very positively by stakeholders. There is a strong interest from parks beyond the selected pilot parks to participate in the programme. However, this evaluation was not in a position to establish a solid evidence base that would support strong SME commitment, mainly because the programme has only started very recently to interact with companies.

Summary finding 2: From a methodological point of view, the GEIPP theory of change (TOC) is overall satisfactory. The expected outcomes are delineated from a solid problem analysis. The demonstration of the causal linkages between different elements of the theory of change is overall satisfactory in the narrative of the project document but weak in the TOC figure in terms of visualisation. For the GEIPP theory to work, a rather high number of assumptions must materialize in order to achieve the expected changes.

Summary finding 3: Based on the portfolio analysis and the information received during interviews for this evaluation, the evaluation team finds that Colombia, Indonesia, South Africa, Ukraine and Vietnam should be able to deliver all expected outputs during the project duration. The activities in Peru might be somewhat behind schedule but most of the outputs will be delivered during the project duration. In Egypt probably not all outputs will be delivered during the project duration. At the level of achieving expected outcomes the situation is uncertain at this point in time.

Summary finding 4: Key success factors are (a) a strong commitment and involvement of a wide range of stakeholders, (b) the holistic GEIPP approach, (c) previous Resources Efficient and Cleaner Production (RECP) work done by UNIDO and SECO, (d) the success of the pilot Eco-Industrial Parks (EIPs) to motivate other parks to follow. The main challenges are (a) the financing of new infrastructure and cleaner technologies, (b) the long time required to change regulatory frameworks and compliance once they are in place, (c) uncertain interest and willingness of SMEs to participate in the programme, (d) the relatively short duration of the programme in order to show results, (e) changes in government counterparts and (f) challenging country contexts (e.g. political unrest, COVID-19).

Summary finding 5: The sharing of experiences and the seeking of synergies is mainly done indirectly via the GEIPP global team. The direct interaction between stakeholders from different countries has been limited until now. Stakeholders would welcome more direct exchange with other countries.

Summary finding 6: Almost all global products are already being used and implemented. The quality of the global products is overall high. Several of the tools were already available from previous EIP programmes and were further developed for use in GEIPP. Several new tools are suggested (chapter (Chapter 4.3.a).

Summary finding 7: The global knowledge management is by and large doing the right thing. The global component is considered a possibility to compare with international standards and to source best international practise. The tools developed at the global level (component 2) are rated high by stakeholders. However, it is currently too early for stakeholders to fully appreciate to what extent the tools will shape activities on the ground.

Summary finding 8: The publishing of the EIP tools on the UNIDO knowledge hub is a major improvement for the accessibility and dissemination of the global products.

Summary finding 9: Overall, the programme structure, steering and capacity received consistently high marks by stakeholders, both at the global and national level. The global team is

seen as strong. The national teams with their coordinators (and Chief Technical Advisor (CTA)) play a key role in implementing activities at the country level. The long and good collaboration between SECO and UNIDO both at the global and country level is viewed as conducive for the implementation of the programme.

Summary Finding 10: The global component of the GEIPP is on track to deliver on time and the expenditures (in %) in South Africa and Viet Nam even exceed the time elapsed (in %). Expenditures in Colombia, Indonesia and Peru (in %) lag slightly behind compared with the time elapsed (in %). Expenditures (in %) in Ukraine have the largest gap compared with the time elapsed (in %). The main reason for the delay in expenditure is that in all countries – with the exception of Colombia - it took at least 1.5 years to have the country activities approved by governments.

Summary finding 11: The financial resources available at the global level (component 2 and programme management) are substantive. Approximately CHF 2.6m are used for global activities and programme management. However, this is less than budgeted (CHF 3.2m) because part of this budget is now used for supporting activities of the GEIPP in South Africa. The international human resources are also substantive. In one way or another, twelve individuals work in 2021 for the GEIPP supporting both global and country-level activities, equivalent to approx. 400% full-time employment.

Summary finding 12: While the monitoring and reporting system is well developed, to a large extent harmonized and appreciated by stakeholders, the indicator system for the country-level interventions poses a major challenge. The total number of indicators is high and many indicators in the logical framework of the country-level interventions at the outcome and impact level have neither baselines nor targets which makes reporting difficult. The GEIPP Results-Based Management (RBM) indicators – on the other hand - are manageable (limited in number and largely measurable). The new Monitoring and Reporting Tool for country level activities has yet to prove its practicability.

Summary finding 13: Overall it is uncertain whether the GEIPP will lead to lasting transformative change, i.e., to a broad adoption of EIP and system transformation. The greatest contribution can be expected from the park management. The interest of more parks to participate in the GEIPP is an indication for the transformative potential of the parks. This is promising. Changes – and enforcement – of the regulatory framework are uncertain at this point and the willingness of SMEs to implement EIP opportunities has yet to be demonstrated. The fact that several assumptions can't be positively confirmed as being accurate further enhances the uncertainty regarding the likelihood for transformative change.

Summary finding 14: Several lessons emerge from the country level interventions: (1) park management plays a key role, (2) central and local governments should be closely involved, (3) partnerships and networking make the difference, (4) communication of results is important, but takes time, (5) past experience and multi-country approach pays off.

Conclusions

The GEIPP theory of change is based on a solid problem analysis and the overall approach at the micro, meso, macro and global level is promising. After a slow start at the country level, the GEIPP is making good progress and is picking up speed. The findings of this evaluation tell us, that the programme is – in terms of activities and outputs - doing what it has planned to do, both at the country and at the global level. Having finally received the security clearance in Egypt offers the opportunity for the country activities in Egypt to catch up with other GEIPP countries.

However, while the GEIPP is progressing at the level of activities and outputs, the likelihood for achieving outcomes and transformative change – broader adaption of the EIP concept which takes time – is uncertain at this point. In order to achieve a broader adoption this evaluation arrives at the following conclusions to be considered by the GEIPP team:

- Chances for broader adoption of the EIP concept are uncertain. However, it is higher in the seven countries with pilot parks compared to a broader adoption in other countries. Therefore, the *GEIPP should at this point focus its efforts as much as possible on the seven countries, i.e. on component 1 of the GEIPP*. While the global outreach and lessons learnt dissemination should continue to some extent (component 2), the priority for the second half of the GEIPP duration should be on component 1.
- The work with the *pilot parks* is the most promising component of the GEIPP. The GEIPP can build on this. Parks are key to win companies to participate. Support to the park managements should therefore be the priority number one for the remaining duration of the programme, also because some parks have very limited human resources. Successful parks should be at the centre of GEIPP awareness creation efforts vis-à-vis other parks in the pilot countries. To have a strong story, the GEIPP indicator system must deliver solid and easy to understand data.
- The GEIPP should explore if it could *re-allocate some financial and/or human resources* from component 2 (global) to component 1 (country-level). While the global work is certainly one of the GEIPP's assets, most of the tools have been developed by now and it seems pertinent to give priority to country level implementation at this point of the GEIPP. As mentioned above, every effort should be made to make the pilot parks a success at the country level.
- SMEs are pragmatic. If the GEIPP helps to reduce costs and the ecological footprint as well as enhance competitiveness and attract investment, it would seem that a sufficient number of SMEs should be willing to participate in the programme. To the extent possible, the *technical assessment of and assistance to SMEs should be accelerated as well as the identification of synergies between SMEs*.
- The *financing of new infrastructure and cleaner technologies* is a challenge for parks as well as companies. The ongoing development of the “*Access to EIP Finance Tool*” is a step in the right direction. However, access to financing is only one dimension of the challenge. The overall difficult economic situation can shift financing priorities of parks and companies.
- There is no certainty that the *regulatory framework* at national level will be adjusted in the project countries in an “EIP-friendly” manner. While policy efforts need to continue, measures should be considered in each country on how to achieve broader adoption *in spite of* perhaps unfavourable or imperfect regulatory frameworks at the national level.
- Some of the fundamental underlining assumptions of the GEIPP are not accurate and will probably not materialize in several countries (e.g. cost of negative externalities are not going up, the economies in some countries are under stress). The GEIPP should assess the consequences of some inaccurate assumptions. Can the ToC still work? While external factors

can't be changed by the GEIPP, its effects can perhaps be mitigated. The GEIPP should explore ways to mitigate the effects of these external negative factors.

Recommendations

1. GEIPP should at this point focus its efforts on the seven GEIPP countries, i.e., on component 1, while the global outreach and lessons learnt dissemination should continue to some extent (component 2).
2. Support to the park managements should be the priority number one for the remaining of the GEIPP duration. Put successful parks at the centre of GEIPP awareness creation efforts vis-à-vis other parks. Make sure that the GEIPP indicator system delivers solid and easy to understand data to demonstrate success.
3. The GEIPP should explore if it could re-allocate some financial and/or human resources from the global component 2 to the country level component 1.
4. The technical assessment of and assistance to SMEs should be accelerated. In general, involve more business representatives in the GEIPP at all levels.
5. The GEIPP should explore options to improve the availability and accessibility of financial means for parks' and SMEs' to finance EIP/RECP measures. For example, UNIDO could explore partnership with public or private financial institutions for the financing of new infrastructure and clean technology. Alternatively, UNIDO could help convening fora connecting key stakeholders to find solutions to increase the availability and accessibility to financial means for parks' and SME's.
6. Measures should be considered how to achieve broader adoption in spite of perhaps unfavourable regulatory frameworks at the national level.
7. The GEIPP should consider adding three activities suggested by stakeholders in the seven GEIPP countries: some sort of recognition scheme against EIP criteria, include more parks and include more "multipliers", like for example business associations or learning institutions.
8. The GEIPP should assess the consequences of having based the theory of change partly on inaccurate assumptions. The GEIPP should explore ways to mitigate effects of external negative factors. In this regard, it might be worthwhile to anticipate different scenarios for the future with corresponding adaptation measures for each scenario.
9. Revise the general GEIPP theory of change (narrative and visualisation) in order to better reflect (a) the linkages between different elements, (b) the different levels (macro, meso, micro, global), (c) the different GEIPP components (1 and 2), (d) additional assumptions and (e) included potentially new outputs (e.g. a recognition scheme).
10. The GEIPP should be continued with a second programme phase, as the current five-year duration is too short for broader adoption of the EIP concept.

1. Evaluation purpose, objectives, subject and scope

Purpose

The purpose of the mid-term evaluation (MTE) is to assess independently the progress towards the achievement of the programme objectives to help the programme management and key stakeholders improve performance to reach the expected results. In that, the MTE is very much a learning exercise.

Objectives

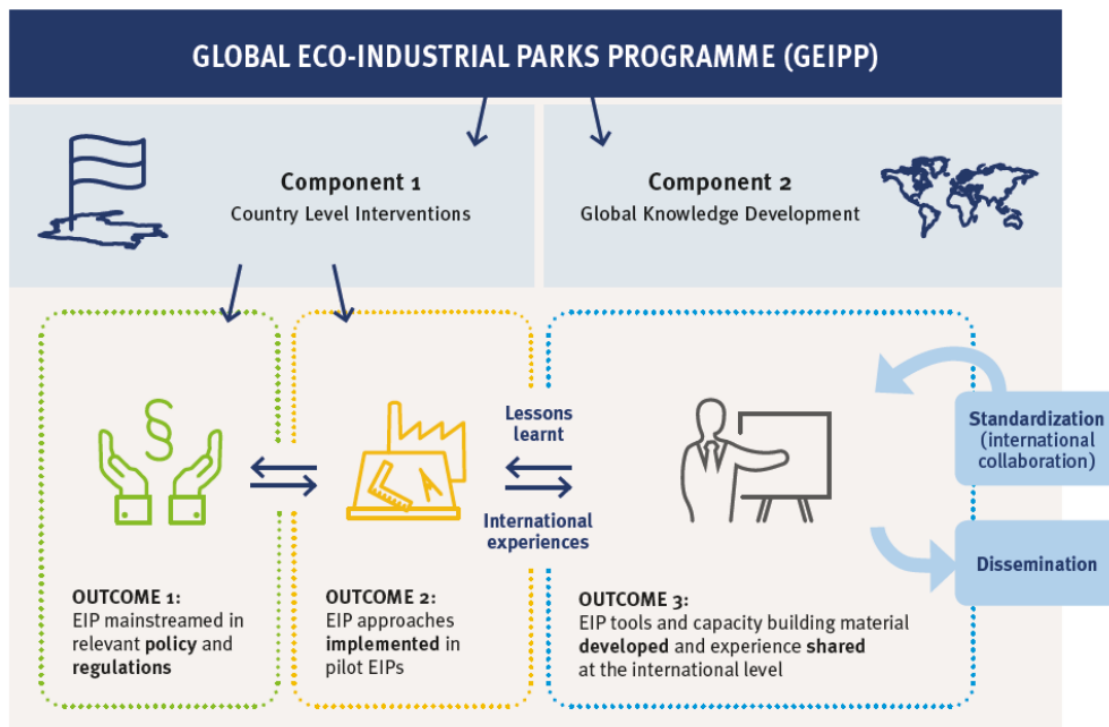
The evaluation has three specific objectives:

- 1) Assess the programme's performance and progress towards the achievement of the expected results
- 2) Assess remaining barriers and risks in programme design, programme management and performance of partners to identify necessary changes to set the programme on-track to achieve its expected results
- 3) Develop recommendations so that programme management could develop and implement a follow-up plan on necessary corrective actions

Subject and scope

The GEIPP has two main components and three expected outcomes. The MTE assesses both components and the three expected outcomes (Figure 1).

Figure 1: Subject and scope of MTE



Source: Manual for UNIDO Toolbox on Eco-Industrial Parks, UNIDO/GEIPP, 2019, p.5.

The independent MTE covers the first 2.5 years of the programme from its starting date in December 2018 to June 2021.

The evaluation is focusing on the GEIPP and is neither evaluating the concept of eco-industrial parks nor the International Framework for Eco-Industrial Parks. Eco-industrial parks are a well-established and tested concept in order to advance sustainable industrial development.

Evaluation dimensions, evaluation criteria and evaluation questions

In assessing both components, the MTE focuses on the following dimensions:

- Programme strategy and design
- Progress towards results
- Programme approach
- Programme implementation and adaptive management
- Likelihood of transformative change and sustainability
- Lessons learnt and good practices

The evaluation questions are presented below (Table 1). They are based on the Terms of Reference (ToR) for the MTE and the exchange with the UNIDO Independent Evaluation Division (IED), the GEIPP HQ team and the donor (SECO).

Table 1: Evaluation dimensions, evaluation criteria and evaluation questions

| Evaluation dimensions ➤ evaluation criteria | Evaluation questions |
|--|---|
| 1. Programme Strategy <ul style="list-style-type: none"> ➤ relevance ➤ theory of change / logical framework | a) To what extent is the programme design still relevant in light of changed circumstances? b) How strong is the country commitment/ownership? c) What should be adjusted accordingly to be on track to achieve expected results? d) What are major technical needs/demands from stakeholders at country level? |
| 2. Progress towards results <ul style="list-style-type: none"> ➤ effectiveness | a) To what extent have the expected outcomes and objectives of the programme been achieved thus far? b) Is it on track to achieving its objectives? c) How successful are the new elements of the GEIPP ¹ , in particular the collaboration with the park management and the work at the policy level? d) What are the remaining barriers to achieving the objectives in the remainder of the programme and how to overcome them? |
| 3. Programme approach <ul style="list-style-type: none"> ➤ design/relevance ➤ effectiveness ➤ efficiency ➤ programme management | a) How well does the GEIPP's programme approach work? b) How is it different to a compilation of individual projects? c) How beneficial is the interplay between country and global level as of now (component 1 and 2)? d) How useful is the global component of the GEIPP so far? e) What is the outreach and perception of the GEIPP beyond the immediate programme stakeholders? |

¹ New compared to the Global RECP program.

| | |
|---|---|
| <p>4. Programme implementation and adaptive management</p> <ul style="list-style-type: none"> ➤ efficiency ➤ programme management ➤ monitoring and evaluation ➤ financial management ➤ stakeholder engagement and communication | <ul style="list-style-type: none"> a) Has the programme been implemented efficiently, cost-effectively, and been able to adapt to any changing conditions thus far? b) Why is the financial absorption below plan and how can it be improved? c) To what extent are programme-level monitoring and evaluation systems, reporting, and communications supporting the programme implementation? |
| <p>5. Likelihood of transformative change and sustainability</p> <ul style="list-style-type: none"> ➤ Likelihood of transformative change and sustainability | <ul style="list-style-type: none"> a) What are the risks that are likely to affect the continuation of programme results? b) Has the programme put in place a mechanism to ensure sustainability after the programme's completion (in terms of financial, legal, institutional, socio-economic instruments, frameworks or processes)? c) Are the programme's successful aspects being transferred to appropriate parties, potential future beneficiaries, and others who could learn from the programme and potentially replicate and/or scale it in the future? |
| <p>6. Lessons learnt</p> <ul style="list-style-type: none"> ➤ all evaluation criteria | <ul style="list-style-type: none"> a) What are key lessons learned from country level interventions, including good practices (e.g. community of practice)? b) What works? What doesn't? c) What lessons can be drawn from the successful and unsuccessful practices in designing, implementing and managing the programme so far? |

Table: Evaluation team, based on TOR.

2. Description of the GEIPP

Overview

The objective of the Global Eco-Industrial Parks Programme (GEIPP) is to demonstrate the viability and benefits of the eco-industrial park approach in scaling up resource productivity and improving economic, environmental and social performances of businesses and thereby contribute to inclusive and sustainable industrial development in the participating developing and transition economies.

The GEIPP has two components:

- Component 1: Country level interventions
- Component 2: Global knowledge development

The GEIPP delivers the expected results via three outcomes and the respective outputs under the two components:

Component 1: Country level interventions

Outcome 1: EIP incentivised and mainstreamed in relevant policy and regulations leading to an increased role of EIP in environmental, industry and other relevant policies at the national levels in the participating countries.

- Output 1.1. Mapping of existing capacity of institutions and service providers on eco-industrial parks development: Analyse in-depth the existing capacity of institutions and service providers and map the gaps, to secure proper customisation of all envisioned interventions to local interest and commitment, needs, and windows of adaptation;
- Output 1.2. Strengthened national institutions relevant to EIP policy development and implementation: according to the needs identified in the in-depth analysis. These will include training to enhance technical skills, technical assistance and coaching/mentoring to improve existing policies and strategies, and the implementation of these policies;

Outcome 2: EIP opportunities identified and implementation started, with environmental (e.g. resource productivity), economic and social benefits achieved by enterprises confirmed. The implementation of EIP opportunities by enterprises and other organisations will be supported by the EIP services providers, and will lead to reduction of the environmental footprint and operational and compliance costs of businesses, and an increase in their - natural - resource productivity.

The GEIPP is focusing on the brownfield operations only, in order to secure realistic and tangible results within GEIPP boundary (timing, financial and organisational) conditions.

- Output 2.1. Benchmarking and in-depth analysis of potential candidate industrial parks for EIP intervention: Conduct in-depth analysis and screening of candidate industrial parks for interventions.
- Output 2.2. Enhanced capacity of industrial parks and tenant SME's to meet international standards and requirements for EIP: Provide training to private sector (SMEs, park management) to enhance capacity to meet international requirements set for EIP, according to the needs identified during the pre-assessment. The training to enhance technical skills of the park management and individual SMEs is meant to create awareness and understanding of EIP and thereby create local ownership to secure sustainability of the results.

- iii) Output 2.3. EIP requirements implemented by park management and tenant SME's: Provide technical assistance to private sector (SMEs and park management) to implement EIP-measures. Via a step-by-step approach all windows of improvements for all different components of EIP will be assessed and gradually implemented.

Seven countries have been selected for country level interventions under component 1, based on SECO priority countries and UNIDO country assessments: Colombia, Egypt, Indonesia, Peru, South Africa, Ukraine and Viet Nam (Figure 2). All country programmes address the two outcomes of the programme and are structured accordingly.

Figure 2: Countries with GEIPP interventions

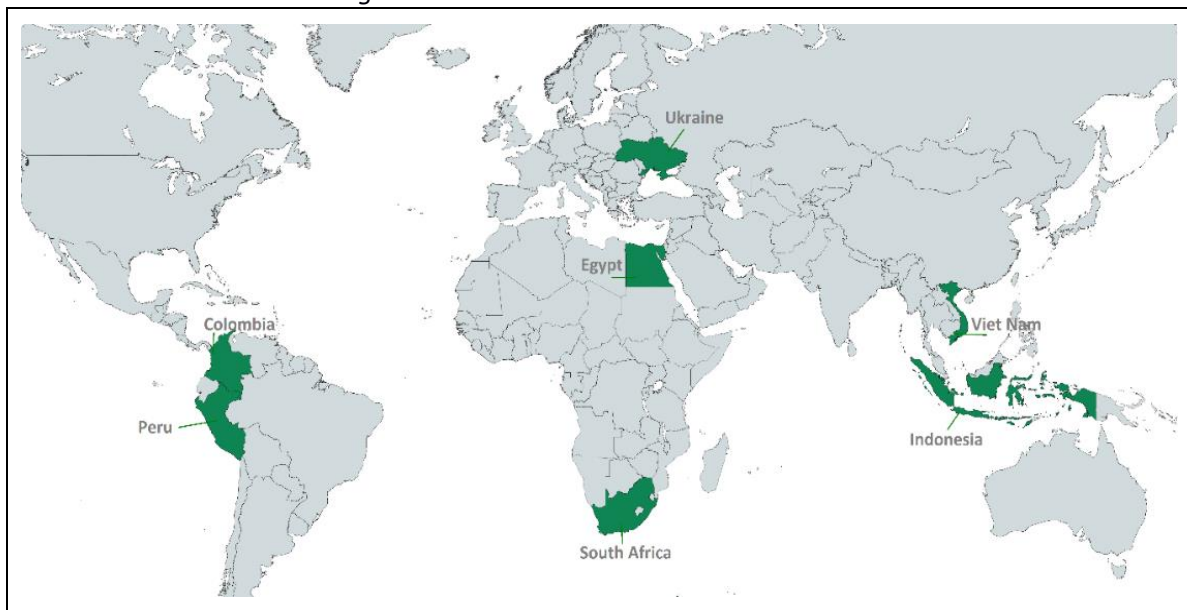


Figure: Evaluation team, based on GEIPP documents.

Component 2: Global Knowledge Development

Outcome 3: EIP tools developed, services delivery capacity enhanced and lessons learnt properly capturing and effectively exchanged. EIP tools developed and made applicable beyond the context of the individual parks or countries (via description how to apply tools locally).

- i) Output 3.1. Specific EIP tools developed: Develop specific EIP tools, building upon already existing EIP tools and/or amalgamating thematic tools into EIP-tool packages. It refers to guidelines, handbooks and training materials for specific target groups. This component will strongly build upon activities undertaken already during the previous global RECP-programme and the presently ongoing joint activities with World Bank and GIZ.
- ii) Output 3.2. EIP services delivery strengthened: via tailored institutional strengthening interventions at country level (as part of country specific activities), effective networking and peer learning amongst a network of competent nationally-directed initiatives that deliver quality and value-adding EIP services which respond to the needs of enterprises and other organisations.
- iii) Output 3.3. Lessons learnt from EIP interventions captured and effectively exchanged: Capture lessons learnt from EIP activities properly and effectively exchanged amongst involved parties in GEIPP and external stakeholders involved in similar programmes; and
- iv) Output 3.4. Awareness raising activities on EIP developed: Raise EIP awareness, including the dissemination of promotional material and the promotion of EIP awards.
- v) Output 3.5. Mainstreaming of pilot initiatives launched under the Global Resource Efficient

and Cleaner Production Program: Demonstrate and disseminate knowledge on the benefits of the pyrolysis technology for the production of clean energy and the reduction of GHG emissions and air pollution (Transferred from GEIPP country level intervention in Vietnam in 2020).

Budget

By the time of the MTE in June 2021, the GEIPP budget was CHF 17,184,395, equivalent to around Euro 15,533,000 (Table 2).

Table 2: GEIPP budget (2019-2023, CHF)

| | GEIPP (2019-2023) | |
|--|-------------------|--------|
| | CHF | % |
| Country activities (component 1) | 11'845'482 | 68.9% |
| Global activities (component 2) | 1'550'000 | 9.0% |
| Programme management and monitoring | 1'661'947 | 9.7% |
| Evaluation (mid-term and final) | 150'000 | 0.9% |
| Sub-total | 15'207'429 | 88.5% |
| Support cost* | 1'976'966 | 11.5% |
| Grand total | 17'184'395 | 100.0% |
| * support cost are 13% of the sub-total and 11.5% of the grand total | | |

Table: Evaluation team, based on data received from GEIPP team, June 2021.

3. Evaluation methodology and limitations

Inception Report

The evaluation team prepared an inception report for this evaluation. The inception report built on the terms of reference (TOR) for this evaluation of April 2021. It further developed the approach of the evaluation. In particular, it did ...

- ... further develop the evaluation methodology, including the assessment methods and the evaluation framework;
- ... provide the rationale for the country selection;
- ... provide a stakeholder mapping and sampling;
- ... establish the work plan and outline the responsibilities of the evaluation team members;
- ... develop the evaluation tools, like for instance the template for portfolio analysis of country level interventions.

The inception report was based on:

- an initial review of documents and online sources;
- visits to the websites of the industrial parks receiving detailed support as part of GEIPP 2019-2023 (Annex 4);
- an initial review of GEIPP theory of change;
- several interactions with the UNIDO Independent Evaluation Office;

- several interactions with the GEIPP team at UNIDO headquarters;
- an interaction with the SECO programme manager responsible for the GEIPP.

Approach and methodology - overview

An overview of the evaluation approach and methodology is provided below (Table 3) showing the main assessment methods used to assess the different evaluation dimensions.

Table 3: Evaluation dimensions and assessment methods

| | Assessment methods | | | | | | | |
|---|--|-------------------------------------|-------------------------------------|---|---|---|--|---|
| | Document analysis, including online data | | | | Interaction with stakeholders | | | |
| Evaluation dimensions | Theory of change analysis | Country portfolio analysis | Global component analysis | Quality assessment by EIP expert of global products | Interviews with key stakeholders ¹ | Focus group discussions (FGD) | | |
| | | | | | | FGD on GEIPP lessons learned ¹ | FGD on GEIPP ToC ² (intern) | FGD with EIP experts ³ (peer review) |
| 1. Programme strategy | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Progress towards results | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | |
| 3. Programme approach | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Programme implementation | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | |
| 5. Transformative change/sustainability | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. Lessons learnt | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| ¹ particular focus on Colombia, South Africa, Ukraine ² with GEIPP team and project coordinators in Peru, Viet Nam and Indonesia ³ with experts from international partner organisations | | | | | | | | |

Table: Evaluation team.

Main source of evidence

As this is a mid-term evaluation with an actual implementation phase of the country interventions of about one year for most countries (with the exception of Colombia, which started earlier), tangible results at the park and company level in terms of environmental, economic and social benefits (outcome 2) can't be expected yet. The main source of evidence to assess the performance of the GEIPP as of today was therefore feedback from GEIPP stakeholders as well as documents including online data.

Stakeholders were divided in two groups. The first group constitutes the *beneficiaries* of the GEIPP. They are (a) government or government agencies, (b) eco-industrial park management, (c) EIP services providers, and (d) companies.

The second group of stakeholders – while not direct beneficiaries – have a stake in the successful implementation of the GEIPP. This group includes UNIDO and the GEIPP team, SECO (the donor), UNIDO offices at the country level and international partner organisation also engaged in EIPs.

Seven countries have been selected for country level interventions under the component 1. While the MTE covers the country interventions in all seven countries, some countries received more attention. Based on progress to date (Table 4) and an exchange with the GEIPP team, Colombia, Ukraine and South Africa were selected to be looked at in more detail because they are more advanced compared to the other four countries. The three countries host 9 of the 21 industrial parks that receive detailed support as part of GEIPP 2019-2023 (Annex 4).

While there is a risk to have a slight bias towards country interventions that progress well, the three selected countries may offer more lessons learned, as they are more advanced. Also, this selection includes the experience from country interventions in three different continents.

Table 4: Progress of country interventions in achieving milestones, April 2021

| Country | Approval/ signature | Assessment of priority parks against EIP framework | Mapping of stakeholders and capacity | IP (EIP) policies reviewed and amendments proposed | RECP assessments initiated in model parks | Prioritized EIP action initiated |
|---|-----------------------------|--|--------------------------------------|--|---|----------------------------------|
| Colombia | June 2019 | | | | | |
| Ukraine | May 2020 | | | | | |
| South Africa | Nov. 2020 | | | | | |
| Peru ¹ | Aug. 2020 | | | | | |
| Indonesia | July 2020 | | | | | |
| Viet Nam ¹ | Nov. 2020 | | | | | |
| Egypt | Not signed yet ² | | | | | |
| Colour code: accomplished on track behind schedule planned | | | | | | |
| ¹ Peru and Vietnam delayed signature/start with no revision of milestone date makes some activities to fall behind schedule. | | | | | | |
| ² The project in Egypt only very recently received the security clearance (July 2021) which is a pre-condition for the signing of the project document by the Government. It is expected that the project can officially start soon. | | | | | | |

Table: Evaluation team, based on GEIPP data, April 2021.

Data collection and data analysis methods

Primary data collection

The engagement with above beneficiaries and stakeholders was at the centre of the evaluation methodology. The evaluation team exchanged with stakeholders through interviews and focus group discussions, based on a stakeholder sampling (Table 5). Interviews are a well-established and recognised methodology to collect primary qualitative data. The semi-structured interviews were conducted using online tools (Skype, Zoom). Interviews were based on different sets of questions (Annex 8).

Table 5: Stakeholder sampling for interviews and focus group discussions

| Stakeholder categories | | Key stakeholder for interviews | Focus group discussions (FGD) | | |
|------------------------|---|---|---|---|-------------------------------------|
| | | | FGD on GEIPP lessons learned | FGD on GEIPP theory of change (intern) | FGD on GEIPP strategy (peer review) |
| GEIPP beneficiaries | Government/ government agency representatives | Colombia, South Africa, Ukraine Total: 3 | Colombia, South Africa, Ukraine Total: 3 | -- | -- |
| | Park management (priority parks) | Colombia (2), South Africa (2), Ukraine (2) Total: 6 | Colombia, South Africa, Ukraine Total: 3 | -- | -- |
| | EIP services provider management | Colombia, South Africa, Ukraine Total: 3 | -- | -- | -- |
| | Company representatives | Colombia (2), South Africa (2), Ukraine (2) Total: 6 | -- | -- | -- |
| GEIPP stakeholders | UNIDO/GEIPP team | HQ (5) Total: 5 | Project coordinators from Colombia, South Africa, Ukraine Total: 3 | HQ (4) Project coordinators from Peru, Viet Nam, Indonesia (3) Total: 7 | HQ (2) |
| | SECO | HQ representatives Total: 2 | Programme officer in Colombia, South Africa, Ukraine Total: 3 | HQ (1) | HQ (1) |
| | UNIDO representatives at country level | Colombia, South Africa, Ukraine Total: 3 | -- | -- | -- |
| | International partners | -- | -- | -- | Total: 4 |
| Total | | 28 | 12 | 8 | 7 |

Table: Evaluation team.

This evaluation put an emphasis on focus group discussions (FGD). While this is an excellent method to collect primary qualitative data, it is also a method to strengthen the participatory nature of this evaluation, emphasising the learning dimension of evaluations. The focus group discussions were conducted online (Zoom). Three different focus group discussions were conducted. The FGD participants are listed in Annex 5 and the FGD questions are included in Annex 9.

The first FGD was on lessons learned in implementing the GEIPP until now. Participants in this FGD were from the three priority countries selected for this evaluation Colombia, Ukraine and South Africa, representing governments, park managements, GEIPP project coordinators and SECO programme officers at the country level.

The second FGD was on the theory of change of the GEIPP. This was an internal FGD with the GEIPP team in Vienna, the project coordinators at country level from Peru, Viet Nam and Indonesia and a representative from SECO. The objective was to discuss the theory of change of

the GEIPP as presented in the original programme document. The FGD benefited from an assessment of the theory of change conducted by the evaluation team prior to the FGD (Annex 1).

The third FGD was on the strategy of the GEIPP as it is perceived by EIP experts from international partner organisations. The objective was to get an outside expert view on the GEIPP. This FGD can be understood as a mini peer review.

Additionally, the evaluation team participated in two country specific steering committee (CSSC) meetings as observers.² Both meetings were conducted online. Finally, the evaluation team participated in a GEIPP team meeting (26 May 2021).

Secondary data analysis

Primary data collection from stakeholders was supplemented with reviews and analyses of secondary data, i.e., GEIPP documents and online data. At the heart of document analyses was the *portfolio analysis* of the seven country level interventions (component 1). The portfolio analysis provided an overview of progress to date and relied to a large extent on the country project documents and the country progress reports. The summary of the portfolio analysis is in Annex 2.

The portfolio analysis was supplemented by analysis of the documents related to the global component of the GEIPP (component 2). The analysis assesses the progress in implementing the global component. It included a *quality assessment* of the EIP global products delivered under component 2 (tools, training, etc.). The result of the quality assessment is in Annex 3.

Finally, the evaluation team conducted a methodological analysis of the GEIPP *theory of change* as included in the original programme document. The evaluation team assessed the theory of change along selected criteria in order to establish its quality and usefulness. The result of the methodological analysis is included in Annex 1.

A detailed account of the data collection sources and data collection methods is provided in the evaluation framework (Annex 7).

Evaluation team

The evaluation team was composed of three members. One international evaluator (independent) acted as team leader. The second team member (independent) was an expert on cleaner production. The third team member was an evaluation analyst from the UNIDO Independent Evaluation Division with a particular focus on the portfolio analysis of country interventions.

Overall assessment

The evaluation subjects, evaluation dimensions and criteria as well as the evaluation questions as outlined above (Table 1) provide the analytical framework of this evaluation.

Findings are based (and triangulated) on a comparative analysis of (a) the “data collection templates for key evidence from interviews”, (b) the notes from the focus group discussions, (c) the theory of change analysis, (d) the portfolio analysis, (e) the analysis of the global component and (e) the quality assessment of the global products.

Limitations

It was not possible to conduct an in-depth assessment of country level interventions in the context of this evaluation. However, combining a portfolio analysis of all seven countries on the

² CSSC meeting Indonesia on 27 May 2021; CSSC meeting Colombia on 3 June 2021.

one hand with a closer look at three selected countries (Colombia, South Africa, Ukraine) in combination with focus group discussions with stakeholders across all countries allowed for a solid evidence base to assess the performance of the GEIPP country level interventions.

The mid-term evaluation took place at an early stage. On average only about 30% of the actual implementation phase had elapsed at the country level (and about 28% delivery rate) and the projects could only report on activities and outputs and not yet on outcomes or impact. In particular, the collaboration with SMEs has started only recently in most countries and the SMEs had limited experience to share with the evaluators.

The evaluators faced some language challenges when conducting interviews in Ukraine. However, this was addressed by working with interpreters.

Due to the global COVID-19 pandemic, the evaluation was conducted in line with the corresponding UNIDO guidance and rules. These prioritize the health and safety of all parties involved. Given the current circumstances and travel limitations, physical field visits were not be possible. Interviews and focus group discussion with stakeholders were held online. The evaluators could not visit UNIDO in Vienna and interventions at country level in any of the seven countries. The evaluation was conducted entirely as a remote exercise. The online conduct of interviews and focus group discussions may affect the richness of the interaction between the evaluators and the informants. However, experiences with evaluations during the pandemic show that evaluations can deliver satisfactory results comparable to evaluations with face-to-face interactions. It is estimated that the results reach 70-80% of face-to-face evaluations.³

³ The team leader of this evaluation has led two mid-term evaluations of multi-country programmes under COVID-19 regime as entirely remote exercises, i.e., (1) Independent mid-term evaluation of UNIDO's Global Quality and Standards Programme (GQSP) with activities in Colombia, Costa Rica, Georgia, Ghana, Indonesia, Kyrgyzstan, Peru, South Africa, Ukraine and Vietnam (2020/21); (2) Mid-term evaluation of the ILO Better Work Global Programme with activities in Bangladesh, Cambodia, Indonesia, Vietnam, Jordan, Ethiopia, Haiti, Nicaragua and Egypt (2020). Both programmes are funded or co-funded by SECO.

4. Findings

4.1 Programme strategy

4.1.a Relevance

Summary finding 1: The GEIPP is seen as highly relevant by stakeholders. The most prominent argument in support of the GEIPP is related to the expected competitive advantage for the participating industrial parks and companies having implemented the GEIPP. The contribution to the adjustment of the regulatory framework in order to create an enabling environment for eco-industrial parks to thrive is seen as particularly relevant. More generally, the parallel multi-level approach at the micro, meso, macro and global level is judged very positively by stakeholders. There is a strong interest from parks beyond the selected pilot parks to participate in the programme. However, this evaluation was not in a position to establish a solid evidence base that would support strong SME commitment, mainly because the programme has only started very recently to interact with companies.

In order to assess the relevance of the GEIPP, the evaluation team exchanged with various beneficiaries and stakeholders of the GEIPP, either through bilateral interviews or in focus group discussions. The main arguments and expectations put forward are aggregated by stakeholder groups below (Table 6).

Beneficiaries and other stakeholders mentioned a wide range of different reasons why the GEIPP is relevant. However, some arguments go across the stakeholder groups. The most prominent argument in support of the GEIPP is related to *competitive advantage*. Having an ecological advantage is seen as advantageous vis-à-vis other countries (government perspective), vis-à-vis other industrial parks (park perspective) and vis-à-vis other companies (company perspective). It is expected that competitive parks and SMEs can contribute to economic development, also to job creation at the local level (e.g., stressed in South Africa).

In order to achieve the cutting-edge position in tackling environmental challenges, there is a strong demand to adjust the *regulatory framework* in order to create an enabling environment for eco-industrial parks to thrive. In other words, there is a strong expectation vis-à-vis the GEIPP that it can support the reform of the regulatory framework by including EIP criteria into the relevant frameworks for free-trade-zones, industrial parks and similar organisations sharing in particular the *experience from other countries* (lessons learned). The conviction that the regulatory framework must be changed is not only driven by a general *sense of urgency* (e.g. climate change) but also by specific national priorities (e.g., the National Strategy on Circular Economy in Colombia) and by international pressure (e.g., new German “Supply Chain Act” (2021), EU environment regulations). Furthermore, the raising cost for natural resources⁴ enhanced the relevance of the GEIPP.

There are indications of a different nature that support the claim that the GEIPP is relevant. According to stakeholders, there is a strong interest from parks beyond the few pilot parks selected in each GEIPP country to participate in the programme. In addition, the number of industrial parks is growing. For instance, in Indonesia, there are already 128 industrial parks and 38 new parks are planned. In Viet Nam, there are 350 industrial parks and about 200 additional are expected to be established during the next ten years. The expectation is that – if the pilots are successful – many more parks will adhere to the principle of eco-industrial parks without being

⁴ Financial Times, *Broad commodities price boom amplifies ‘supercycle’ talk*, 3 May 2021: “Raw materials prices have soared in 2021”. <https://www.ft.com/content/1332da37-bf45-409f-9500-2fdac344d1dd>

directly included in the GEIPP which would enhance the relevant of the GEIPP manifold (parks still benefit indirectly from the availability of tools, lessons learned, etc.).

Experts of eco-industrial development consulted for this evaluation emphasised the fact that the GEIPP is embedded in the *international framework for eco-industrial parks* which is based on past lessons learned. The international framework is the basis for the GEIPP strategy to address the challenges simultaneously in parallel at the different levels – macro level (policy), meso level (EIP service providers), micro level (EIPs and SMEs), global level (knowledge and awareness). This *multi-level approach* is seen as highly relevant. This multi-level approach has been tested in Viet Nam successfully during a previous project.⁵

Interactions with various stakeholders during this evaluation revealed a strong ownership of the programme. In particular, government and park representatives as well as EIP service providers show significant commitment. However, the selection of countries is cause for some concern as expressed by several stakeholders. The project in Egypt only very recently received the security clearance (July 2021) which is a pre-condition for the signing of the project document by the Government. While it is now expected that the project can officially start soon it constitutes a major delay when considering that the GEIPP started 2.5 years ago. Views were expressed that Egypt was not an ideal selection. Some questions were also raised related to Peru (many changes in government). The country selection is largely driven by SECO's "*priority countries*". SECO has defined 13 priority countries which are advanced developing countries facing poverty and development issues.⁶ All seven GEIPP countries are part of this group. According to one interviewee, UNIDO may have partly selected other countries to be included in the GEIPP (e.g. Uruguay, Tunisia, China).

Apart from the country selection, the evaluation team has a question mark related to the commitment and ownership at the SME level. This evaluation was not in a position to establish a solid evidence base that would support strong SME commitment to the GEIPP at this point. This is partly related to the fact that in some countries the programme has only started very recently to interact with companies and that at this point it seems too early to ask SME representatives about their views on the GEIPP. Another reason is related to the challenges faced by this evaluation to arrange interviews with SME representatives. Some interviews could only be arranged after several attempts and with the support of the GEIPP national project coordinators. The limited number of interviews that took place with SME representatives suggest a pragmatic interest in the programme. If the programme helps to reduce costs, helps to reduce the ecological footprint, enhances competitiveness and attracts investment, SMEs are willing to participate. Relevant motivation apparently stems from a strong ecologic and social responsibility of the interview partners representing SMEs. However, SMEs expect to see results rather sooner than later.

⁵ EIP project (2015-2019) funded by GEF and SECO and implemented by UNIDO and the Ministry of Planning and Investment (MPI).

⁶ <https://www.seco-cooperation.admin.ch/secocoop/en/home/laender.html>

Table 6: Relevance of the GEIPP and expectations, by stakeholder groups

| Stakeholder groups | Why is the GEIPP relevant? Expectations? |
|-------------------------------------|--|
| Government/ government agencies | <ul style="list-style-type: none"> - EIPs can help achieve national priorities (e.g. lowering carbon emissions, transition to a circular economy) - EIPs have potential for “transformative change” - IPs are a catalyst for local development - Opportunities of green economy for job creation - Many parks show an interest to participate - Interest in lessons from other countries regarding leverage points, approach and barriers overcome - Need to adjust regulatory framework; need to create incentives for IPs to become EIPs - Environmental benefits - Pressure from outside (e.g. EU regulation) - Being green enhance competitiveness of industries - Growing number of IPs (e.g. Indonesia has already 128, 38 new parks planned) - Indonesia belongs to the 10 countries that emitted the most carbon dioxide in 2018 |
| Park management (priority parks) | <ul style="list-style-type: none"> - Strong ownership by participating parks - Strong motivation as the label “EIP” might be a competitive advantage and attract new tenant companies - SMEs show interest in participating - Need to enhance resource efficiency/expect environmental benefits - IPs are a catalyst for local SME development - Expect economic benefits - Need to adjust regulatory framework - Interest in lessons from other countries - Meet international standards - Comparative advantage/attract more companies - Helps to identify opportunities in parks |
| EIP services providers | <ul style="list-style-type: none"> - Raising prices for energy and raw material forces SMEs to react - Need to adjust regulatory framework - Comparative advantage/attract more companies (some are half empty) - Some parks have old infrastructure (e.g. sewage system) which needs to be upgraded |
| Companies | <ul style="list-style-type: none"> - Hope to attract investment; eco-industry as opportunity - Some sort of certification would enhance sales - Participation is a way of demonstrating corporate social responsibility - Cost savings from environment measures - Platform for collaboration and synergies (e.g. sharing equipment, photovoltaic) - Reduce impact on environment/environmental benefits; e.g., waste reduction, energy savings, recycling (e.g. laser cutting of metal generates metal dust; how can it be recycled?) |
| UNIDO / SECO | <ul style="list-style-type: none"> - A logical extension of the RECP approach; the concentration of companies in parks makes it an efficient approach; it matches the circular economy and climate change - Potential for “transformative change” beyond the immediate programme outcomes, i.e. the 7 countries and 20 parks - Combination of macro, meso and micro level interventions - Governments ask for support in developing regulatory framework - Governments are interested in lessons from other countries - Governments are interested in capacity building - Match to national strategies (e.g. National Strategy on Circular Economy) - Relatively easy to reduce the environmental footprint in developing countries - The three-pronged approach was successfully tested before in Viet Nam - Strong government ownership - Comparative advantage for countries |

| Stakeholder groups | Why is the GEIPP relevant? Expectations? |
|-----------------------|--|
| International experts | <ul style="list-style-type: none"> - Focus on country specific challenges enhances relevance of GEIPP (e.g. water in Peru) - Pilot parks – if successful – can serve as good examples - The GEIPP toolbox is based on previous experiences and lessons learned. - GEIPP is based on international framework for EIPs; the framework itself is based on past lessons learned by different organisations (UNIDO, World Bank and GIZ) - New laws like the new German “Supply Chain Act” adopted in 2021, following the EU Due Diligence Law - Trend to enhanced risk/reputation management by companies |

Table: Evaluation team, based on interviews and focus group discussions.

4.1.b Design – methodological analysis of the GEIPP theory of change

Summary finding 2: From a methodological point of view, the GEIPP theory of change is overall satisfactory. The expected outcomes are delineated from a solid problem analysis. The demonstration of the causal linkages between different elements of the theory of change is overall satisfactory in the narrative of the project document but weak in the ToC figure. For the GEIPP theory to work, a rather high number of assumptions must materialize in order to achieve the expected changes.

The basis for the methodological analysis of the GEIPP theory of change is the original project document.⁷ The evaluation team has analysed the theory of change along several criteria. The detailed analysis is provided in Annex 1 and the summary analysis is provided in the table below (Table 7).

The portfolio analysis (Annex 2) shows that the seven *project documents* adhere to the global programme structure and that they are built on the same general theory of change. For each country project, a specific logical framework was developed. The logical frameworks have a common structure and similar, but not identical indicators. The country specific indicators were approved by the country specific steering committees (CSSC).

From a methodological point of view, the GEIPP theory of change is overall satisfactory. The three outcomes are delineated from a solid problem analysis which finds that the concept and practice of eco-industrial parks is still subject to several barriers related to several main root causes:⁸ lack of awareness, lack of favourable regulatory framework, lack of financial mechanism and limited capacity of EIP service providers. Only the challenge regarding the financial mechanisms is not directly addressed by the outcomes.

The demonstration of the *causal linkages* between different elements of the theory of change is overall satisfactory. While the *narrative* of the project document describes rather well the causal linkages between the country level interventions (component 1) and the global knowledge development (component 2) as well as the linkages between outputs, outcomes and impact, the ToC *figure* of the project document does not show the causal linkages in a satisfactory manner, partly because outputs are not included in the ToC figure in the first place.

Assumptions are an important component in the project document and they are integral part of the GEIPP theory of change. For instance, the ToC assumes that SME will move to parks and have access to finances.

⁷ Project Document - Global Eco-Industrial Parks Programme (GEIPP) in Developing and Transition Countries, UNIDO, December 2018.

⁸ Ibid, p. 6/7.

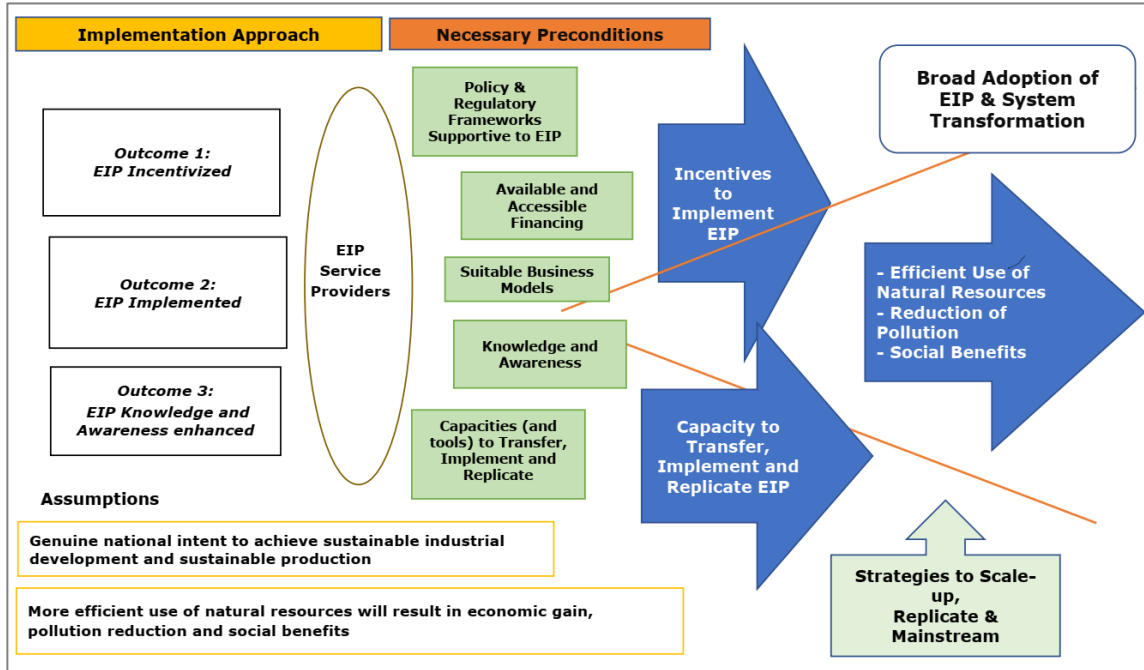
The *focus group discussion* on the ToC with part of the GEIPP team confirmed the overall satisfaction with the GEIPP ToC. Among other things, the team was of the view that the difference between assumptions and pre-conditions were not very clear.

Table 7: GEIPP theory of change – methodological analysis

| Criteria | Assessment | Rating |
|---|---|---------------------|
| 1. Impact | While partly ambiguous, a long-term objective has been established. | satisfactory |
| 2. Outcomes | Three of the four identified root causes are addressed by the three expected outcomes. Only the challenge regarding the financial mechanisms is not addressed. | satisfactory |
| 3. Outputs | Outputs have been well defined, but not reflected in the ToC figure. | satisfactory |
| 4. Causal linkages | The causal linkages between components 1 and 2 and the causal linkages between outputs, outcomes and impact are explained in the narrative of the project document including the logical framework. The ToC figure does only to a limited extent reflect the narrative. | satisfactory |
| 5. Assumptions | Assumptions are an important component in the project document and they are integral part of the GEIPP theory of change. The reflection of the assumptions in the ToC figure is limited. | satisfactory |
| 6. Drivers of change | The drivers of change are mentioned; partly also how to influence them. They are not shown in the ToC figure. | satisfactory |
| 7. Pre-conditions | The “necessary preconditions” are conceptually not quite clear and their location in the ToC figure appears to be rather arbitrary. | weak |
| 8. Narrative and visualization | There is no easy-to-understand narrative in the project document which captures the theory of change in a concise manner and the visualization of the theory of change is not comprehensive and partly ambiguous. | weak |
| Overall assessment | -- | satisfactory |
| Rating scale: strong, satisfactory, weak, missing | | |

Table: Evaluation team, summary of Annex 1.

Figure 3: Original visualization of the GEIPP theory of change



Source: Project Document - Global Eco-Industrial Parks Programme (GEIPP) in Developing and Transition Countries, UNIDO, December 2018, p. 16.

The evaluation team designed an *alternative visualisation* of the GEIPP theory of change based on the methodological analysis (Figure 4). The alternative visualisation puts outcome 2 - EIP opportunities implemented - at the heart of the theory of change. This is where ultimately the economic, social and environmental benefits will be realised. The visualisation also shows how outcome 1 - national policies - and outcome 3 - enhanced EIP knowledge and awareness - contribute to outcome 2. More generally, the alternative visualisation emphasises the linkages between different elements. And importantly, it shows the ToC is based on quite a number of *assumptions* in order to achieve outcome 2. Finally, the visualisation shows the different levels (macro, meso, micro, global) and components 1 and 2.

This alternative visualisation is intended to give some inspiration to the GEIPP team. During the focus group discussion with parts of the GEIPP team, the alternative visualisation was viewed by the GEIPP team as an improvement compared with the original visualisation.

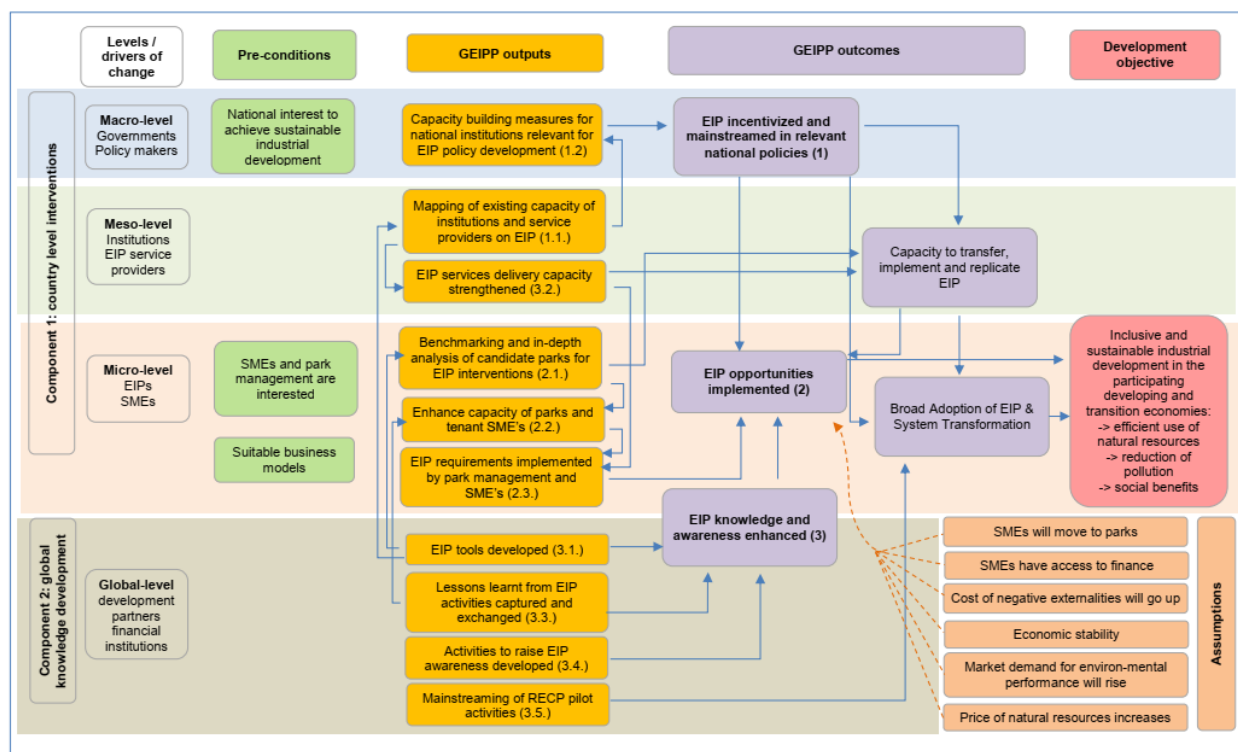


Figure: Evaluation team; based on original GEIPP project document and the focus group discussion on the ToC.

While this section is providing a methodological analysis of the theory of change, the actual assessment of the likelihood of transformative change is provided in chapter 4.5.

4.2 Country level interventions (relevance, effectiveness)

4.2.a Progress towards results

Summary finding 3: Based on the portfolio analysis and the information received during interviews for this evaluation, the evaluation team finds that Colombia, Indonesia, South Africa, Ukraine and Vietnam should be able to deliver all expected outputs during the project duration. The activities in Peru might be somewhat behind schedule but most of the outputs will be delivered during the project duration. In Egypt, probably not all outputs will be delivered during the project duration. At the level of achieving expected outcomes the situation is uncertain at this point in time.

The evaluation team conducted a portfolio analysis of GEIPP country level activities. The focus was on the original project documents and the latest progress reports (June 2021). In six of the seven countries with country-level activities, project implementation is ongoing. The project in Egypt only very recently received the security clearance (July 2021). It is expected that the implementation can start soon. The country level projects have varying budgets, different starting dates and variable project durations (Table 8). As a consequence, the expenditure and the project time elapsed vary also. Chapter 4.4.b provides more information on delivery and timeliness of implementation.

Table 8: GEIPP country level activities

| | Budget (CHF) | Actual starting date | Duration (months) |
|--------------|--------------|----------------------|-------------------|
| Colombia | 2'000'000 | July 2019 | 48 |
| Egypt | 1'769'912 | Aug 2021 | 30 |
| Indonesia | 1'379'994 | July 2020 | 31 |
| Peru | 2'000'000 | Aug 2020 | 40 |
| South Africa | 995'575 | Dec2020 | 36 |
| Ukraine | 2'000'000 | June 2020 | 32 |
| Viet Nam | 1'700'000 | Dec 2020 | 36 |

Table: Evaluators, based on data received from GEIPP team, July 2021.

This chapter is focussing on the progress towards results at the country level with regard to activities, outputs and outcomes. The summary of the portfolio analysis is provided in Table 9 (the likelihood of transformative change is addressed in chapter 4.5.). The analysis shows that all six active country projects report on activities, outputs and outcomes 1 and 2. While doing so, none of the progress reports is using the theory of change as a point of reference. All reports address key elements of the GEIPP approach, in particular the collaboration with park management and the work at the policy level and all progress reports address problems encountered.

Progress towards expected outputs

By July 2021, the main results achieved in terms of outputs are:

- All six active projects have assessed or are on track to assess the priority parks.
- All six active projects have completed or are on track with the stakeholder mapping.
- All six active projects have reviewed or are in the process of reviewing the IP (EIP) policies.
- In three of the six active projects the RECP assessments of companies is ongoing.
- In one of the six active projects the prioritized EIP actions have been initiated (Colombia).
- All six projects have conducted workshops (awareness events, policy workshops, trainings).

Table 9: GEIPP progress towards results at the country level, by June 2021.

| | | Colombia | Egypt | Indonesia | Peru | South Africa | Ukraine | Viet Nam |
|---------------------------------------|---|----------|-------|-----------|------|--------------|---------|----------|
| Reporting on progress towards results | Progress report 2021 reports on progress towards outcomes 1 and 2 | ☑ | x | ☑ | ☑ | ☑ | ☑ | ☑ |
| | Progress report 2021 reports on progress towards outputs and activities | ☑ | x | ☑ | ☑ | ☑ | ☑ | ☑ |
| | Theory of change assessed in progress report | x | x | x | x | x | x | x |
| | Collaboration with the park management assessed | ☑ | x | ☑ | ☑ | ☑ | ☑ | ☑ |
| | Work at the policy level assessed | ☑ | x | ☑ | ☑ | ☑ | ☑ | ☑ |
| | Problems encountered assessed | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ |

| | | | | | | | | |
|---|---|----|---|----|----|----|----|----|
| Progress towards expected <u>outputs</u> | Assessment of priority parks on track or completed | ☑ | x | ☑ | ☑ | ☑ | ☑ | ☑ |
| | Stakeholders mapping on track or completed | ☑ | x | ☑ | ☑ | ☑ | ☑ | ☑ |
| | IP (EIP) policies reviewed | ☑ | x | ☑ | ☑ | ☑ | ☑ | ☑ |
| | RECP assessments of companies ongoing | ☑ | x | x | x | x | ☑ | ☑ |
| | Prioritized EIP action initiated | ☑ | x | x | x | x | x | x |
| | Workshops conducted (awareness, policy, training) | ☑ | x | ☑ | ☑ | ☑ | ☑ | ☑ |
| Progress towards expected <u>outcomes</u> | On track to incentivized and mainstreamed EIP in relevant national policies (outcome 1) | ? | ? | ? | ? | ? | ? | ☑ |
| | On track to implement EIP opportunities by park management (outcome 2) | ☑ | ? | ☑ | ☑ | ☑ | ☑ | ☑ |
| | On track to implement EIP opportunities by SMEs (outcome 2) | ? | ? | ? | ? | ? | ? | ? |
| Programme implementation | Expenditure rate (%) (by June 2021) | 41 | 6 | 28 | 19 | 41 | 21 | 27 |
| | Time elapsed (%) by June 2021 since actual starting date | 48 | 0 | 35 | 25 | 17 | 38 | 17 |
| ☑ = yes x= no/not yet ? = not clear/uncertain | | | | | | | | |

Table: Evaluation team, based on portfolio analysis, interviews and data provided by GEIPP team, 2021.

Based on the portfolio analysis and the information received during interviews for this evaluation, the evaluation team finds that Colombia, Indonesia, South Africa, Ukraine and Vietnam should be able to deliver all *expected outputs* during the project duration. The activities in Peru might be somewhat behind schedule but most of the outputs will be delivered during the project duration. In Egypt probably not all outputs will be delivered during the project duration.

Figure 5: Progress towards expected outputs, June 2021.

| | Colombia | Egypt | Indonesia | Peru | South Africa | Ukraine | Vietnam |
|--|--|-------|-----------|------|--------------|---------|---------|
| | | | | | | | |
| | | | | | | | |
| | On track to deliver expected outputs by end of project duration | | | | | | |
| | Minor delays, project will most likely still deliver expected outputs by end of project duration | | | | | | |
| | Delayed, project will probably not deliver all expected outputs by end of project duration | | | | | | |
| | | | | | | | |

Figure: Evaluation team, based on portfolio analysis and interviews, 2021.

Progress towards expected outcomes (component 1)

At the level of achieving expected *outcomes* the situation is uncertain at this point in time. The GEIPP is facing a number of challenges (see next chapter 4.2.b).

Outcome 1: EIP incentivized and mainstreamed in relevant national policies

Work at the *policy level* is taking place in all six active countries. However, stakeholders stress that changes in regulatory frameworks are challenging and take a long time. This can be illustrated with the example from Viet Nam and the so-called “Decree 82”, which defines the

conditions and requirements for the recognition as an eco-industrial park, which is expected to be issued at the end of 2021. However, the elaboration for Decree 82 received key support during a previous EIP project (2015-2019) funded by GEF and SECO and implemented by UNIDO and the Ministry of Planning and Investment (MPI). So changes in the regulatory framework take time and may happen only after completion of the GEIPP (2023). Another point raised relates to the enforcement of new rules. Even if new EIP-friendly rules are established, it will be uncertain if they will be enforced. Some stakeholders stress the weak track record of policy enforcement in their countries. So overall, the success of the work at the policy level is uncertain at this point in time.

Outcome 2: EIP opportunities implemented

The collaboration with *park management* is taking place in all countries. Most park managers are very interested and engaged. Stakeholders view the collaboration with park management as being successful and very promising. There is a strong interest from parks beyond the selected 21 pilot parks to participate in the programme (see chapter 4.1.a). The collaboration with park management appears to be on track to implement EIP opportunities if they can be financed.

Regarding the collaboration with *SMEs*, this evaluation was not in a position to establish a strong evidence base that would support strong SME commitment at this point (see chapter 4.1.a). This is not to say that SMEs are not interested but it seems too early to assess as SME visits started only recently. The few SME representatives interviewed consider the technical assessments as valuable though. Several company representatives mentioned, that initially progress was good. The flow of the programme was only broken by the pandemic. Remarks by companies include the request for speed and agility, to show results faster, involve more companies, and to have more interaction in between companies. Still, the limited financial capacities of SMEs to invest in cleaner technology is seen as a great challenge. The willingness and capacity of SMEs to implement EIP opportunities is uncertain at this point.

4.2.b Success factors and challenges

Summary finding 4: Key success factors are (a) a strong commitment and involvement of a wide range of stakeholders, (b) the holistic GEIPP approach, (c) previous RECP work done by UNIDO and SECO, (d) the success of the pilot EIPs to motivate other parks to follow. The main challenges are (a) the financing of new infrastructure and cleaner technologies, (b) the long time required to change regulatory frameworks and compliance once they are in place, (c) uncertain interest and willingness of SMEs to participate in the programme, (d) the relatively short duration of the programme in order to show results, (e) changes in government counterparts and (f) challenging country contexts (e.g. political unrest, COVID-19).

The analysis of the success factors and challenges is largely based on the interaction with beneficiaries and stakeholders (interviews and focus group discussions) as well as the portfolio analysis of the progress reports of country level activities. The analysis reveals a high number of very diverse success factors and challenges put forward by stakeholders. Different stakeholder groups highlight different factors (Table 10, 11). Still, some strong patterns emerge.

The following success factors emerge:

- a) *A strong commitment and involvement of a wide range of actors* is seen as essential. This obviously includes the government, the park management, the EIP service providers and the parks' SMEs, but also includes a wider range of actors like local governments, communities, learning institution, business associations and companies outside of parks

or industrial zones in order to establish partnerships (e.g., for industrial symbiosis). Different mechanisms have been established in order to facilitate the involvement of different actors. In Colombia, a successful *community of practice* was established. In South Africa a round table was set up to discuss the EIP with government, civil society and other UN agencies among others. In Ukraine, a working group on policy with several ministries including the ministry of environment was created.

- b) The right *incentive structure* is seen as a key to the success of EIPs. Incentives can be as simple as legal requirements or financial incentives.
- c) The *GEIPP strategy* itself is seen as a success factor. Several components of the strategy were praised, in particular the holistic approach to the park development, the park assessments to identify the pilots, the awareness creation activities, the tools provided, the flexibility to adapt to country situation (including language), the technical advice, the cross-feeding of country experiences, the benchmarking against the international framework among others.
- d) The fact that the GEIPP can *build on previous RECP work* done by UNIDO and SECO is seen by many as an important success factor (Colombia, Indonesia, Viet Nam). The GEIPP is further developing the RECP approach. Many tools have already been developed and tested. In several countries, the National RECP Centres have been mandated to be the EIP services providers (e.g., South Africa, partly in Indonesia and Ukraine). Moreover, the GEIPP is anchored in the *International Framework for Eco-Industrial Parks* which gives the GEIPP a strong legitimation.
- e) Looking forward, stakeholders see the successful implementation of the EIP concept in the pilot parks as decisive for the GEIPP to achieve its development objective. The *park management* plays the leading role in the transition from IP to EIP and they can encourage companies to adopt resources efficiency and cleaner production, increasing reuse and recycling waste by establishing synergies between companies. The wider success of the GEIPP in terms of scaling up and replication is seen as depending on the ability (a) of parks to motivate companies to participate in the GEIPP and (b) to establish *lighthouse EIPs* which shine beyond their borders and motivate other parks to follow suit. Also, in this regard, *park leadership* can greatly contribute to creating awareness and interest beyond the own park. The “Parque Industrial Malambo” (PIMSA) in Colombia is an example. Finally, the parks’ financial capacities play a key role. Some state-owned parks have very limited resources (e.g., in the Ukraine), others are owned by international companies with solid financial resources (e.g., partly in Indonesia).

Table 10: Compilation of success factors, by stakeholder groups

| Stakeholder groups | Success factors |
|-------------------------------------|---|
| Government/ government agencies | <ul style="list-style-type: none"> - Professional selection process of parks (South Africa) - Strong park leadership (Colombia) - Access to financing for cleaner technology; COVID-19 made situation worse - Working group on policy with several ministries, including the ministry of environment (e.g., Colombia, Ukraine, Indonesia) |
| Park management (priority parks) | <ul style="list-style-type: none"> - The park assessment was very useful (South Africa) - Awareness creation among companies |

| Stakeholder groups | Success factors |
|------------------------|---|
| | <ul style="list-style-type: none"> - Government loan programme (e.g., Ukraine⁹) |
| EIP services providers | <ul style="list-style-type: none"> - Committed park management (e.g., Ukraine) - Collaboration with the park management (e.g. Cauca Park, Colombia) - The commitment of all the parties involved¹⁰ - Good practical tools provided by GEIPP¹¹ - Technical support provided by UNIDO - Building on previous RECP work done by UNIDO and SECO (e.g., Ukraine) - Flexibility of programme to adapt to needs of each country, each park and each company; also tools adapted to reality of each country, such as national energy mix, emission factors and specific regulations among others - Legal assessment as key initial stage that can help companies and parks to know big picture of current and future legal requirements |
| Companies | <ul style="list-style-type: none"> - If you can show early results - Active role of GEIPP team in awareness creating (e.g. Colombia) - Voluntary nature of GEIPP - Technical assessments are valuable and very useful - Personal interaction with experts (e.g., Colombia) |
| UNIDO / SECO | <ul style="list-style-type: none"> - Strong government ownership - Good relations between GEIPP team and government (e.g., Colombia, Ukraine, South Africa) - Work with government “committees” (e.g., Colombia)¹². - Relevance of GEIPP depends on success of pilots and extent to which they encourage other parks to follow and to inform policy framework - Involvement of local governments - Building on previous RECP work done by UNIDO and SECO - <i>Community of practice</i> major achievement and success factor¹³ (Colombia) - Strong park leadership (e.g., PIMSA Colombia) - Financial capacity of parks; some privately owned parks have sufficient financial resources (e.g. some parks in Indonesia are owned by companies from Japan and Singapore) |

⁹ On February 3, 2020, the Government of Ukraine started the state program "Affordable Loans at 5-7-9%". This program is designed for the creation and expansion of domestic micro and small businesses at record low interest rate-5,7,9% to the tune of UAH 1.5 million for a term of up to 5 years.

¹⁰ Models such as sale or purchase of steam, compressed air, cooling, waste water treatment or waste management, involve many actors in the chain that are not necessarily part of the park. Actors such as transporters, suppliers, marketers, local government, community, universities (for research processes of new business models), are key actors to make the new schemes work. For example, universities can contribute their knowledge in the analysis of environmental or social impacts of a new work model, or they can investigate the best applicable technology; the local government may contribute to the development of regulatory or voluntary schemes that encourage the implementation of the new model; the industrial associations will be able to involve the companies to replicate the model; Sectors such as transportation will be able to support the logistics necessary for the implementation of the model.

¹¹ All tools such as Cleaner Production Manuals, Policy, Material Flow, Energy Flow, Option Finding, and Management of Chemicals and Hazardous Waste, among others, are key to the correct advice in the implementation of measures in companies. The Implementation manual for Eco-Industrial Parks is a very important tool that includes all the fundamental aspects. Additionally, the Evaluation Tools of UNIDO EIP, which involves basic information on the park, international framework, performance indicators, definition of the action plan, among others, are practical tools that allow speeding up the evaluation and the identification of improvement options.

¹² E.g. Sustainability Committee of the National Competitiveness and Innovation System (from progress report).

¹³ The community of practice in Columbia is led by a University which is contracted by UNIDO. The community has approx. 40 members and several working groups on policy, incentives, monitoring of parks and upgrading of tools. The community also conducts training for members.

| Stakeholder groups | Success factors |
|-----------------------|--|
| | <ul style="list-style-type: none"> - Right incentive structure (financial and non-financial incentives) - Communication between SMEs and government is very important; identify shared interests (e.g., works in Colombia, less in Peru, Egypt) - Emphasis vis-à-vis SMEs the advantages of being in an industrial park; environment argument is not main argument to move to park (only added value) - Work with regional/local partners - Built on international framework for EIPs helps - Coherent policy advice by World Bank, GIZ and UNIDO |
| International experts | <ul style="list-style-type: none"> - If you succeed in establishing a lighthouse model EIP other parks want to copy - Benefits from multi-country approach and potential to generate and share knowledge, cross-feeding of country experiences - Tested tools that can be disseminated through programme - Holistic approach to industrial park development - EIP champions, either in the government or in parks - Educational institutions can function as multipliers; so can trained trainers (meso-level) - Some sort of certification scheme could be introduced; that would help |

Table: Evaluators, based on interviews and focus group discussions.

The following main challenges were highlighted:

- a) The *financing of new infrastructure and cleaner technologies* is seen as the greatest challenge for parks as well as companies. This is a complex topic which goes beyond the scope of this evaluation. Still, several dimensions came out in discussions: a) limited knowledge about available funding sources, b) cumbersome access to credits, c) limited availability of “green credits”, d) limited inclination to seek credits, e) overall difficult financial situation of parks and companies, f) aggravation of financial situation because of economic challenges caused by COVID-19. Databases and a tool (South Africa) to access existing financing elements are under development. Several interview partners called for a stronger financial involvement of the programme to support demo installations, else financing of identified options requiring substantial financial input seems questionable.
- b) There are several challenges related to the *regulatory frameworks* for the advancement of EIPs. While some stakeholders stress the challenge to assure the *compliance with regulatory frameworks* others stress the fact that a too strict regulatory framework does not help and that it is a challenge to find the right balance between “sticks and carrots”, i.e. to design or adapt the regulatory framework which is not only based on penalties in the case of non-compliance but creates an incentive culture. If the regulatory framework has a conducive incentive structure it can turn into a success factor. More generally, it was stressed that any changes in the regulatory framework *take a long time* to happen.
- c) The *interest of SMEs* to participate in the programme was mentioned as one of the key challenges. The EIP concept is new for many SMEs and it takes time to create awareness and interest. Some parks have significant empty space and the number of SMEs to participate in the programme is limited in those parks. This also reduced the potential for industrial symbiosis.
- d) The *duration of the programme is too short* to demonstrate the economic, environmental and social benefits to parks and SMEs.
- e) *Changes in government counterparts* are a challenge for the continuation of the programme (e.g., Peru, Ukraine).

- f) The *country context* can be a major challenge for the implementation of the programme. This can be political unrest (e.g., Colombia, South Africa) or weak overall economic development (e.g., Ukraine). This also includes the effect of COVID-19. While overall the impact of COVID-19 on the GEIPP itself was not dramatic, face-to-face meetings and factory visits are severely limited which does not facilitate implementation. However, in some countries the effect of COVID-10 on the economy was significant. In Ukraine for example, it is not clear if all parks and companies will survive.

Table 11: Compilation of challenges mentioned, by stakeholder groups

| Stakeholder groups | Challenges |
|-------------------------------------|--|
| Government/ government agencies | <ul style="list-style-type: none"> - Regulatory framework needs to change (e.g., Ukraine) - It takes a long time to pass new laws through parliament (e.g., Ukraine) - To demonstrate the advantages of eco-industrial park model without financial incentives (e.g. Ukraine) - EIP concept is new to many companies - Assessment of SMEs is slow - SMEs lack of trust vis-à-vis the government - COVID-19 |
| Park management (priority parks) | <ul style="list-style-type: none"> - Willingness of companies to participate - To meet international standards - Compliance with regulatory framework - Access to finance; parks and tenants require massive financial investment to implement the law (e.g. effluent treatment plant in South Africa) - No green credit lines (e.g., Ukraine) - Investment required upfront while benefits materialize only in future |
| EIP services providers | <ul style="list-style-type: none"> - Policy advice is challenging because staff in ministries are changing all the time - Financing of implementation measures is major challenge for SMEs - Limited number of SMEs in some parks (e.g., Ukraine) |
| Companies | <ul style="list-style-type: none"> - Massive investment required; access to finance (e.g., Ukraine, Colombia) - COVID-19 had an impact on the financial situation of the company, now less resources for investments - Very limited financial support from government (e.g., Ukraine) - Law needs to change to an incentive culture from current system with penalties in case of non-compliance (and the risk of paying ransom) - Diversity of SMEs in any given park; difficult to find common interest/synergies; difficult to coordinated (e.g., Indonesia, Ukraine) - The programme is rather slow; it takes long to show results |
| UNIDO / SECO | <ul style="list-style-type: none"> - Governments can be a major obstacle for the GEIPP; including bureaucratic processes (e.g. Indonesia) - Changes in government (Peru, Ukraine) - Too strong role of government, too much control of programme - Weak government capacity - Enforcement of regulatory framework - Weak EIP service providers - Limited SME interest - Parks and SMEs can't finance investments - SMEs' limited access to financial means; COVID-19 had an impact on the financial situation of SMEs - Lack of reliable SME data (e.g., Ukraine) - Park management is more convinced of greed arguments than SMEs - COVID-19: no face-to-face meetings possible - Weak economic progress (e.g., Ukraine) - National protests (Colombia) |

| Stakeholder groups | Challenges |
|-----------------------|---|
| | <ul style="list-style-type: none"> - Wrong incentive structure; e.g., Ukraine: central registration system for companies in parks, registered companies face additional obligations (e.g. CO2 reporting); incentive to not register |
| International experts | <ul style="list-style-type: none"> - Varying capacities of park management - GEIPP remains within the 21 pilot parks without scaling up or replication (risk) - Duration of programme is too short to see the benefits - How to avoid preferential treatment thereby distorting competition - Attract new funding/donors for EIP projects - A too strict regulatory framework can be a challenge; so, challenge is not to add more rules and regulations but to revise them |

Table: Evaluators, based on interviews and focus group discussions.

4.2.c Synergies between country level interventions

Summary finding 5: The sharing of experiences and the seeking of synergies is mainly done indirectly via the GEIPP global team. The direct interaction between stakeholders from different countries has been limited until now. Stakeholders would welcome more direct exchange with other countries.

The direct sharing of lessons learned between stakeholders from different countries happens only to a very limited extent, according to interviewees. Most of the interviewees stated that so far, they had no exchange with stakeholders from other countries, i.e., tenant companies or park managers. COVID-19 has prevented the direct exchange between GEIPP countries further, as no travelling was possible during the past 18 months or so. Some interaction took place only online. Stakeholders at the country level would welcome more direct exchange with their peers from other countries.

However, there is a mechanism to share experience from one country to another. Lessons learned are shared actively in the GEIPP global team, the so-called Core Team, which includes the UNIDO project managers, the three project coordinators based at headquarters¹⁴ and the CTA from Indonesia, but not the four national coordinators. The GEIPP global team is a “transmitter” of experience from one country to another. What has been learned in one country can be immediately shared with the team in another country through the Core Team.

The global team prepared two documents with lessons learned (GEIPP Lessons Learnt Report 1 EIP Assessments, and GEIPP Lessons Learnt Report 2 Technical Assistance Needs) and two best practise documents (EIP Community of Practice Colombia; Ukraine GEIPP Policy best practice).

In addition, the GEIPP has established a LinkedIn GEIPP community of practice to share experience across countries.¹⁵

Stakeholders mentioned several ideas how synergies between countries could be enhanced:

- Include national coordinators in the GEIPP Core Team;
- Regular (e. g. bimonthly virtual) global meetings of national officers and park managers;
- More interaction of experienced companies and novice companies;

¹⁴ The three “project coordinators” at headquarters work closely with the UNIDO project managers and provide technical and execution support to the GEIPP country-level interventions. They have contracts as consultants.

¹⁵ <https://www.linkedin.com/groups/12397112/>

- Increasing knowledge about other relevant existing tools (e. g. on benchmarks, or sector specific RECP; or on energy efficiency, developed in other UNIDO programmes);
- Refocusing the trainings from global ideas to more direct transmission of information on company level;
- More information on financing sources (using the models of Viet Nam and South Africa); and
- Upgrading knowledge and skills of the RECP centres used regarding new technologies.

4.3 Global level activities (component 2, relevance, effectiveness)

4.3.a Progress and quality of global products

Summary finding 6: Almost all global products are already being used and implemented. The quality of the global products is overall high. Several of the tools were already available from previous EIP programmes and were further developed for use in GEIPP. Several new tools can be suggested.

The evaluation team assessed 12 global tools and 22 knowledge products, available by June 2021. The assessment is provided in Annex 3. A summary assessment of the tools according to progress, quality and usefulness is provided in Table 12. The assessment is based on stakeholder responses and the view of the RECP expert of the evaluation team. The rating is done as follows.

- The state of development is either in the process of development (**red**), pilot testing (**yellow**), or implementation (**green**).
- The quality is assessed is either below expectations (**red**), meeting expectations (**yellow**) or exceeding expectations (**green**).
- Usefulness is assessed as either not considered useful (**red**), somewhat useful (**yellow**) and very useful (**green**).

The tools have been grouped according to their intended audience, namely policy makers, park management or tenant companies. The table also shows the main outcome to which a knowledge product contributes to and the potential reach out of the product. The outcomes are: EIP incentivised (Outcome 1), EIP opportunities implemented (Outcome 2), EIP knowledge and awareness enhanced (Outcome 3).

Table 12: Assessment of GEIPP global knowledge products

| Intended Audience | Tools | Outcome | Reach out | Progress | Quality | Usefulness |
|-------------------------|--|---------|---------------------------------|----------|---------|------------|
| Tools for Policy Makers | EIP Policy Support Tool | 1 | All GEIPP countries, and beyond | Green | Green | Green |
| | EIP Selection Tool | 1 | All GEIPP countries, and beyond | Green | Green | Green |
| | EIP Assessment Tool | 1 | All GEIPP countries, and beyond | Green | Green | Green |
| | EIP Concept Planning Tool | 1 | All GEIPP countries, and beyond | Green | Green | Green |
| | EIP Opportunities Monitoring V2 | 2,3 | All GEIPP countries, and beyond | Green | Green | Green |
| | EIP Access to Finance Tool | 2 | All GEIPP countries, and beyond | Green | Green | Green |
| Tools for park mana- | EIP Master Plan Sustainability Review Tool | 1 | All GEIPP countries, and beyond | Yellow | Green | Green |
| | IS opportunities identification tool | 1 | All GEIPP countries, and beyond | Green | Green | Green |

| Intended Audience | Tools | Outcome | Reach out | Progress | Quality | Usefulness |
|---|---|---------|---------------------------------|----------------|---------|------------|
| gement | EIP opportunities monitoring tool | 2, 3 | All GEIPP countries, and beyond | | | |
| | EIP management services tool | 1 | All GEIPP countries, and beyond | | | |
| | EIP Concept Planning Tool | 1, 2, 3 | All GEIPP countries, and beyond | | | |
| Tools for companies | RECP tools | 1, 2 | All GEIPP countries, and beyond | See discussion | | |
| | RECP reporting tool | 2, 3 | All GEIPP countries, and beyond | | | |
| Lessons learned and best practice studies | 2 lessons learned reports | 3 | All GEIPP countries, and beyond | | | |
| | 2 best practice case studies | 3 | All GEIPP countries, and beyond | | | |
| Training materials | · 7 module course · 9 module course · EIP policy support module · Supporting materials | 1, 3 | All GEIPP countries, and beyond | | | |
| Training materials | Moodle course | 1, 3 | All GEIPP countries, and beyond | | | |
| Framework documents | · A-Practitioners-Handbook-for-Eco-Industrial-Parks-Implementing-the-International-EIP-Framework-Toolbox · EIP Toolbox Manual V1 Sept 18 · Global assessment of eco-industrial parks in dev and emerging countries · Industrial parks UNIDO_Strategic Framework web · UNDO WB GIZ EIP International Framework for Eco-Industrial Parks · UNIDO Eco-Industrial Park Handbook English · UNIDO Eco-Industrial Park Handbook Spanish · UNIDO EIP Implementation Handbook - English · UNIDO International_Guidelines for_Industrial_Parks (developed in previous programmes) | 1 | All GEIPP countries, and beyond | | | |
| Documentation of country events | Agenda, powerpoint presentations, reports | 1 | All GEIPP countries, and beyond | | | |
| Publication | Paper | 1 | All GEIPP countries, and beyond | | | |

Table: Evaluation team, based on responses and own evaluation.

Below is a brief description and assessment of the individual tools:

Tools for Policy Makers

EIP Policy Support Tool

The tool is fully developed. It is designed to assist UNIDO and its national partners to guide a team in the process of developing EIP related policies ranging from high level visioning to concrete interventions in the legal framework. The evaluation team is of the view that the tool will provide valuable support to national decision makers in anchoring the concept of EIP in policies, defining relevant policy interventions including incentives for the adoption of EIP criteria in IPs. The results of the application will depend on the knowledge of the concrete national, provincial, and municipal legislation by the project team, and knowledge of the processes for amending legislation. It is probably most effective, if there is support of knowledgeable middle management from ministries, provincial or municipal governments during the application of the tool and the follow-up of the action plan. The specific national situation will require a differentiated sequencing and weighing of the suggested modules.

EIP Selection Tool

The objective of the EIP selection tool is to support the selection of industrial parks with a high potential for the development of the park to an EIP creating visible and replicable projects. It can be used for brownfield and greenfield parks. The evaluation team is of the view that the tool ably can support the decision makers during the initial phase of a GEIPP project in a new country to focus resources on a limited number of parks to work with rather than spreading resources over a variety of industrial parks if very detailed follow up with the industrial park management and the tenant companies in the selected industrial parks is planned.

EIP Assessment Tool

The objective of the EIP assessment tool is to compare the industrial park under analysis with the criteria of the GEIPP framework and to plan, prioritize, implement, and monitor EIP initiatives. The evaluation team is of the view that the tool can support park management very well in evaluating the respective park against the criteria of the international GEIPP framework. This allows the park management firstly to get an external assessment of its performance, which can be used in communication with stakeholders and secondly to see gaps and potential areas for improvement. Also, by repeated application of the tool the improvement of the indicators by the implementation of activities can be monitored.

EIP Concept Planning Tool

The main objective of this tool is to develop and promote value added features of EIP concept plans to assist in the sustainable and integrated design and operation of industrial parks from an economic, environmental and community perspective. The evaluation team is of the view that the tool can support park management very well in evaluating the respective park against the criteria of the international GEIPP framework and assist in developing a concept for zoning using material, energy, services, and social synergies. The tool also helps to recognize and promote the value added by the concept planning.

EIP Access to Finance Tool

The EIP Access to Finance tool is currently being developed in South Africa. The overall objective of this tool is to guide park management entities and tenant companies to identify, review and access available financing options for feasible EIP initiatives for their industrial parks. If proven successful, this tool can be adapted to the nationally available sources of (green) financing and rolled out within the GEIPP programme.

EIP opportunities monitoring tool V1 and V2, GEIPP Indonesia Monitoring Reporting Tool

The objective of the EIP opportunities monitoring tool is to monitor and report the resource savings and impacts from EIP opportunities identified and implemented in the industrial park.

Savings are documented with their origin, kWh electricity, kWh fuel, water, effluent quality, or materials. The evaluation team is of the view that the tool can support companies and industrial park management very well in documenting the results of implemented RECP measures in a standardized way. The monitoring tools in general were received very well by the interview partners. The benefit of standardized reporting according to the predefined structure over narrative reporting was explicitly stated.

Tools at meso level

EIP Master Plan Sustainability Review Tool

The EIP Master Plan Sustainability Review tool is at concept level. The plan is to have it ready by the end of 2021. The tool will be “a continuation, and next step, of the EIP concept planning but particularly to existing development and answering to common planning challenges facing industrial parks”¹⁶. The sustainability review will provide an opportunity to strengthen the existing master plan from an EIP and sustainability perspective. The tool will include many real-life examples which demonstrate that environmental and social risks are also economic risks for tenant companies and the parks. The evaluation team is of the view that the concept for the tool addresses ably problems which were observed during the previous work with industrial parks and can support the park management in identifying potentially strong solutions for their problems.

EIP Management Services Tool

The EIP Management Services tool focuses on the identification of services beyond the “traditional” services which park management provides to its tenants such as leasing/selling of industrial land to tenant companies; electricity and water supply billing; maintenance of roads, fences, and office buildings inside park; and basic security services. The EIP Management Services Tool is ready for application. It contains a checklist for potential management services, Industry 4.0 tool application, scoping, and action plan. The evaluation team is of the view that the tool supports park management in going beyond traditional services. A detailed step by step procedure for the application is presented. The tool would benefit from actual cases and examples.

IS opportunities identification tool

The objective of the IS opportunities identification tool is to identify industrial symbiosis opportunities from by-products and waste exchange between companies. The tool is not planned as fully inclusive. It identifies “top-of-the iceberg” opportunities and serves as a starting point to identifying synergy opportunities and having constructive discussions with park management and tenant companies. The evaluation team is of the view that the tool can support industrial park management very well the identification of potential industrial symbiosis options within the network of companies in the park. This tool can be beneficially applied by industrial parks globally regardless of their involvement in a GEIPP programme.

Tools at micro level

RECP tools

RECP tools are included in the global knowledge products list supplied by GEIPP programme management. In the GEIPP file repository, no specific RECP tools are included. In the training materials, three major RECP tools are referred to: the UNIDO RECP toolkit, the PRESME toolkit, and the European BREF notes. Collecting benchmarks in the participating companies and exchanging them among the participating countries would increase the value of the tools. As an information source, the RECP-net webpage is presented. This RECP-net webpage was developed

¹⁶ Quotation from the introduction in the tool

in previous UNIDO programmes. It used to contain UNIDO's RECP knowledge management system, however this is not accessible any more. None of the companies interviewed was aware of these tools. One industrial park manager expressed the value of good house-keeping and low-cost options as they can provide quick proof of concept and immediate savings. The RECP tools were referred to as very useful by one national consultant.

RECP reporting tool

The objective of the RECP reporting tool is to monitor and report the resource savings and impacts from RECP opportunities on the tenant level. The tool provides a standardized method to calculate and monitor the social, environmental and economic benefits out of the identified RECP options. The documentation of results can be included easily in periodic reports and aggregated for the individual parks for a country and for the total GEIPP programme. This tool can be beneficially applied by industrial parks globally regardless of their involvement in a GEIPP programme.

Training materials

7 module course for park management and tenant company training¹⁷

According to the curriculum included, the course is meant for a total of 10,5 hours training in the EIP concept, the EIP framework, the EIP criteria, the assessment, EIP management models, EIP opportunities, RECP, RECP opportunities, IS, IS opportunities, and EIP planning. Telling examples from PIMSA, Kwinana, ELIDZ; Phuthaditjhaba Industrial Park, Kalundborg, Niederösterreich Süd, Vietnam, and others, plus a dozen RECP examples from SA and the Indonesian RECP programme are included. Also, polling questions, topics for discussion, assignment for exercises in breakout rooms, EIP assessment tool, EIP selection tool are provided to support interactive elements. During the interviews, the value of the training materials was recognized, however there were requests to adapt them more to country specifics and to include more directly relevant examples. According to the views of the evaluation team, these materials are a good blueprint for a course in the EIP concept and implementation. A limited number of examples from GEIPP is included in the materials. More actual solutions and cases from GEIPP projects would increase the authenticity of the course and connect it even closer to the participants from the GEIPP countries.

9 module course for service providers

The material was presented in 10 online sessions of 3 hours each in Indonesia.¹⁸ The structure of the information, the use of the Zoom functions (chat, polling, breakout sessions), role play, provides for interactivity and a lively learning experience, which allows participants to share their previous experiences, focus the flow of activities according to their needs, and work on the example of the two selected IPs. According to the views of the evaluation team, these materials support a very interactive series of webinars to familiarize RECP experts with the EIP concept, the activities to be performed during the work with the industrial park management and the companies, introduce the tools, and invite participants to apply the EIP tools to the parks they are working with.

EIP Policy Support Module

The presentation introduces the concept of EIP and gives international examples. As a conclusion, participants are asked to summarize key policy actions which can be implemented in their countries. According to the views of the evaluation team, these materials provide a very effective

¹⁷ Due to the pandemic, the course was given in online format. The class-room delivery is for 3 training days.

¹⁸ This would be 4 days in class room.

introduction to the EIP concept, introduce the tool, and invite participants to apply it to their environment.

Moodle course

This Moodle¹⁹ course presents the training contents on EIP in 8 modules in a Moodle platform. This will allow self-paced training for interested stakeholders, use of the Moodle platform in presence training and even mixtures of the two approaches. The screenplay is available, as are some alpha-elements. The approach uses a contemporary way to provide the contents adapted to the needs of stakeholders. This relates to the specific situation during the pandemic, but also shows a way for future training decoupling the requirement for physical presence and the availability of participants, paving the way for “learning on demand” and mixed learning approach.

Framework document - International EIP framework version 2

The updated version of the EIP international framework for Eco Industrial Parks provides a good introduction to the concept of EIP and its roots. It includes the description of the international framework, the sources used, definitions, requirements and indicators, their application, detailed checklists presenting the EIP criteria, and a reference to supporting documents. To the views of the evaluation team, the document could have used more cases from the GEIPP programme, as it was published in January 2021.

Possible additional new tools

Out of the analysis, the following additional new tools can be suggested, to increase the benefits for tenants and the outreach of the programme:

- RECP legal compliance tool
- RECP tool with RECP checklists
- RECP club support tools
- Carbon foot printing on company level and park level tool

The legal compliance tool is currently being developed in Colombia within the current contract of MGM, i.e. the local EIP service provider. If the testing phase is successful, this tool can be adapted to the national conditions and rolled out to the other GEIPP countries.

The RECP tool with checklists includes relevant benchmarks: MGM plans to develop a sectorial benchmarking tool supporting the analysis of resource consumption indicators for the sectors of dairy foods, non-alcoholic beverages, manufacture of electrical appliances and equipment, manufacture of machinery and equipment, manufacture of furniture, sugar processing, metal processing, processing of plastics, food products, chemical products, services (logistics), and water treatment and distribution. Experiences with this sectorial benchmarking tools should be monitored and evaluated as a basis for future activities.

There is a suggestion from Belarus²⁰ to use the RECP club model during RECP assessments in the involved industrial parks. The benefits of this approach include: involvement of more companies, transferring activities relating to data acquisition into the companies, increasing the involvement and awareness of companies by using social factors to build soft peer pressure, mutual learning and motivation, simplification of the RECP approach, faster outreach to more companies with less resource input from consultants. The worksheets used in the RECP clubs in the EU4Environment programme could be combined into one tool for the GEIPP.

¹⁹ Moodle is an open source learning management system.

²⁰ Siarhei Darozhka, Internal Regional Meeting with RECP experts/the NIPs of the EU4Environment Action, 07 July 2021

Carbon footprint on company level and park level: A (simple) tool could be developed which builds on input/output tables from the RECP club materials. Scope 1 and 2 can be covered from the energy bills. A practical approach to including Scope 3 needs to be discussed but appears feasible. Relevant CO_{2,e} factors for relevant raw materials for companies can be provided, e. g. in a worksheet. The CO_{2,e} for energy can be synchronized with the factors used in the IS and RECP reporting tools. The input/output tables could be taken from the existing RECP club materials. A working group could be established on the global GEIPP level including national representatives to provide relevant CO_{2,e} factors.

4.3.b Usefulness of global component to country level interventions

Summary finding 7: The global knowledge management is by and large doing the right thing. The global component is considered a possibility to compare with international standards and to source best international practise. The tools developed at the global level (component 2) are rated high by stakeholders. However, it is currently too early for stakeholders to fully appreciate to what extent the tools will shape activities on the ground.

In the interviews, the global knowledge products were highly appreciated. Several of the EIP tools are well known on the levels of programme management, macro- and meso-levels, but the tools are less known at the company-level. At present the application of the tools is done mostly by experts together with government representatives, the industrial park managers and the EIP service providers. Training of national trainers and experts in the application of the tools is documented. Translation of tools and supporting knowledge products into national language facilitate the reception. The key tools are available in Arabic, Chinese, English, Spanish, and Ukrainian.

Some experiences from other GEIPP countries have been shared in trainings. While they were perceived interesting at the theoretical level, training participants feel that they must be adapted to the respective country context, such as the national energy mix, emission factors, and specific regulations among others. Several interview partners pointed out that knowledge products should not be taken as blueprints, but as a good reference.

Park managements value the external assessment of their performances with international benchmarks. The benchmarking of an industrial park to the international standards and the mapping way forward to improve the standards is perceived as a value. This not only helps to identify gaps and potential areas for improvement, but the assessments can also be used in communication with stakeholders. Also, by repeated application of the tool the improvement of the indicators by the implementation of activities can be monitored.

The global component has several pronounced advantages. The various tools are designed to support the selection of IPs for inclusion in the GEIPP programme, their assessment against EIP criteria documented in the international EIP framework developed by UNIDO, World Bank, and GIZ, and the identification of value-added activities of the park management and RECP and EIP options on the level of the tenant companies and the respective parks. More recently developed, and some proposed, tools are supporting at park level planning towards EIP practices as well as facilitating finance of EIP opportunities.

With the analysis of the main stakeholders, the most appropriate policy tools for each park are studied, considering issues such as normative instruments (environmental, social, behavioural), influence instruments (incentives, subsidies, others) and voluntary instruments (sectoral norms, certifications, among others).

A competitive environment is created, which is helpful for the national counterparts, motivating for the good ones as they are at the risk of losing position. This fosters exchange and learning. New policies can be introduced by examples, lighthouse parks can be visited. The global component is considered a possibility to source best international practise. In a standalone program there were no international benchmarks. The knowledge management component gives newcomers the possibility to gain from other countries experiences. They can study what failed and do not have to start from scratch. This can help to establish global standards which help every country.

It is the competitive advantage of UNIDO to introduce best practice tools. For example, universities can contribute their knowledge in the analysis of environmental or social impacts, or they can investigate best applicable technology; the local government may contribute to the development of regulatory or voluntary schemes that encourage the implementation of the new model; the industrial associations will be able to involve the companies to replicate the model.

The evaluation team is of the view, based on the various responses received, that the global knowledge products are applied and shared in all country-level interventions and that especially the tools in general are rated high by the programme stakeholders. However, the appreciation of how they might be used in supporting and shaping activities “on the ground” is currently limited amongst various stakeholders on the meso- and micro-levels.

4.3.c Access and dissemination of global products

Summary finding 8: The publishing of the EIP tools on the UNIDO knowledge hub is a major improvement for the accessibility and dissemination of the global products.

Recently, the GEIPP has published its tools on the UNIDO knowledge hub (Figure 6). This is a major step in making the tools available globally. The online repository includes the EIP tools in English, Spanish, Ukrainian, Mandarin Chinese and Arabic.

Figure 6: Eco-Industrial Parks on the UNIDO knowledge hub.



Source: <https://hub.unido.org/eco-industrial-parks>.

The EIP tools developed by the global component are very useful for other interested countries outside the current GEIPP programme area. Tools like the EIP Assessment Tool, EIP Concept Planning Tool, EIP finance tool, RECP reporting tool can be beneficially applied by industrial parks globally regardless of their actual involvement in a GEIPP programme, allow for their assessment against EIP criteria and show potential environmental, social, and economic improvement options.

The vastly improved accessibility of the EIP tools is also beneficial for the current beneficiaries of the GEIPP. Several stakeholders mentioned that in the past it was difficult to access the tools without going through the global GEIPP team. It was suggested that the platform could also include tools developed during the previous global RECP-programme, even if the GEIPP did not further developed them.

Apart from the UNIDO knowledge hub, the GEIPP is also present on the Green Industry platform on which some material is shared.²¹ In addition, the GEIPP has established a LinkedIn GEIPP community of practice to share experience across countries.²²

Finally, the article „Results and Lessons Learned from Assessing 50 Industrial Parks in Eight Countries against the International Framework for Eco-Industrial Parks“ was published in the Journal „Sustainability“.²³ This article provides a summary of the analysis and lessons learned from the assessments of the industrial parks and their performance against the International EIP Framework. Articles like this one can increase the knowledge of academia, educational institutions and other interested parties about the concept, opportunities, and risks and stimulate discussion and uptake.

²¹ <https://www.greenindustryplatform.org/initiatives/global-eco-industrial-parks-programme-0>

²² <https://www.linkedin.com/groups/12397112/>

²³ *Sustainability*, December 2020. 12, 10611; doi:10.3390/su122410611.

4.4 Programme implementation and management (efficiency)

4.4.a GEIPP structure, steering and capacity

Summary finding 9: Overall, the programme structure, steering and capacity received consistently high marks by stakeholders, both at the global and national level. The global team is seen as strong. The national teams with their coordinators (and CTA) play a key role in implementing activities at the country level. The long and good collaboration between SECO and UNIDO both at the global and country level is viewed as conducive for the implementation of the programme.

The main steering and oversight body of the GEIPP is the *global GEIPP Steering Committee* (GEIPP-SC) with UNIDO and SECO representatives. It meets twice a year and provides the overall strategic guidance and monitoring of progress towards established objectives and outcomes set out in GEIPP. The global steering committee is appreciated by stakeholders and considered as functioning well.

At the country level, the programme established *country specific steering committees* (CSSC) with the participation of the government representatives, representatives of SECO-office in the respective country, UNIDO country representatives, national GEIPP team members and other selected key stakeholders. The CSSC are seen as adequate providing the necessary space for exchange. This evaluation had the opportunity to participate - online - in two country specific steering committees.²⁴ The team could witness well prepared meetings with active participants. One stakeholder in South Africa highlighted that until now only one CSSC meeting took place suggesting a more frequent rhythm.

At the operational level, the GEIPP has a *global team* and in each country *national teams*. The structure of the programme management with a global team and national teams is widely praised by stakeholders. Together they are assessed as very strong. The structure is seen as stable and conducive and the GEIPP team members at the global and country level are seen as having the right mix of technical and management expertise. It emerges from the interactions with various stakeholders that the GEIPP managed to establish excellent working relations with the various stakeholders.

The *global team* is seen as strong. According to several stakeholders, the lead project manager has succeeded in creating a “strong team spirit”. The lead project manager is supported by the global CTA who is also regarded as an asset for the programme. There are weekly country-level project team meetings including also HQ based UNIDO project managers and the project coordinators. The weekly meetings are appreciated. The human and financial resources available for global activities and global programme management are reviewed further down in a separate section.

The *national teams* play a key role in implementing all activities at the country level. The teams help to localize the process which is seen as a huge asset. While the GEIPP is a global programme, it can – because of the strong national teams - also be seen as a bilateral project in each country. It was suggested that even more could be delegated to the local teams which may speed up implementation. The national teams are headed by national coordinators in Colombia, Peru, Ukraine and Viet Nam, by a CTA in Indonesia and by the NCPC in South Africa. At the GEIPP teams are supplemented by national technical experts. The teams’ frequent interaction with the various stakeholders – in some cases on a weekly basis - is seen as very beneficial (e.g. Colombia, Ukraine, Indonesia).

²⁴ CSSC Indonesia meeting of 27 May 2021, CSSC Colombia meeting of 3 June 2021.

In all countries the *National Cleaner Production Centres* (NCPCs) play a role in the implementation of the GEIPP, either as expert organisation (Colombia, Indonesia, Peru, Ukraine, Viet Nam) or as the national execution entity in South Africa. The professional role of the NCPCs were praised by several stakeholders during interviews (e.g., South Africa, Ukraine). The NCPCs are the results of previous UNIDO projects funded by SECO. The continuity is seen as contributing to the smooth implementation of the programme. More generally, several stakeholders stressed the long and good collaboration between SECO and UNIDO both at the global but also at the country level (e.g. South Africa, Indonesia). This is viewed as conducive for the implementation of the programme as it helps the find solutions to emerging challenges.

COVID-19 had an impact on the management and steering of the GEIPP. Basically, all steering and team meetings during that past 18 months took place online. Some stakeholder stress that online meetings can't fully substitute for face-to-face meetings.

Finally, the overall programme flexibility and adaptability was praised by many stakeholders and seen as facilitating the implementation. While the GEIPP has a common programme structure, it is not a one-size-fits-all approach. The GEIPP allows for agility and reactivity.

4.4.b Delivery and timeliness of implementation

Summary Finding 10: The global component of the GEIPP is on track to deliver on time and the expenditures (in %) in South Africa and Viet Nam even exceed the time elapsed (in %). Expenditures in Colombia, Indonesia and Peru (in %) lag slightly behind compared with the time elapsed (in %). Expenditures (in %) in Ukraine have the largest gap compared with the time elapsed (in %). The main reason for the delay in expenditure is that in all countries – with the exception of Colombia - it took at least 1.5 years to have the country activities approved by governments.

Budgets and duration of country activities vary. The largest budgets for the country activities are allocated to Colombia, Peru and Ukraine with CHF 2m each. The allocation to South Africa is half (CHF 1m). The duration of country activities also varies from four years (Colombia) to 2.5 years (Indonesia). This is because all activities should - in principle - end by December 2023 while the starting dates vary significantly depending on the approval date by governments. While the country activities in Colombia started already in July 2019 the project document for Egypt is expected to be signed by the Government only now (July 2021). The combination of very different budgets and durations leads to very different planned “average delivery per month” (Table 13). The planned average delivery per month is biggest in Ukraine (CHF 62'500) and Egypt (CHF 58'997) which is more than twice as much as the smallest average delivery per month of the project in South Africa (CHF 27'655). Smaller is only the planned average delivery per month of the global component (CHF 25'833) because of the longest duration (five years).

Table 13: Average delivery per month

| | Plan | | | Actual, by June 2021 | | |
|--------------|--------------|-------------------|----------------------------|----------------------|--|----------------------------|
| | Budget (CHF) | Duration (months) | Average delivery per month | Expenditure (CHF) | Time elapsed since actual start (months) | Average delivery per month |
| Colombia | 2'000'000 | 48 | 41'667 | 818'019 | 23 | 35'566 |
| Egypt | 1'769'912 | 30 | 58'997 | 109'573 | 0 | 0 |
| Indonesia | 1'379'994 | 31 | 44'516 | 389'942 | 11 | 35'449 |
| Peru | 2'000'000 | 40 | 50'000 | 382'146 | 10 | 38'215 |
| South Africa | 995'575 | 36 | 27'655 | 411'090 | 6 | 68'515 |
| Ukraine | 2'000'000 | 32 | 62'500 | 427'517 | 12 | 35'626 |
| Viet Nam | 1'700'000 | 36 | 47'222 | 463'340 | 6 | 77'2234 |
| Global | 1'550'000 | 60 | 25'833 | 730'738 | 30 | 24'358 |

Table: Evaluators, based on data received from GEIPP team, June 2021.

The analysis of expenditure and time elapsed reveals that the global component of the GEIPP is very much on track (Figure 7). While half of the duration has elapsed, also almost 50% of the budget for the global component has been spent. The actual average delivery per month is also very close to the planned average delivery per month (Table 13).

The country level activities show a different picture. Expenditure (in %) in South Africa and Viet Nam exceed the time elapsed (Figure 7) and the actual average delivery per month is much higher than the planned average delivery per month²⁵ (Table 13). The actual average delivery per month in Colombia, Indonesia and Peru are below the planned average delivery per month. Delivery in Ukraine has the largest gap compared with the time elapsed. Some stakeholders in Ukraine express the view that implementation should be accelerated.

The GEIPP team anticipates that by the end of 2023 three countries will not spend the entire budget (Peru, Ukraine, Egypt). Furthermore, the GEIPP team assumes that South Africa and Indonesia may be able to absorb additional resources before the end of 2023. This seems reasonable as the two countries have the smallest budgets. However, reallocation of promised resources may be delicate. It was therefore suggested by one interviewee, that there should be more flexibility with regard to the resource allocation and that perhaps not all resources should be allocated at the beginning.²⁶

One of the main reasons for the delay in expenditure is that in all countries – with the exception of Colombia - it took at least 1.5 years to have the country activities approved by governments; this in spite the high commitment to the GEIPP by governments. This may suggest limited involvement of the government during the project design phase and/or heavy bureaucratic procedures in the countries. On a positive note, South Africa and Viet Nam managed to speed up the implementation significantly, despite the very late approval in November 2020. And

²⁵ This is explained by the execution modality, that shows entire year's national input as delivery when annual contracts with project execution entities are signed in the beginning of the calendar year.

²⁶ Some organizations have practised the concept of resources allocation to be based on results. Perhaps this should be also applied for a programme like the GEIPP.

according to the GEIPP team, overall delivery has accelerated from 14% to 28% in the past 6 months.

Figure 7: Expenditure and time elapsed, June 2021

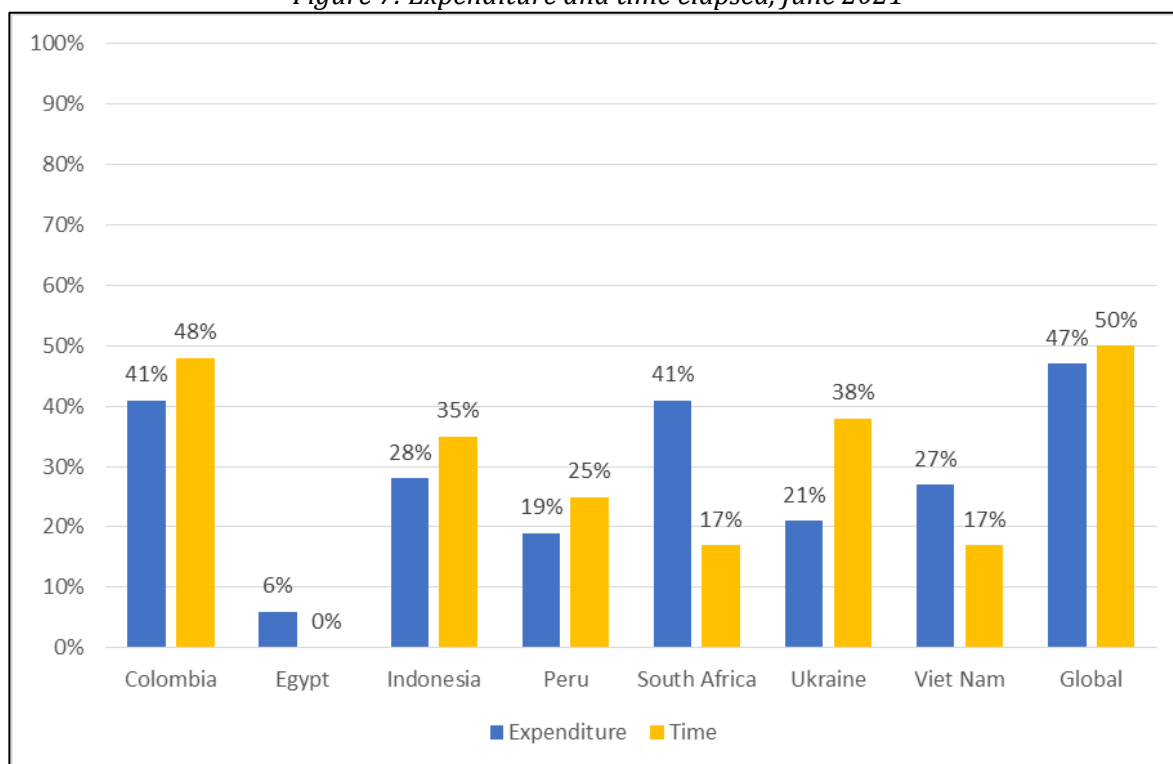


Figure: Evaluators, based on data received from GEIPP team, June 2021.

4.4.c Global budget and international human resources

Summary finding 11: The financial resources available at the global level (component 2 and programme management) are substantive. Approximately CHF 2.6m are used for global activities and programme management. However, this is less than budgeted (CHF 3.2m) because part of this budget is now used for supporting activities of the GEIPP in South Africa. The international human resources are also substantive. In one way or another, twelve individuals work in 2021 for the GEIPP supporting both global and country-level activities, equivalent to approx. 400% full-time employment.

The total budget of the GEIPP is CHF 17.2m (2019-2023). Of this, 68.9% are allocated to country activities, 9.0% to global activities, 9.7% for programme management and 11.5% for support cost.²⁷ (Figure 8). The global activities and the programme management constitute 18.7% or CHF 3.2m of the budget.

²⁷ Support cost are 13% of the sub-total and 11.5% of the grand total, (Table 16).

Figure 8: GEIPP Budget, 2019-2023 (CHF)

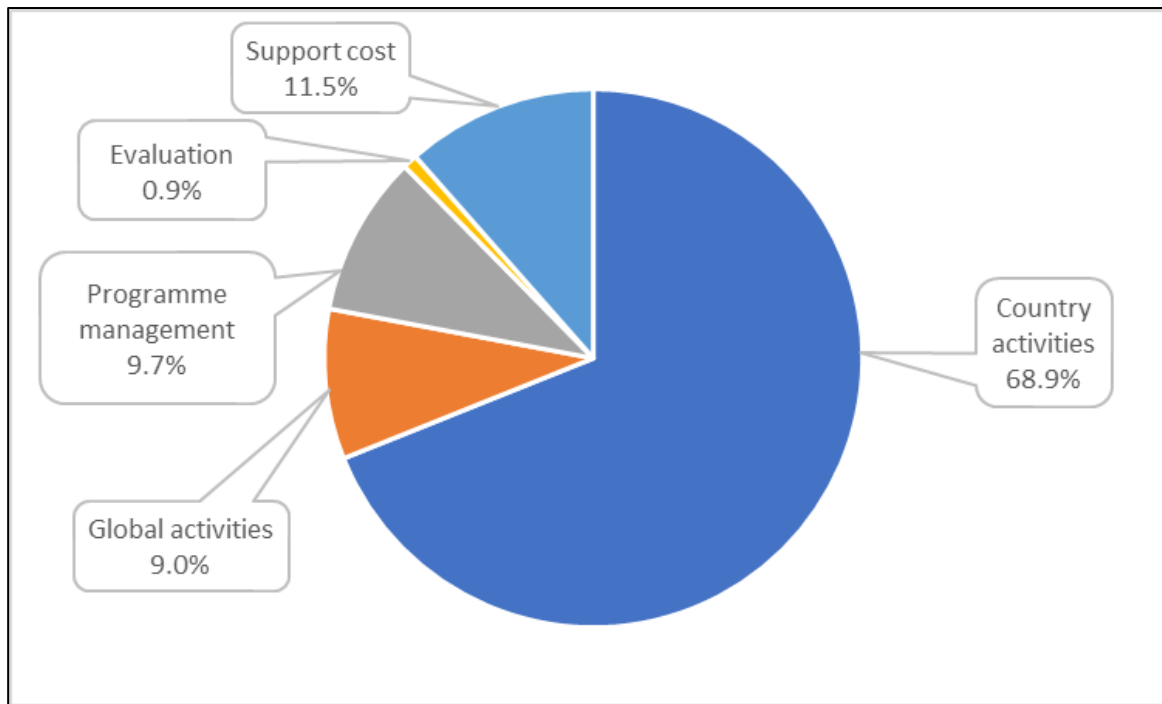


Figure: Evaluators, based on data received from GEIPP team, 2021.

Four UNIDO project managers are responsible for the implementation of the GEIPP (among other programmes and projects they are responsible for; UNIDO staff members are funded from the UNIDO Regular Budget). One project manager has the lead and is responsible for the programme management (time allocation 25%) and the management of activities in four countries (time allocation 20%, Colombia, Peru, South Africa, Indonesia). The activities in the remaining three countries (Egypt, Ukraine, Viet Nam) are managed by three different UNIDO project managers (time allocation approx. 7% each).

The global activities and the programme management are supported by an international Chief Technical Advisor (CTA). While the CTA is financed 100% from programme management, *actual* programme management takes only about 30% of the CTA's time. The remaining of the time goes to technical outputs of the global components (approx. 35%) as well as to coordination support for the GEIPP activities in South Africa (approx. 35%, not charged to GEIPP South Africa).

In addition, country level activities are supported by three project coordinators (technical consultants) based at UNIDO HQ with an equivalent of approx. 150% full-time employment.²⁸ Their costs are charged to the country activity budgets (component 1).

Outputs of the global activities are sourced directly from international experts. In 2021 there were six international experts (including the CTA) engaged, equivalent to 115% full-time employment. The international experts have different expertise and work on specific tasks like *Lessons learnt on EIP and SDG linkages*, EIP tools, training material, online learning, digitalization and industry 4.0, EIP policy input to knowledge management, awareness and outreach activities as well as the RECP activities. The budget for the international CTA and the international experts is CHF 1.735m for five years (Table 14) or on average CHF 347'000 per year.

Table 14: Budget for GEIPP global component 2 and programme management (2019-2023, CHF)

²⁸ One of the project coordinators is supporting both, country level activities (30%) and the global activities (25%).

| | Total | International consultants | National consultants | Company contracts | Other costs |
|----------------------|-----------|---------------------------|----------------------|-------------------|-------------|
| Global component 2 | 1'550'000 | 375'000 | 170'000 | 670'000 | 335'000 |
| Programme management | 1'661'947 | 1'360'000 | 100'000 | 0 | 181'947 |
| Subtotal | 3'211'947 | 1'735'000 | 270'000 | 670'000 | 516'947 |

Table: Evaluators, based on data received from UNIDO, 2021.

In 2021 coordinators consultants, there are in total 8 individuals at the international level working for the GEIPP (supporting both global and country activities), equivalent to approx. 400% full-time employment. Seven are based at UNIDO HQ and 5 are home based (Table 15).

The financial resources available at the global level (component 2 and programme management) and the international human resources in support of global and country level activities are substantive, in particular when taking into account that the GEIPP has project coordinators also at the country level. There is a CTA in Indonesia, four national coordinators (Colombia, Peru, Ukraine, Viet Nam) and one national execution entity (NCPC-South Africa). Egypt has currently no national coordinator.

The GEIPP team agrees with the finding that the GEIPP has substantive international manpower. It is argued, that the work is labour intensive and that previous projects did not charge full cost. The considerable international manpower is seen as a huge improvement compared to similar previous programmes.

Table 15: GEIPP international human resources (not based at country level)

| | # | Equivalent to full-time employment (2021) ²⁹ | Based at... | |
|--|----|---|-------------|--------------|
| | | | UNIDO HQ | Home country |
| UNIDO regular staff member | 4 | 66%% (approx.) | 4 | - |
| Project coordinators for country-level interventions (technical consultants) | 3 | 150% (approx.) | 3 | - |
| CTA | 1 | 70% | - | 1 |
| International experts Who is this? | 4 | 80% (approx.) | - | 4 |
| Total | 12 | 400% (approx.) | 7 | 5 |

Table: Evaluation team, based on GEIPP budget and information from GEIPP team.

4.4.d Monitoring and reporting

Summary finding 12: While the monitoring and reporting system is well developed, to a large extent harmonized and appreciated by stakeholders, the indicator system poses a major challenge. The total number of indicators is high and many indicators in the logical framework of the country-level interventions at the outcome and impact level have neither baselines nor targets which makes reporting difficult. The GEIPP RBM indicators – on the other hand - are manageable (limited in number and largely measurable). The new Monitoring and Reporting Tool for country level activities has yet to prove its practicability.

Based on the original logical framework, the programme has put in place a harmonized monitoring and reporting system. The *country progress reports* are based on a common template

²⁹ For year 2021

with a given structure. The progress documents report against work plans and logical frameworks. The portfolio analysis of the seven progress reports available for the first half of 2021 reveals, that the reports provide concise information on progress at the country level. However, given that on average only about 30% of the actual implementation phase has elapsed at the country level, the projects can only report on activities and outputs (and not yet on outcomes or impact).

Once a year, the progress reports of country level activities are aggregated at the global level into an *annual progress report* which is shared and discussed with the global GEIPP steering committee. The 2020 report provides a comprehensive account of the GEIPP.

At the end of 2020, the GEIPP *Results Based Management (RBM) indicators* were introduced. While the country-level indicators are tailored to the national circumstances (which can't be aggregated), all country teams have to report on a limited and manageable number of RBM indicators which can then be aggregated at the global level. The RBM indicators reflect the SECO Standard Indicators and the UNIDO IRPF indicators. During the global GEIPP steering committee in January 2021 the GEIPP RBM indicators were introduced (Figure 9). While a limited number of indicators related to capacity building can be reported on, most of the indicators related to environmental benefits (e.g., kilowatt hours saved) and economic performance will only be reportable towards the end or even after the end of the current GEIPP phase (end of 2023). While this is the nature of such a programme, it must be noted that data on these types of indicators at the end of a phase will be too late for the programme management to take into account for the ongoing programme implementation.

Figure 9: GEIPP RBM at end of 2020

| Global Eco Industrial Parks Programme (GEIPP) | | |
|---|--|-------------|
| INTEGRATED RESULTS AND PERFORMANCE FRAMEWORK (IRPF) | | |
| Environmental benefits | | 2020 Values |
| 1 | Energy efficiency Kilowatt hours saved through energy efficiency | |
| 2 | Kilowatt hours additionally produced from renewable energy | |
| 3 | Water efficiency cubic meter water saved (Ratio of water reused/recycled) | |
| 4 | Waste reuse and recycling Metric ton material saved (Ratio of solid waste reused/recycled) | |
| 5 | Climate change benefits tCO2 Eq. / year | |
| Social performance and capacity building | | |
| 1 | Number of SME-staff trained (tenant companies) | 168 |
| 2 | Number of industrial park management-staff trained | 100 |
| 3 | Number of involved staff from relevant governmental agencies | 162 |
| 4 | Number of trained service providers | 30 |
| 5 | Number of EIPs activities by enterprises | 0 |
| Economic Performance | | |
| 1 | Number of initiatives of provider of business services. | 6 |
| 2 | Number of actual investments in RECP/EIP identified options | |
| 3 | Amount of actual investments on RECP/EIP identified options (USD) Park management and tenant companies. | |
| 4 | Amount of actual investments on RECP/EIP related measures via co-financing (Government or financial institutions) | |
| 5 | Green Investments additionally triggered in USD and financing instruments supported (sum of two above indicators) | |
| Policy | | |
| 1 | Conducive policies and regulations implemented and enforced and EIP promoted by strong custodian at the national level | |

Source: Presentation, 3rd GEIPP Global Steering Committee Meeting, 28 January 2021

The exchange with stakeholders reveals that while the general monitoring and reporting system is welcome, the *indicator system* is seen as challenging. First, it is the sheer number of indicators at country-level that is being highlighted. According to one account, the GEIPP teams have to report on 96 indicators. It is seen as partly confusing and the actual measurement as too time

consuming. Second, many indicators in the logical framework at the outcome and impact level have neither *baselines nor targets* which makes reporting on progress difficult. Third, it will be also difficult to link all of the indicators to project outputs and outcomes retrospectively. It is suggested by stakeholders to reduce the total number of indicators, although there are some limitations as the GEIPP is requested to keep the SECO and UNIDO IRPF indicators.

In early 2021, the GEIPP has developed a new “*Monitoring and Reporting Tool*”. The tool was shared during the CSSC Indonesia meeting in May 2021. The tool – an excel file – is intended to facilitate the monitoring and reporting on four similar but not identical sets of indicators:

- (1) Country-level indicators: i.e. resource savings and impacts from EIP opportunities identified and implemented in industrial parks with the support of GEIPP
- (2) Progress on the GEIPP RBM indicators
- (3) Progress on UNIDO's Integrated Results and Performance Framework (IRPF) indicators
- (4) Progress of industrial parks in country to comply with prerequisites and performance indicators outlined in International EIP Framework

The Monitoring and Reporting Tool is impressive, but also complex. On five different sheets potentially, hundreds of data cells can be filled in. Consequently, the tool is designed to be used only by UNIDO staff members and service providers (e.g. National Cleaner Production Centres) who work on GEIPP country level projects.

The Monitoring and Reporting Tools for each country will be used for the first time during the course of 2021. This will show the practicability of the tool.

4.5 Likelihood of lasting transformative change (impact and sustainability)

Summary finding 13: Overall it is uncertain whether the GEIPP will lead to lasting transformative change, i.e., to a broad adoption of EIP & system transformation. The greatest contribution can be expected from the park management. The interest of more parks to participate in the GEIPP is an indication for the transformative potential of the parks. This is promising. Changes – and enforcement – of the regulatory framework are uncertain at this point and the willingness of SMEs to implement EIP opportunities has yet to be demonstrated. The fact that several assumptions can't be positively confirmed as being accurate further enhance the uncertainty regarding the likelihood for transformative change.

While we analysed in chapter 4.1.b the GEIPP theory of change from a methodological point of view, we now assess the GEIPP theory of change in terms of its likelihood of lasting transformative change. Transformative change understood as broader adoption of an initiative beyond the direct project beneficiaries. Broader adoption takes place through several steps (Box 1).

Box 1: Steps towards broader adoption

Transformation mechanism (broader adoption)

Many UNIDO interventions are pilot or demonstration projects thus to ensure project outcomes and local impacts transform into system impacts, broader adoption of UNIDO initiatives by governments and others need to take place, during project implementation or at completion. Broader adoption* takes place through the following steps:

1. **Mainstreaming/sustaining:** Information, knowledge or specific results of projects are incorporated into laws, policies, regulations & programmes by governments, development agencies or private sectors
2. **Replication:** UNIDO initiatives are reproduced/adopted at other geographical area or region

3. **Scaling-up:** UNIDO initiatives are implemented at larger geographical scale
4. **Market change:** UNIDO initiatives catalyse market transformation by influencing the supply and demand for goods and services contributing to global environmental, economic and social benefits.

* Progress towards impact and broader adoption concept used are based on the GEF Independent Evaluation Office's evaluation methodology (GEF 2013. Progress Towards Impact, OPS5 Technical Document #12 and GEF 2017)

Source: UNIDO Independent Evaluation Division, 2021

The GEIPP aims at “broader adoption of EIP & system transformation” beyond the pilot parks. So, the question is: what is the likelihood that the EIP will be broadly adopted beyond the parks and beyond the project countries?

This is a forward-looking assessment. In order to do so, we ask seven questions addressing key elements of the theory of change. The findings to the seven questions are based on the focus group discussion on the theory of change with part of the GEIPP team,³⁰ the bilateral interviews with stakeholders and the portfolio analysis of progress reports conducted for this evaluation. Based on the findings, the elements are assessed along below rating scale:

| | | | |
|--|------------|-----------|--------------|
| Contribution to broader adoption of EIP: | favourable | uncertain | unfavourable |
|--|------------|-----------|--------------|

This is an attempt to provide an overall picture on the GEIPP regarding the likelihood to achieve broader adoption of EIP & system transformation. Thereby, we level some country differences. A separate assessment of the theory of change for each country would go beyond the scope of this evaluation.

1st question: In the theory of change of the GEIPP, the work at the **policy level** is important. How successful/promising is the work at the policy level?

Work at the policy level is taking place in all six active countries. If the work at the policy level is successful and the regulatory framework is conducive to the promotion of EIPs, this could contribute significantly to a broader adoption of EIPs. However, stakeholders stress that changes in regulatory frameworks are challenging and take a long time (Viet Nam³¹ and Colombia³²). Moreover, the regulatory framework not only needs to be “EIP friendly” it also must be enforced. Some stakeholders stress the weak track record of policy enforcement in their countries. **The success of the work at the policy level is overall uncertain at this point in time.**

| | |
|----------------------|-----------|
| Rating policy level: | uncertain |
|----------------------|-----------|

2nd question: In the theory of change of the GEIPP, the collaboration with the **park management** is important in particular for the implementation of EIP opportunities (outcome 2). How successful/promising is the collaboration with the park management?

The collaboration with park management is taking place in all countries. Most park managers are very interested and engaged. Stakeholders view the collaboration with park management as being successful and very promising. There is a strong interest from parks beyond the selected 21 pilot parks to participate in the programme (see chapter 4.1.a). **The collaboration with park**

³⁰ Focus group discussion on theory of change, 17 June 2021, online, see Annex x for participants.

³¹ Example: In Viet Nam the Decree 82, which defines the conditions and requirements for the recognition as an eco-industrial park, is expected to be issued at the end of 2021. However, the elaboration for Decree 82 received key support supported during a previous EIP project (2015-2019) funded by GEF and SECO and implemented by UNIDO and the Ministry of Planning and Investment (MPI).

³² The National Strategy for the Circular Economy was established before the GEIPP started.

management is overall likely to be successful provided that in future tools can be applied without additional funding for the application.

| | |
|-------------------------|------------|
| Rating park management: | favourable |
|-------------------------|------------|

3rd question: SMEs are key actors in implementing EIP opportunities (outcome 2). How likely is it that SMEs will participate in the GEIPP and implement EIP opportunities?

This evaluation was not in a position to establish a strong evidence base that would support strong SME commitment at this point (see chapter 4.1.a). This is not to say that SMEs are not interested but it seems too early to assess as SME visits started only recently. Still, the limited financial capacities of SMEs to invest in cleaner technology is seen as a great challenge. **The willingness and capacity of SMEs to implement EIP opportunities is uncertain at this point.**

| | |
|-------------------------|-----------|
| Rating SME willingness: | uncertain |
|-------------------------|-----------|

4th question: Are the planned activities sufficient to achieve the GEIPP objectives or are there additional needs/demands emerging which go beyond the planned activities as envisaged in the logical framework and which would contribute to transformative change?

Stakeholders mentioned several activities that could be added in order to enhance the likelihood of transformative change:

- (1) Actively facilitate access to financial means for parks and SMEs (or mobilise a financing mechanism).
- (2) Expand the number of parks participating in the GEIPP; including greenfield parks.
- (3) Promote “smart parks”; the fourth industrial revolution (4IR) offers smart technology which could facilitate automation of data monitoring and diagnose.
- (4) Enhance efforts to strengthen in-country capacities of EIP service providers. Train more trainers.
- (5) Work with business associations and educational institutions to expand the outreach. They can be multipliers for replicability.
- (6) Establish some sort of recognition scheme against EIP criteria for participating parks. Major brands and companies give preference for parks which are internationally recognised.

Given the number of activities that should be added, it seems uncertain whether or not the planned activities will be sufficient to achieve the transformative change.

| | |
|--------------------------|-----------|
| Rating additional needs: | uncertain |
|--------------------------|-----------|

5th question: The GEIPP theory of change has two components: Component 1 includes the country level interventions; component 2 includes the global knowledge development. Does the interplay between country and global level work as envisaged?

The tools developed at the global level (component 2) are widely used at the country level and are considered very useful. Moreover, it is fair to say that the EIP knowledge and awareness – beyond the pilot parks and pilot countries - has been enhanced thanks to the work at the global level. Stakeholders express the view that the sharing of experience between countries – while helpful - could be further enhanced. **While the interplay between country and global level can be further strengthened and the existing RECP and energy efficiency tools be further promoted, the interplay looks overall favourable to contribute to transformative change.**

| | |
|--|------------|
| Rating interplay country and global level: | favourable |
|--|------------|

6th question: How accurate are the assumptions? Will they materialize?

Like most projects, the GEIPP is built on fundamental assumptions. Assumptions are factors which contribute to the realisation of the project which are largely beyond the power of the project to influence.³³

The focus group discussion and the project document reveal that the success of the theory of change to work is based on below key assumption of which several are uncertain or unfavourable:

- (1) SMEs will move to parks – too early to assess: **uncertain**
- (2) SMEs have access to finance - identified as a great challenge: **unfavourable**
- (3) The financial cost of negative externalities will go up³⁴ - has not happened and takes a long time: **unfavourable** (negative externalities have increased, but it has not yet translated into higher financial cost)
- (4) A stable and prosperous economy – the COVID-19 pandemic, the world economy and the political situation in some countries have negatively affected the economy³⁵: **unfavourable**
- (5) Demand for environmental performance will rise – given the priority of climate change and other environmental challenges, this assumption seems to materialize: **favourable**
- (6) Prices for national resources increase – raw materials prices have soared in 2021³⁶: **favourable**

Reviewing the assumptions reveals a mixed picture. While some assumptions are accurate and will materialize, others are uncertain or will probably not materialize.

| | |
|---------------------------------|-----------|
| Rating accuracy of assumptions: | uncertain |
|---------------------------------|-----------|

Overall and based on the available data it is uncertain whether or not the GEIPP will lead to lasting transformative change, i.e., to a broad adoption of EIPs (Table 17). The greatest contribution can be expected from the park management. The interest of more parks to participate in the GEIPP is an indication for the transformative potential of the parks. This is promising. Changes – and enforcement – of the regulatory framework are uncertain at this point and the willingness of SMEs to implement IEP opportunities has yet to be demonstrated. The fact that several assumptions can't be positively confirmed as being accurate further enhance the uncertainty regarding the likelihood for transformative change.

³³ Example: increasing price of natural resources. Factors which contribute to the realisation of the project impact, but which are beyond the power of the project to influence are also called assumptions. Assumptions are a key component of a theory of change.

³⁴ Polluting the environment comes at a cost.

³⁵ The front cover of a recent *The Economist* (31 July 2021): "Dashed hopes – Emerging markets' growth problem". The lead article starts as follows: "At the start of the century, developing economies were a source of unbounded optimism and fierce ambition. Today South Africa is reeling from an insurrection, Colombia has suffered violent protests and Tunisia faces a constitutional crisis. Illiberal government is in fashion. Peru has just sworn in a Marxist as its president and independent institutions are under attack in Brazil, India and Mexico."

³⁶ Financial Times, *Broad commodities price boom amplifies 'supercycle' talk*, 3 May 2021: "Raw materials prices have soared in 2021". <https://www.ft.com/content/1332da37-bf45-409f-9500-2fdac344d1dd>

Table 16: Assessment of contribution to broader adoption of EIPs

| Key elements assessed | Rating |
|---|------------------|
| Policy level | uncertain |
| Park management | favourable |
| SME willingness | uncertain |
| Additional needs | uncertain |
| Interplay country and global level | favourable |
| Accuracy of assumptions | uncertain |
| Overall assessment of likelihood of broader adoption of EIPs | uncertain |

Source: Evaluation team, based on findings in this report.

4.6 Lessons learned from country level interventions

Summary finding 14: Several lessons emerge from the country level interventions: (1) park management plays a key role, (2) central and local governments should be closely involved, (3) partnerships and networking make the difference, (4) communication of results is important, but takes time, (5) past experience and multi-country approach pays off.

Below lessons learned are based on the focus group discussion on lessons learned with part of the GEIPP team³⁷ and bilateral interviews with stakeholders, in particular – but not exclusively – in Colombia, South Africa and the Ukraine. The main lessons emerging are:

Park management plays a key role

Given that the GEIPP is about EIPs, it is not surprising that the experience until now shows that the **park management plays a key role in advancing EIPs**. Not only are park managers responsible for implementing EIP opportunities in the parks' shared infrastructure, park managers can be strong promoters and allies for motivating companies to participate in the GEIPP (Colombia), thereby motivating companies to implement RECP opportunities and identifying industrial synergies. The lesson is that confidence between park management and tenant companies facilitates outreach to companies. Ideally, the park managers are early adopters and champions beyond its own park (PIMSA, Colombia). Park managers can greatly facilitate the learning of tenants (East London Industrial Development Zone, South Africa). The consequence is that park managers require particular attention. They need to be supported in order for them to fully understand and own the EIP concept. At the same time, it is an important lesson that every park is different e.g. a high-tech park requires a different approach (smart solutions) compared with a low-tech park (Indonesia).

Central and local governments should be closely involved

Apart from the park management, other stakeholders are important. A focus on park management only is not sufficient. In particular, **the role of the national government is a key factor for success** (e.g., Indonesia). Ministries need to be involved in all phases of the programme, in particular also in the planning process. The GEIPP in Colombia has very good relations with the Government. It invests a lot of time in the collaboration with the government. At the same time, the government is very supportive as it sees itself as beneficiary and not only as oversight body. In addition to the central government, **it is important to involve the local**

³⁷ Focus group discussion on lessons learned, 24 June 2021, online, see Annex x for participants.

government and local communities (e.g. municipalities) in the areas of the pilot parks (e.g., Colombia, Ukraine, South Africa). Once the local governments recognise the EIPs' benefits for the EIPs' surrounding economy (e.g., new jobs), local governments will expedite local support for the parks and advocate for EIPs and a conducive regulatory framework at the national level. Last but not least, the active role of the donor government, represented by SECO in the participating countries, is praised by many stakeholders as giving the programme an additional boost.

Partnerships and networking make the difference

"The GEIPP is all about partnerships". These words of a stakeholder summarize an important lesson. In order to advance eco-industrial parks, **one has to involve all relevant stakeholders and facilitate the collaboration between the various stakeholder groups on a continuous basis**. In Colombia the GEIPP has established a *community of practise* with various stakeholder groups. In South Africa, the GEIPP has established a *round table* to discuss the EIP and brought together government, civil society, academia, public agencies, companies and other UN funded project management teams. In Ukraine, the GEIPP has on the one hand established an *advisory board* to engage with various business representatives and on the other hand a *government working group* to engage with various ministries. All these fora foster partnerships and contribute to the identification of linkages and synergies. Of particular importance is the communication between the public and the private sector, which helps to identify shared interests and to strengthen the trust between the sectors. The GEIPP in Colombia is a good example demonstrating the shared interest of government and companies.

Communication of results is important, but takes time

Stakeholders agree that it is very important to communicate results and success stories. However, it is acknowledged that one should allow for some time in order to have results to show (1-2 years). Having demonstrable results can then serve as examples for replication and outreach (e.g., Colombia). Ideally, quantitative data, such as cost-benefits, should be communicated. However, the communication should go beyond data and tell a positive story to change mindsets (e.g., Ukraine). Perceptions are very important. It was suggested, that if for instance the programme is in the News, CEOs will take note and it will create a momentum, which goes beyond the GEIPP (e.g., South Africa). The communication should also more emphasize the EIPs positive contributions to achieve climate change mitigation targets.

Past experience and multi-country approach pay off

The fact that the GEIPP did not have to start from zero and that the programme can build on past experiences pays off. This is an important lesson. It starts with the fact that the GEIPP is embedded in the international framework for eco-industrial parks³⁸ which itself is based on past lessons learned. Moreover, the GEIPP is building on previous RECP projects implemented by UNIDO and funded by SECO (Viet Nam, Indonesia, South Africa, Ukraine, Colombia, Peru). The GEIPP can for instance engage National Cleaner Production Centres, established in previous projects, as EIP service providers. This continuity appears to pay off. Additionally, the GEIPP itself is now producing lessons learned and best practices documents (Box 2) which can be shared with programme countries and beyond. More broadly, the knowledge management component allows new countries to benefit from the past experiences (e.g. use of tested tools, webinars, etc.). While the knowledge products should not be taken as blueprints, they are a good basis to start. The GEIPP allows for enough flexibility to adapt to the country context.

³⁸ An international framework for Eco-Industrial Parks Version 2.0, The World Bank Group, 2021.

Box 2: GEIPP Lessons Learnt Series and Best Practise

The GEIPP prepared two documents with lessons learned from assessing 50 industrial parks in eight countries against the International Framework for Eco-Industrial Parks: GEIPP Lessons Learnt Series (Issue 1) EIP Assessments, and GEIPP Lessons Learnt Series (Issue 2) Technical Assistance Needs. The GEIPP also prepared two best practise documents on the EIP Community of Practice in Colombia and one on the GEIPP Ukraine policy process.

There is a wide range of performance among the industrial parks assessed. A review of the root-causes indicates that the main compliance issue regarding performance indicators outlined in the International EIP Framework seems to be the industrial park- and country-specific conditions. Across all 50 parks assessed, the following topics have the lowest current compliance: energy; local community outreach; environmental and park management; waste and material use; climate change and preservation of the natural environment.

The main entry point for the technical assistance on most topics is the park management entity (“bottom-up approach”). Capacity building to park management is a key recommendation. Key topics to support the industrial parks and tenant companies with the facilitation of investment opportunities are: planning and zoning; energy; water; materials use; waste generation, climate change and the natural environment; social infrastructure; local business and SME promotion; and economic value creation. For a number of topics there is a potential key role for government agencies to support the EIP transformation through policy support (“top-down approach”).

The best practise documents describe communities of practice established in Colombia and the introduction of the concept of EIP into the national economic strategy in Ukraine. National roundtables and working groups linking policy makers and practitioners in discussing concepts, barriers and activities have proven effective in Colombia, South Africa, and Ukraine. Anchoring EIP in national legislation was mentioned as an important element for continuation and motivation for active participation of parks and tenant companies and involvement of more parks and companies by several interview partners.

Source: GEIPP Lessons Learnt Series, Issue 1 (Dec 2020), Issue 2 (May 2021), Best Practices: EIP Community of Practice Colombia; Ukraine GEIPP Policy.

5. Conclusions and recommendations

5.1 Conclusions

The GEIPP theory of change is based on a solid problem analysis and the overall approach at the micro, meso, macro and global level is promising. After a slow start at the country level, the GEIPP is making good progress and is picking up speed. The findings of this evaluation tell us, that the programme is – in terms of activities and outputs - doing what it has planned to do, both at the country and at the global level. Having finally received the security clearance in Egypt offers the opportunity for the country activities in Egypt to catch up with other GEIPP countries.

However, while to GEIPP is progressing at the level of activities and outputs, the likelihood for achieving outcomes and transformative change – broader adaption of the EIP concept which takes time – is uncertain at this point. Some of the key questions are:

- Will regulatory frameworks be adjusted in due course in order to create a conducive environment for EIPs to flourish? And will regulatory frameworks once in place be implemented and enforced?
- Will the results in the pilot parks motivate other parks to copy the concept?
- Will sufficient SMEs be willing and able to participate in the GEIPP?
- Will both parks and SMEs have sufficient financial resources required to implement the EIP opportunities?
- Can the GEIPP still succeed, given that some of the underlining assumptions are not accurate and will probably not materialize?
- Should the design of the GEIPP be revised in order to add additional relevant activities?

Some of the above questions can't be answered at this point. However, in order to achieve a broader adoption this evaluation arrives at the following conclusions to be considered by the GEIPP team:

- I. Chances for broader adoption of the EIP concept are uncertain. However, it is higher in the seven countries with pilot parks compared to a broader adoption in other countries. Therefore, the *GEIPP should at this point focus its efforts as much as possible on the seven countries, i.e. on component 1 of the GEIPP*. While the global outreach and lessons learnt dissemination should continue to some extent (component 2), the priority for the second half of the GEIPP duration should be on component 1.
- II. The work with the *pilot parks* is the most promising component of the GEIPP. The GEIPP can build on this. Parks are key to win companies to participate. Support to the park managements should therefore be the priority number one for the remaining duration of the programme, also because some parks have very limited human resources. And successful parks should be at the centre of GEIPP awareness creation efforts vis-à-vis other parks in the pilot countries. To have a strong story, the GEIPP indicator system must deliver solid and easy to understand data.
- III. The GEIPP should explore if it could *re-allocate some financial and/or human resources* from component 2 (global) to component 1 (country-level). While the global work is certainly one of the GEIPP's assets, most of the tools have been developed by now and it seems pertinent to give priority to country level implementation at this point of the GEIPP. As mentioned above, every effort should be made to make the pilot parks at the country level a success.

- IV. SMEs are pragmatic. If the GEIPP helps to reduce costs and helps to reduce the ecological footprint as well as enhances competitiveness and attract investment, then it would seem that a sufficient number of SMEs should be willing to participate in the programme. To the extent possible, the *technical assessment of and assistance to SMEs should be accelerated as well as the identification of synergies between SMEs.*
- V. The *financing of new infrastructure and cleaner technologies* is a challenge for parks as well as companies. The ongoing development of the “*Access to EIP Finance Tool*” is a step in the right direction. However, access to financing is only one dimension of the challenge. The overall difficult economic situation can shift financing priorities of parks and companies. The GEIPP could for instance explore options for partnership with public or private financial institutions in order to establish financing mechanism. Or alternatively UNIDO could help convening fora connecting key stakeholders to find solutions to increase the availability and accessibility to financial means for parks’ and SME’s.
- VI. There is no certainty that the *regulatory framework* at national level will be adjusted in the project countries in an “EIP-friendly” manner. While policy efforts need to continue, measures should be considered in each country on how to achieve broader adoption *in spite* of perhaps unfavourable or imperfect regulatory frameworks at the national level. Perhaps local governments and municipalities can mitigate some of the dis-incentives of unfavourable national regulations.
- VII. The GEIPP should consider adding three activities to the current programme design suggested by stakeholders in the GEIPP countries:
- UNIDO should - in the short run – provide participating parks with some sort of “recognition”. Such a recognition scheme against EIP could for instance confirm that “*Park XY is participating in the UNIDO eco-industrial park programme with the objective to make efficient use of natural resources, to reduce pollution and to enhance social benefits.*”
 - Consider options to include more parks in the programme, by for instance enlarge the participation in training and awareness activities.
 - Consider options to include more “*multipliers*” in the seven countries like for example business associations or learning institutions. “Multipliers” could play an important role in promoting the EIP concept among its constituencies.
- VIII. As we have seen, some of the fundamental underlining assumptions of the GEIPP are not accurate and will probably not materialize in several countries (e.g. cost of negative externalities are not going up, the economies in some countries are under stress). The GEIPP should assess the consequences of some inaccurate assumptions. Can the ToC still work? While external factors can’t be changed by the GEIPP, its effects can perhaps be mitigated. The GEIPP should explore ways to mitigate the effects of these external negative factors.

Summary of evaluation criteria

Adhering the UNIDO evaluation practice, the evaluation team was asked to rate key evaluation criteria based on above findings using the template provided by the UNIDO Independent Evaluation Division (IED). As this is a mid-term evaluation, below assessment (Table 18) reflects the situation as of July 2021.

Table 17: GEIPP - Summary of evaluation criteria

| Index | Evaluation criteria | Rating by evaluation team | Related summary findings |
|--|---|----------------------------|--------------------------|
| A | Programme strategy | satisfactory | |
| 1 | Programme relevance | highly satisfactory | 1,7 |
| 2 | Programme design / theory of change/ logical framework | satisfactory | 2, 4 |
| B | Progress towards results | satisfactory | |
| 1 | Effectiveness and progress towards expected results | satisfactory | 3, 6, 8 |
| 2 | Efficiency | moderately satisfactory | 10, 12 |
| 3 | Sustainability / likelihood of lasting transformative change | moderately satisfactory | 13 |
| C | Programme implementation and adaptive management | satisfactory | |
| 1 | Programme management | highly satisfactory | 9 |
| 2 | Results-based work planning, monitoring and evaluation, reporting | satisfactory | 12 |
| 3 | Financial management | moderately satisfactory | 10, 11 |
| 4 | Stakeholder engagement and communication | highly satisfactory | 4, 9, 10, 14 |
| D | Performance of partners | highly satisfactory | |
| 1 | UNIDO | satisfactory | 5, 9 |
| 2 | National counterpart | satisfactory | 4, 10 |
| 3 | Donor | satisfactory | 4, 9 |
| E | Overall assessment | satisfactory | |
| Rating scale: highly satisfactory, satisfactory, moderately satisfactory, moderately unsatisfactory, unsatisfactory, highly unsatisfactory | | | |

Table: Evaluation team, based on UNIDO template provided by IED.

5.2 Recommendations

Key recommendations

Recommendation 1: GEIPP should at this point focus its efforts as much as possible on the seven GEIPP countries, i.e., on component 1, while the global outreach and lessons learnt dissemination should continue to some extent (component 2).

global level country level current phase next phase

Responsibility to implement recommendation: GEIPP country teams (lead) and GEIPP global team

Recommendation 2: Support to the park managements should be the priority number one for the remaining of the GEIPP duration. Put successful parks at the centre of GEIPP awareness creation efforts vis-à-vis other parks. Make sure that the GEIPP indicator system delivers solid and easy to understand data to demonstrate success.³⁹

global level country level current phase next phase

Responsibility to implement recommendation: GEIPP country teams (lead) and GEIPP global team

Recommendation 3: The GEIPP should explore if it could re-allocate some financial and/or human resources from the global component 2 to the country level component 1.

global level country level current phase next phase

Responsibility to implement recommendation: GEIPP global team

Recommendation 4: The technical assessment of and assistance to SMEs should be accelerated. In general, involve more business representatives in the GEIPP at all levels.

global level country level current phase next phase

Responsibility to implement recommendation: GEIPP country teams

Recommendation 5: The GEIPP should explore options to improve the availability and accessibility of financial means for parks' and SMEs' to finance EIP/RECP measures. For example, UNIDO could explore partnership with public or private financial institutions for the financing of new infrastructure and clean technology. Alternatively, UNIDO could help convening fora connecting key stakeholders to find solutions to increase the availability and accessibility to financial means for parks' and SME's.

global level country level current phase next phase

Responsibility to implement recommendation: GEIPP global team, UNIDO HQ

³⁹ This is not to say that the GEIPP only needs indicators at the park level. Indicators at company and country level are also important, as it is envisaged in the GEPP reporting system.

Recommendation 6: Measures should be considered how to achieve broader adoption in spite of perhaps unfavourable regulatory frameworks at the national level.

global level country level current phase next phase

Responsibility to implement recommendation: GEIPP country teams, local governments and municipalities

Recommendation 7: The GEIPP should consider adding three activities suggested by stakeholders in the seven GEIPP countries: some sort of recognition scheme against EIP criteria, include more parks and include more “multipliers”, like for example business associations or learning institutions.

global level country level current phase next phase

Responsibility to implement recommendation: GEIPP global and country teams

Recommendation 8: The GEIPP should assess the consequences of having based the theory of change partly on inaccurate assumptions. The GEIPP should explore ways to mitigate effects of external negative factors. In this regard, it might be worthwhile to anticipate different scenarios for the future with corresponding adaptation measures for each scenario.

global level country level current phase next phase

Responsibility to implement recommendation: GEIPP global team (lead) and country teams

Recommendation 9: Revise the general GEIPP theory of change (narrative and visualisation) in order to better reflect (a) the linkages between different elements, (b) the different levels (macro, meso, micro, global), (c) the different GEIPP components (1 and 2), (d) additional assumptions and (e) included potentially new outputs (e.g. recognition scheme).

global level country level current phase next phase

Responsibility to implement recommendation: GEIPP global team

Recommendation 10: The GEIPP should be continued with a second programme phase as the current five-year duration is too short for broader adoption of the EIP concept.

global level country level current phase next phase

Responsibility to implement recommendation: GEIPP global team, UNIDO, donor

Additional suggestions

While above recommendations are seen by the evaluators as crucial for the success of the GEIPP, the additional suggestions may serve as inspiration to the GEIPP team.

- (1) Local governments: involve local governments to enhance the pressure on the national government to speed up policy reforms. Also: motivate local governments and municipalities to use more EIP criteria on their own.

- (2) GEIPP management: as of now, experiences are shared actively in the GEIPP global team, the so called “Core Team”, which includes the CTA from Indonesia, but not the national coordinators. All national coordinators should meet regularly (can be online).
- (3) GEIPP knowledge management: enhance the sharing of good practices between countries.
- (4) GEIPP tools:
- Package tools in a way that they can be used by national experts without the need for additional international funding for the application.
 - It will be important to have tools created at the end of the GEIPP which can be freely distributed, and national experts trained to apply them to facilitate future implementation by interested parts without additional funding considering the restricted resources of most of the parks.
- (5) Resource allocation: there should be some flexibility with regard to the resource allocation and not all resources should be allocated at the beginning; resource allocation could partly depend on progress.
- (6) Possible new topics:
- Resilience planning for IPs.
 - “Smart parks”: how and when to use technology to automate data monitoring and analysis.
- (7) Country selection: if new countries are considered in a possible next phase, revisit the criteria for the country selection. The criteria for scale (potential) and implementability should be given sufficient weight.

Annex 1: GEIPP theory of change – methodological analysis

Methodology

A theory of change describes how we believe that change could happen and outlines the main elements for that change. It seeks to identify how we think that different factors could interact in relation to the change and what the underlying assumptions are.

The criteria to assess the theory of change are in the box below.

Criteria to assess a theory of change

1. **Impact:** Has a clear, non-ambiguous long-term goal been established? This is the ultimate change (impact) that the programme or initiative is hoping to achieve.
2. **Outcomes:** Have the necessary changes which are required to achieve the long-term goal been identified? Are the necessary changes based on a problem analysis? Such interim changes are often captured as expected mid-term **outcomes**.
3. **Outputs:** Have products or services (outputs resulting from interventions) which lead or contribute to the necessary changes (outcomes) been defined?
4. **Causal linkages:** Are all causal linkages between outputs, outcomes and impact made clear? Are the linkages logically connected and in the right sequencing? Are the linkages plausible?
5. **Assumptions:** Have significant factors that, if present, are expected to contribute to the ultimate realisation of project impacts, but that are largely *beyond the power of the project to influence* or address, been identified? These are commonly called assumptions.
6. **Drivers of change:** Have significant factors that, if present, are expected to contribute to the ultimate realisation of project impacts and that are *within the ability of the project to influence*, been identified? These factors are commonly called drivers of change.
7. **Pre-conditions:** Have significant factors that need to be in place *before an activity should start* in order for the project to have a chance to succeed, been identified? They can be called pre-conditions.
8. **Narrative and visualization:** Is the theory of change captured (a) in a concise, easy to understand narrative and (b) in a comprehensive, non-ambiguous visualization?

Rating scale: strong, satisfactory, weak, missing

Source: The criteria are based on the literature on theory of change and the evaluators' experience in analysing theories of change.

GEIPP theory of change analysis

1. **Impact:** Has a clear, non-ambiguous long-term goal been established? This is the ultimate change (impact) that the programme or initiative is hoping to achieve.

In the **logical framework**, the development objective (impact) is defined as follows:

- *“The development objective of GEIPP is to demonstrate the viability and benefits of Eco-Industrial Park approaches in scaling up resource productivity and improving economic, environmental and social performances of businesses and thereby contribute to inclusive and sustainable industrial development in the participating developing and transition economies.”*

In the ToC **figure**, the ultimate change is defined as follows:

- *Efficient Use of Natural Resources*
- *Reduction of Pollution*
- *Social Benefits*

While the two are similar, they are not the same. In fact, the objective as defined in the logical framework includes two elements: the first element – “to demonstrate the viability and benefits of Eco-Industrial Park approaches in scaling up resource productivity and improving economic, environmental and social performances of businesses” – does not seem to be a development objective but rather a means to achieve the development objective which is defined in the second part as “...thereby contribute to inclusive and sustainable industrial development in the participating developing and transition economies.” The envisaged final change in the ToC figure appears to be more specific in describing what is meant by inclusive and sustainable industrial development.

Assessment: While partly ambiguous, a long-term objective has been established; satisfactory.

2. Outcomes: Have the necessary changes which are required to achieve the long-term goal been identified? Are the necessary changes based on a problem analysis? Such interim changes are often captured as expected mid-term outcomes.

The project document (including the logical framework) defines three outcomes:

- *Outcome 1: EIP incentivised and mainstreamed in relevant policies*
- *Outcome 2: EIP opportunities identified and implementation*
- *Outcome 3: Knowledge building (of EIP services providers), capturing and sharing (amongst all key stakeholders) enhanced.*

The three outcomes are captured in the ToC figure as:

- *Outcome 1: EIP Incentivised*
- *Outcome 2: EIP Implemented*
- *Outcome 3: EIP Knowledge and Awareness Enhanced*

The three outcomes are delineated from the problem analysis (chapter A.3. in project document). The problem analysis finds that the concept and practice of eco-industrial parks is still subject to a number of barriers related to four main root causes:

- *There is limited awareness of opportunities for and benefits of RECP at company level and EIP at park level and advocacy is therefore limited; -> addressed in outcome 2 and 3*
- *Policy and regulatory frameworks favourable for EIP development do not exist or are not effectively enforced; -> addressed in outcome 1*
- *Financial mechanisms available to (groups of) enterprises and other organisations insufficiently cater to the specific eligibility criteria of investments; -> does not seem to be addressed in any of the three outcomes*
- *Existing Service Providers are insufficiently able to effectively support enterprises for the whole process of identification, evaluation and implementation of EIP opportunities; not able to cover the technical aspects of RECP measures beyond the scope of an individual enterprise and especially dealing with crucial organisational (and regulatory) aspects of an industrial park. -> addressed in outcome 3 (output 3.2)*

Assessment: Three of the four identified root causes are addressed by the three expected outcomes. Only the challenge regarding the financial mechanisms is not addressed; satisfactory.

3. Outputs: Have products or services (outputs resulting from interventions) which lead or contribute to the necessary changes (outcomes) been defined?

The logical framework defines 10 outputs leading to the three outcomes. However, the outputs are not included in the ToC figure.

Assessment: Outputs have been well defined (but not reflected in the ToC figure); satisfactory.

4. Causal linkages: Are all causal linkages between outputs, outcomes and impact made clear? Are the linkages logically connected and in the right sequencing? Are the linkages plausible?

The two components of the project (component 1 and 2) are explained in the project document (chapter C.3.). It explains well the linkages between the country level interventions (component 1) and the global knowledge development (component 2). It states for example that “*the Component 2 serves as a transversal component in the GEIPP ... The objective of this component is to generate and disseminate knowledge from present and past endeavours, which can be used to tackle the required preconditions for EIP.*” In the ToC figure, however, the two components and their linkages are not shown.

In the narrative of the project document (chapter C.4.) there is some indications of the causal link between the outcomes and the next level of change as indicated below (underlined in green).

- *Outcome 1: EIP incentivised and mainstreamed in relevant policy and regulations leading to an increased role of EIP in environmental, industry and other relevant policies at the national levels in the participating Programme countries.*
- *Outcome 2: EIP opportunities identified and implementation started, with environmental (e.g. resource productivity) economic and social benefits achieved by enterprises confirmed. The implementation of EIP opportunities by enterprises and other organisations will be supported by the EIP services providers, and will lead to reduction of the environmental footprint and operational and compliance costs of businesses, and an increase in their - natural - resource productivity.*

However, these direct causalities are not reflected in the ToC figure. The specific causal linkages between outcomes, interim results and impact are not shown, i.e., there are no lines drawn between the various elements showing the various linkages. The figure only shows a general development path from left to the right.

The narrative in the project document explains how the GEIPP intends to achieve the outcomes by elaborating on the various outputs (chapter C.4.). The description is based on the logical framework which shows which outputs lead to which outcome. However, the logical framework in its static manner does not allow for showing possible cross-linkages between various outcomes and outputs. This would be possible in a ToC figure. However, the outputs are not included in the ToC figure.

Assessment: The causal linkages between components 1 and 2 and the causal linkages between outputs, outcomes and impact are explained in the narrative of the project document including the logical framework. The ToC figure does only to a limited extend reflect the narrative; satisfactory.

5. Assumptions: Have significant factors that, if present, are expected to contribute to the ultimate realisation of project impacts, but that are largely beyond the power of the project to influence or address, been identified? These are commonly called assumptions.

Assumptions are addressed in the main text of the project document (chapter C.9.). They are also addressed in the logical framework which identifies 14 assumptions (and risks) at the different levels of the results hierarchy (impact, outcome, output). The ToC figure includes two assumptions.

The key assumptions in the text of the project document are (Chapter C.9.):

- (1) *EIP is beneficial for host countries providing an opportunity for enterprises, governments and other stakeholders to achieve tangible, and preferably measurable, benefits from EIP implementation*
- (2) *There is a reasonable expectation that noncompliance becomes gradually more expensive (due to implementation and enforcement of environmental and trade policies and legislation),*
- (3) *That the price of natural resources increases (due to real price increase on the global markets and gradual removal of subsidies)*
- (4) *That that market demand for environmental performance will rise (due to greater consumer awareness)*
- (5) *Willingness of various stakeholders to engage with the Programme and commit some human and possibly other resources to its implementation.*

The key assumptions in the logical framework – at the level of impact - are:

- (6) *EIP is beneficial for host countries and enterprises, governments and other stakeholders (tangible and measurable benefits from EIP implementation ('win-win' premise))*
- (7) *Governments are committed to enhancing EIP*
- (8) *Participating SMEs and park management are committed and will make available the required resources to maintain the improved operational practices and systems.*

The two assumptions reflected in the ToC figure are:

- (9) *Genuine national intent to achieve sustainable industrial development and sustainable production*
- (10) *More efficient use of natural resources will result in economic gain, pollution reduction and social benefits*

The assumption (5), (7), (8) and (9) are not only very similar (willingness of stakeholder to commit) but could also be understood as a pre-conditions for the project, i.e. a significant factor that need to be in place before an activity should start in order for the project to have a chance to succeed.

In addition, some assumptions are not really assumptions in the sense of external factors which are beyond the power of the project to influence. The assumption that “*EIP is beneficial for host countries*” [(1)/(6)], is not an external factor which can't be influenced, but rather an objective of the project; similarly assumption (10) is not really an assumption but rather a description of the causal linkage between a more efficient use of national resources and the financial, environmental and social benefits.

This leaves us with essential three main assumptions which - if present - are expected to contribute to the ultimate realisation of project impact.

- *There is a reasonable expectation that noncompliance becomes gradually more expensive (due to implementation and enforcement of environmental and trade policies and legislation),*
- *That the price of natural resources increases (due to real price increase on the global markets and gradual removal of subsidies)*
- *That market demand for environmental performance will rise (due to greater consumer awareness)*

In the ToC figure, these three assumptions are not included.

Assessment: Assumptions are an important component in the project document and are addressed repeatedly. As such, they are integral part of the GEIPP theory of change. Some assumptions addressed could also be viewed as pre-conditions, objectives or causal linkages. The reflection of the assumptions in the ToC figure is limited; satisfactory.

6. **Drivers of change:** Have significant factors that, if present are expected to contribute to the ultimate realisation of project impacts and that are *within the ability of the project to influence*, been identified? These factors a commonly called drivers of change.

The project document identifies key drivers for EIP (C.2. figure 3). The drivers are identified as various actors that can drive the advancement of EIP, i.e., private sector firms, investors, financial institutions, local NGOs, national policymakers, zone development operators and development partners. And the project document explains - at the level of outputs - how the project intends to influence the policymakers, the park management (operators) and the private sector firms. It is, however, not clear how the project intends to influence investors, financial institutions, local NGOs and development partners. The drivers are not reflected in the ToC figure.

Assessment: The drivers of change are mentioned; partly also how to influence them. They are not shown in the ToC figure; satisfactory.

7. **Pre-conditions:** Have significant factors that need to be in place *before an activity should start in order for the project to have a chance to succeed*, been identified? They can be called pre-conditions.

The ToC figure includes five “necessary preconditions”:

- *Policy & Regulatory Frameworks Supportive to EIP*
- *Available and Accessible Financing*
- *Suitable Business Models*
- *Knowledge and Awareness*
- *Capacities (and tools) to Transfer, Implement and Replicate*

Some of these pre-conditions are addressed in the text of the project document (regulatory framework, knowledge, awareness, capacities) others are not (accessible finance, suitable business models). In any case, it is conceptually not quite clear what is meant by the “necessary preconditions”. In the ToC figure they are located to the right of the outcomes, indicating – chronologically speaking - a condition which is the result of achieving the outcomes. In that sense they would appear to be higher-level outcomes rather than pre-conditions as defined as something which should be in place before the projects starts. For example, “*policy & regulatory frameworks supportive to EIP*” will be the results of output 1.2 (*Capacity building measures carried out for strengthening national Institutions relevant to EIP policy development and implementation*).

Assessment: The “necessary preconditions” are conceptually not quite clear and their location in the ToC figure appears to be rather arbitrary; weak.

8. **Narrative and visualization:** Is the theory of change captured (a) in a concise, easy to understand narrative and (b) in a comprehensive, non-ambiguous visualization?

After reading the whole project document, the theory of change of the GEIPP is rather clear (although not all causal linkages). However, there is no easy-to-understand narrative in the project document which captures the theory of change in a concise

manner (e.g., half a page). A narrative which goes in the right direction is included in the GEIPP brochure:

- *The GEIPP theory of change is based on the rolling out of program activities under the outcome areas. These activities are resulting in enhancement of capacity among national stakeholders, particularly policy-makers and entities providing assistance to industrial parks for transforming them towards Eco-Industrial Parks. Under conducive circumstances and necessary preconditions, with right incentives and increased capacity in place, these outcomes lead to the social, environmental and economic benefits that are replicated and mainstreamed for impact.*

The visualization of the theory of change is – as shown above – not comprehensive. For example, the narrative in the project document emphasises the three-level approach of the GEIPP (macro, meso, and micro level). These different levels are not reflected in the ToC figure. The ToC figure is also ambiguous, as the causal links are not made clear.

Assessment: There is no easy-to-understand narrative in the project document which captures the theory of change in a concise manner and the visualization of the theory of change is not comprehensive and partly ambiguous; weak.

Annex 2: Results of portfolio analysis of GEIPP country level interventions

Country level interventions in seven countries: Colombia, Egypt, Indonesia, Peru, South Africa, Ukraine, Viet Nam;

The table below presents the aggregated data of the assessment templates for each country. The table includes the quantitative data only. The qualitative data (narrative) of the templates is not included in the aggregation.

| Evaluation dimensions ➤ evaluation criteria | Yes/no/ not clear |
|--|--------------------------------|
| - Evaluation questions | |
| 1. Programme Strategy | |
| ➤ design/relevance (A1) | |
| ➤ results framework/logframe (A2) | |
| a) To what extent is the programme design still relevant in light of changed circumstances? | |
| b) How strong is the country commitment/ownership? | |
| c) What should be adjusted accordingly to be on track to achieve expected results? | |
| d) What are major technical needs/demands from stakeholders at country level? | |
| 1.1. Does the PD have a country specific logical framework? (e.g. with country specific activities and indicators) | 7x yes |
| 1.2. Does the PD have a theory of change? | 5x yes 2x no |
| 1.3. If there is a theory of change, is it country specific? (PD) | 7x no |
| 1.4. Is there any (in-kind) contribution from national stakeholders? (this is about ownership) (PD or PR 2021) | 1x yes 5x unclear 1x no |
| 1.5. Is the country specific relevance of and demand for the GEIPP addressed in the PD? If yes, what are the main needs/demands? | 4x yes 3x no |
| 1.6. Does the PR 2021 address <u>current</u> relevance, needs and demands? | 5x no 2x yes |
| 2. Progress towards results | |
| ➤ effectiveness (B1) | |
| a) To what extent have the expected outcomes and objectives of the programme been achieved thus far? | |
| b) Is it on track to achieving its objectives? | |
| c) How successful are the new elements of the GEIPP, in particular the collaboration with the park management and the work at the policy level? | |
| d) What are the remaining barriers to achieving the objectives in the remainder of the programme and how to overcome them? | |
| 2.1. Does the PR 2021 report on progress towards <u>outcomes</u> 1 and 2? | 6x yes 1x no |
| 2.2. Does the PR 2021 report progress on <u>outputs</u> and <u>activities</u> ? | 6x yes 1x no |
| 2.3. Overall, is the project on track to achieve expected <u>outcomes</u> 1 and 2? (according to the PR 2021) | 4x unclear 2x yes 1x no |
| 2.4. Is the project on track in implementing <u>activities</u> and in achieving <u>outputs</u> ? (according to PR 2021) | 5x yes 1x unclear 1x no |
| 2.5. Is the theory of change assessed? (assessment of theory against reality, including assessment of the causal linkages, the pre-conditions and the assumptions) | 7x no |

| Evaluation dimensions | Yes/no/ not clear |
|---|----------------------------------|
| ➤ evaluation criteria | |
| 2.6. What are the 2-3 main results as of now? (can be an outcome or an important output) (PR 2021) | ---- |
| 2.7. New elements of the GEIPP: Is the collaboration with the <u>park management</u> assessed? (PR 2021) If so, how? | 6x yes 1x no |
| 2.8. New elements of the GEIPP: Is the work at the <u>policy level</u> assessed? (PR 2021) If so, how? | 6x yes 1x no |
| 2.9. Does the PR 2021 address main problems encountered and necessary adjustments of activities? | 7x yes 0x no |
| 3. Programme approach | |
| <ul style="list-style-type: none"> ➤ design/relevance (A1) ➤ effectiveness (B1) ➤ efficiency (B2) ➤ programme management (C1) | |
| a) How well does the GEIPP's programme approach work? b) How is it different to a compilation of individual projects? c) How beneficial is the interplay between country and global level as of now (component 1 and 2)? d) How useful is the global component of the GEIPP so far? What is the outreach and perception of the GEIPP beyond the immediate programme stakeholders? | |
| 3.1. Are PD and PR 2021 adhering to the structure provided by GEIPP global? | 6x yes 1x no |
| 3.2. Does the PR 2021 show the benefits of the <u>interplay</u> between country interventions (component 1) and the global level (component 2)? If so, what are the benefits? | 2x yes 5x no |
| 3.3. Is reference made to the <u>use of knowledge products</u> developed at the global level (e.g., tools, training)? | 4x yes 2x no 1x partially |
| 3.4. Any other reference to the global programme? | 2x yes 5x no |
| 4. Programme implementation and adaptive management | |
| <ul style="list-style-type: none"> ➤ efficiency (B2) ➤ programme management (C1) ➤ monitoring and evaluation (C2) ➤ financial management (C3) ➤ stakeholder engagement and communication (C4) | |
| a) Has the programme been implemented efficiently, cost-effectively, and been able to adapt to any changing conditions thus far? b) Why is the financial absorption below plan and how can it be improved? To what extent are programme-level monitoring and evaluation systems, reporting, and communications supporting the programme implementation? | |
| 4.1 Is the expenditure rate on track? How much is the expenditure rate? (add %) | 5x yes 2x no; 6%-41% |
| 4.2 How much time has elapsed (of the project duration)? (add %) | 17%-48% |
| 4.3 Are financial absorption problems addressed in the PR 2021? If so, what are the reasons? | 7x no |
| 4.4 If the project is delayed, does the PR 2021 address main reasons and suggest adaptive measures? | 5x no 2x yes |

| Evaluation dimensions | Yes/no/ not clear |
|--|--------------------------|
| ➤ evaluation criteria | |
| 5. Sustainability | |
| ➤ sustainability (B3) | |
| a) What are the risks that are likely to affect the continuation of programme results? | |
| b) Has the programme put in place a mechanism to ensure sustainability after the programme's completion (in terms of financial, legal, institutional, socio-economic instruments, frameworks or processes)? | |
| c) Are the programme's successful aspects being transferred to appropriate parties, potential future beneficiaries, and others who could learn from the programme and potentially replicate and/or scale it in the future? | |
| 5.1 Is sustainability (or likelihood of sustainability) of the country interventions addressed in the PR 2021? | 3x yes 4x no |
| 5.2 Does the PR 2021 identify main issues/risks related to the sustainability? If so, which ones? | 2x yes 5x no |
| 6. Lessons learnt | |
| ➤ all evaluation criteria | |
| a) What are key lessons learned from country level interventions, including good practices (e.g. community of practice)? | |
| b) What works? What doesn't? | |
| c) What lessons can be drawn from the successful and unsuccessful practices in designing, implementing and managing the programme so far? | |
| 6.1 Are lessons learned or good practices captured in the PR 2021? If so, what are they? Add short text: | 5x no 2x yes |
| 6.2 Does the PR 2021 show what works and what doesn't? If so, what works and what doesn't? | 6x no 1x yes |
| 6.3 Are there any lessons that can be drawn? If so, what are they? | 6x no 1x yes |

Annex 3: Results of the quality assessment of the GEIPP global knowledge products

Independent mid-term evaluation

Independent mid-term evaluation - Global Eco-Industrial Parks Programme (GEIPP)

Quality assessment of GEIPP global knowledge products

3 August 2021

(interim product)

Mr Johannes Fresner, RECP Expert, Team Member

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Summary finding

The global knowledge management is by and large doing the right things. The global knowledge products include tools for policy assessment, the selection of industrial parks, for IE opportunities identification, for reporting IE opportunities, for reporting RECP opportunities, reports (lessons learned), best practise examples, an updated publication on the International EIP Framework, training materials for the target groups of policy makers, park managers, and companies, presentations of country events, one publication A Moodle course for self-paced learning is under development. Several of the tools were already available from previous EIP programmes and were further developed for use in GEIPP.

The quality of the tools meets expectations. Access to and navigation of the knowledge products is currently being improved by the integration of the repository with the UNIDO Knowledge hub⁴⁰. There, access to the files will be monitored. Several of the tools are well known on the levels of programme management, macro- and meso-levels, but rarely tools are known on the micro- or company-level. The necessary adaptation to national specifics and the request for the inclusion of use cases was pointed out by several interview partners.

The global tools will be very useful, also in other interested countries outside the current GEIPP programme area. For a further distribution online, availability has gained even more relevance during COVID-19. The access to the repository, the web-based learning platform, and the dissemination through the GGKP Green Industry platform will increase the awareness and the uptake of the global tools amongst GEIPP stakeholders. Translation of tools and supporting knowledge products into national language will facilitate the reception.

Application of the tools at present is done mostly by experts together with government representatives and industrial park managers. Training of national trainers and experts in the application of the tools is documented. New tools are under development. Several suggestions for additional new tools can be made.

GEIPP tools and Global Knowledge Hub – Progress, Quality and Usefulness

The various tools are designed to support the selection of IPs for inclusion in the GEIPP programme, their assessment against EIP criteria documented in the international EIP framework developed by UNIDO, World Bank, and GIZ, and the identification of value added by activities of the park management and RECP and EIP options on the level of the tenant companies and the respective parks. More recently developed, and some proposed, tools are supporting at industry park planning towards EIP practices as well as facilitating finance of EIP opportunities

The evaluation team is of the view, based on the various responses received, that the tools in general are rated high by the programme stakeholders, however an appreciation of how they might be used together in supporting and shaping activities “on the ground” is currently very limited amongst the various stakeholders.

A summary assessment of the global tools according to progress, quality and usefulness is provided in Table 1. The assessment is based on stakeholder responses and the view of the RECP expert of the evaluation team.

By June 2021, 12 global tools and 22 knowledge products (?) are in the process of development (red), pilot testing (yellow), or implementation (green) indicating their current stage of progress. The key tools are available in Arabic, Chinese, English, Spanish, and Ukrainian.

⁴⁰ Statement from one interview: „Limited engagement with other GEIPP countries; there could be more exchange; there are great tools, but difficult to find, no access“; this will change by the newly developed UNIDO knowledge hub (<https://hub.unido.org/publications>)

The quality is assessed as either below expectations (**red**), meeting expectations (**yellow**) or exceeding expectations (**green**).

Usefulness is assessed as either not considered useful (**red**), somewhat useful (**yellow**) and very useful (**green**).

The tools have been grouped according to their intended audience, namely policy makers, park management (meso level) or tenant companies (micro level).

The table also shows the main outcome, a knowledge product contributes to, and the potential reach out of the product. The outcomes are: EIP incentivised (Outcome 1), EIP opportunities implemented (Outcome 2), EIP knowledge and awareness enhanced (Outcome 3).

Table 1: Assessment of GEIPP global knowledge products

| Intended Audience | Tools | Out-come | Reach out | Progress | Quality | Usefulness |
|--|---|----------|---------------------------------|----------------|---------|------------|
| Tools for Policy Makers | EIP Policy Support Tool (including EIP Stakeholder mapping) | 1 | All GEIPP countries, and beyond | | | |
| | EIP Selection Tool | 1 | All GEIPP countries, and beyond | | | |
| | EIP Assessment Tool | 1 | All GEIPP countries, and beyond | | | |
| | EIP Concept Planning Tool | 1 | All GEIPP countries, and beyond | | | |
| | UNIDO EIP Opportunities Monitoring V2 | 2,3 | All GEIPP countries, and beyond | | | |
| | Access to EIP Finance Tool | 2 | All GEIPP countries, and beyond | | | |
| Tools for Meso level – park management | EIP Master Plan Sustainability Review Tool | 1 | All GEIPP countries, and beyond | | | |
| | IS opportunities identification tool | 1 | All GEIPP countries, and beyond | | | |
| | EIP opportunities monitoring tool | 2, 3 | All GEIPP countries, and beyond | | | |
| | EIP management services tool | 1 | All GEIPP countries, and beyond | | | |
| | EIP Concept Planning Tool | 1, 2, 3 | All GEIPP countries, and beyond | | | |
| Tools for micro level - companies | RECP tools | 1, 2 | All GEIPP countries, and beyond | See discussion | | |
| | RECP reporting tool | 2, 3 | All GEIPP countries, and beyond | | | |

| Intended Audience | Tools | Out-come | Reach out | Progress | Quality | Usefulness |
|---|--|----------|---------------------------------|----------|---------|------------|
| Lessons learned and best practice studies | 2 lessons learned reports | 3 | All GEIPP countries, and beyond | | | |
| | 2 best practice case studies | 3 | All GEIPP countries, and beyond | | | |
| Training materials | 7 module course 9 module course EIP policy support module Supporting materials | 1, 3 | All GEIPP countries, and beyond | | | |
| Training materials | Moodle course | 1, 3 | All GEIPP countries, and beyond | | | |
| Framework documents | A-Practitioners-Handbook-for-Eco-Industrial-Parks-Implementing-the-International-EIP-Framework-Toolbox EIP Toolbox Manual V1 Sept 18 Global assessment of eco-industrial parks in dev and emerging countries Industrial parks UNIDO Strategic Framework web UNDO WB GIZ EIP International Framework for Eco-Industrial Parks UNIDO Eco-Industrial Park Handbook English UNIDO Eco-Industrial Park Handbook Spanish UNIDO EIP Implementation Handbook - English UNIDO International Guidelines for Industrial Parks (developed in previous programmes) | 1 | All GEIPP countries, and beyond | | | |
| Documentation of country events | Agenda, powerpoints, reports | 1 | All GEIPP countries, and beyond | | | |
| Publication | Published document | 1 | All GEIPP countries, and beyond | | | |

Table: Evaluation team, based on responses and own evaluation.

Tools for Policy Makers

EIP Policy Support Tool (including EIP Stakeholder mapping)

The tool is fully developed. It is designed to assist UNIDO and its national partners with providing support on EIP policy development and planning policy level interventions. It can be used to guide the project team in the process of developing EIP related policies ranging from high level visioning to concrete interventions in the legal framework. The tool consists of six modules: Stakeholder analysis, vision development, review of existing policies, overview of policy instruments, EIP policy action planning.

The tool is available as version 2. The tool refers to the International EIP Framework of 2017. It assists in stakeholder analysis, vision formulation, analysis of existing policies, it gives examples of policy instruments from a variety of countries including links to relevant webpages with more details and supports in the development of an EIP policy action plan. It contains clear user instructions, a tentative timetable for application, a (brief) example of application in Colombia, references, and further reading.

The evaluation team is of the view that the tool will provide valuable support to national decision makers in anchoring the concept of EIP in policies, defining relevant policy interventions including incentives for the adoption of EIP criteria in IPs. The results of the application will depend on the knowledge of the concrete national, provincial, and municipal legislation by the project team, and knowledge of the processes for amending legislation. It is probably most effective, if there is support of knowledgeable middle management from ministries, provincial or municipal governments during the application of the tool and the follow-up of the action plan.

Application examples from Colombia, South Africa, Vietnam, Indonesia, Ukraine are documented. The two documented best practise cases can support the implementation. It was beneficial if they were formulated as concrete use cases with more details on the approach used, actors involved, facilitation methods applied, milestones, results achieved.^{41,42} The practical experience with adapting the methodology to the specific country conditions, e. g. by adapting the sequence of steps to the specific situation, will support future application.

EIP Selection Tool

The objective of the EIP selection tool is to support the selection of industrial parks with a high potential for the development of the park to an EIP creating visible and replicable projects. It can be used for brownfield and greenfield parks. The tool is designed to be used by UNIDOs international experts and specialised service providers, e. g. the NCPCs. The tool consists of five modules: Short listing industrial parks and data collection, preselection, prioritisation, review against the GEIPP framework, final selection. The worksheets ask for weighing and assessment of compliance of the considered park by the expert comparing to the criteria of the GEIPP framework on three levels: for the scoping first practical criteria regarding size, quality of park management, industrial activities, commitment and risk are used; in the preselection a condensed version of the EIP indicators is used, and in the final selection an extended description of the full set of indicators. The selection is supported by a graphical representation of the results. The tool is available as version 2. The tool refers to the International EIP Framework of 2017. The EIP Review tables for the individual parks under consideration are very similar to the EIP assessment tool.

The evaluation team is of the view that the tool ably can support the decision makers during the initial phase of a GEIPP project in a new country to focus resources on a limited number of parks to work with rather than spreading resources over a variety of industrial parks if very detailed

⁴¹ General remark: where possible, permalinks should be used, to avoid dead links

⁴² General remark: where relevant, the links and references should point to the most recent GEIPP publications

follow up with the industrial park management and the tenant companies in the selected industrial parks is planned.

The results of the application will depend on the actual follow up with the industrial park management and the tenant companies with identification of opportunities on meso-level and micro-level. It is probably most effective, if the companies and park management share the same vision of an EIP, are aware of the opportunities and able to implement identified opportunities.

Application examples from Colombia, South Africa, Vietnam, Indonesia, Ukraine are documented. The application of the tool is explained in detail during the 7-module training and the 9-module training.

EIP Assessment Tool

The objective of the EIP assessment tool is to compare the industrial park under analysis with the criteria of the GEIPP framework and to plan, prioritize, implement, and monitor EIP initiatives. The tool is designed to be used by UNIDO's international experts and specialised service providers, e. g. the NCPCs together with the park management. The tool consists of three modules: Assessment against the GEIPP criteria, identification of EIP opportunities in improving park management regarding environmental aspects, social aspects, economic aspects, the chances of their implementation, and to plan, manage and monitor the implementation. The worksheets ask for the expert assessment of the considered park comparing to the criteria of the GEIPP framework. The tool refers to the International EIP Framework of 2017 and in version 2 for the international EIP Framework from 2021 as baselines. A brief reference to the application of the tool in PIMSA in Colombia is included.

The evaluation team is of the view that the tool can support park management very well in evaluating the respective park against the criteria of the international GEIPP framework. This allows the park management firstly to get an external assessment of its performance, which can be used in communication with stakeholders and secondly to see gaps and potential areas for improvement. Also, by repeated application of the tool the improvement of the indicators by the implementation of activities can be monitored. This tool can be beneficially applied by industrial parks globally regardless of their involvement in a GEIPP programme, allow for their assessment against EIP criteria and show potential environmental, social, and economic improvement options. The tool is also a way to communicate best practise to other parks. The Evaluation tools of the GEIPP program collect basic information on the park, present the international framework, show performance indicators, lead to the definition of the action plan, among others. They are practical tools that allow speeding up the evaluation and the identification of improvement options, was the statement of one consultant.

The application of the tool is explained in detail during the 7-module training and the 9-module training.

EIP Concept Planning Tool

The main objective of this tool is to develop and promote value added features of EIP concept plans to assist in the sustainable and integrated design and operation of industrial parks from an economic, environmental and community perspective. The EIP concept plan should allow for the development of the promising EIP opportunities identified, provide flexibility in the sustainable industrial development of the park and subsequently industry clustering. It provides guidance on the types of industry clustering which can occur in an industrial park.

The strategic clustering and integrated planning of companies, infrastructures and utilities is a core element to allow for the development of industrial synergies within industrial parks and with its surrounding regions, as well as a mechanism to reduce the need for utility infrastructure and associated costs. The template covers the following:

- International Framework for Eco-industrial Parks (UNIDO, WBG, GIZ, 2017)
- Industrial interest in the EIP
- Identification of anchor tenants
- Identification of Industrial synergies
- Transportation network
- Risk mitigation
- Industry clustering and precincts Effectiveness, efficiency, and flexibility

The EIP concept planning tool is currently being tested. This tool will be fully developed in 2021.

It contains a similar checklist to the one benchmarking the IP against the criteria of the EIP framework, sector identification of tenant companies, identification of anchor companies, identification of synergies (including the example of PIMSA), potential clustering, concept planning, promotion of added value. A set of 50 slides for the introduction of the tool is available.

The evaluation team is of the view that the tool can support park management very well in evaluating the respective park against the criteria of the international GEIPP framework and assist in developing a concept for zoning using material, energy, services, and social synergies. The tool also helps to recognize and promote the value added by the concept planning.

EIP Finance Tool

The EIP finance tool is currently being developed in South Africa. The overall objective of this tool is to guide park management entities and tenant companies to identify, review and access available financing options for feasible EIP initiatives for their industrial parks. The tool contains clear instructions, a step-by-step procedure for the application, a database of existing financing instruments, guidance in accessing financing with templates and examples. It is ready to be tested in 2021 at ELIDZ and Phujadithjaba parks in South Africa.

If proven successful, this tool can be rolled out within the GEIPP program, probably after adapting it to the nationally available sources of (green) financing.⁴³

EIP opportunities monitoring tool V1 and V2, GEIPP Monitoring Reporting Tool

The objective of the EIP opportunities monitoring tool is to monitor and report the resource savings and impacts from EIP opportunities identified and implemented in the industrial parks with the support of (inter)national development projects. It consists of one worksheet “EIP opportunities monitoring” with detailed instructions for use. In this table savings are documented with their origin, kWh electricity, kWh fuel, water, effluent quality, materials, and savings. CO₂-equivalents are included in a calculation formula. Their sources and values are hidden to the user. In some cases, it is important that this tool is adapted to the reality of each country, such as the national energy mix, emission factors, and specific regulations. A summary table totals the savings of the individual measures.

The evaluation team is of the view that the tool can support companies and industrial park management very well in documenting the results of implemented RECP measures in a standardized way. The table refers to ideally calculated effects of individual measures and therefore can be considered a model or the actual savings, neglecting a potential shift in product mix and scale effects over the project period. For the program management the documentation of results can be included easily in periodic reports and aggregated for the individual parks for a country and for the total GEIPP programme.

⁴³ For Viet Nam, a report summarizing financing options was already prepared in 2021 (Funding sources to support investments in eco-industrial parks in Viet Nam)

This tool can be beneficially applied by industrial parks globally regardless of their involvement in a GEIPP programme. The original version of the tool could be updated without the GEIPP specific features for keeping on having a tool for the global audience.

Application examples from Colombia, South Africa, Vietnam, Indonesia, Ukraine are documented. The “Monitoring and Reporting Tool” was shown during CSSC Indonesia meeting 27.5.2021. It allows for “Reporting on Impacts” (e.g. electricity savings), “Reporting on GEIPP RBM Indicators” (SECO requirement), “UNIDO IRPF reporting”, “Reporting on EIP scorings”, all in one Excel document; seen as helpful for planning and reporting. The monitoring tools in general were received very well by the interview partners. The benefit of standardized reporting according to the predefined structure over narrative reporting is explicitly stated.

Tools on meso level

EIP Master Plan Sustainability Review Tool

The EIP Master Plan Sustainability Review tool is still at concept level. The plan is to have it ready by the end of 2021. The tool will be “a continuation, and next step, of the EIP concept planning but particularly to existing development and answering to common planning challenges facing industrial parks”. This includes, according to the project manager, the tackling of the following situations:

- No or outdated master plan
- Lack of consideration of economic, environmental and social criteria
- Lack of stakeholder engagement in park planning
- Limited consideration of industry clustering and synergies
- Limited integration of utilities and infrastructures
- Buffer zone is not planned or secured properly
- Lack of consideration of long-term development scenarios
- Encroachment by urban developments over time
- Development of new technologies and infrastructures
- Different industry scenarios can develop over time

The sustainability review will provide an opportunity to strengthen the existing master plan from a EIP and sustainability perspective. The tool will include many real-life examples which demonstrate that environmental and social risks are also economic risks for enterprises and the parks.

The evaluation team is of the view that the concept for the tool addresses ably problems which were observed during the previous work with industrial parks and can support the park management in identifying potentially strong solutions for their problems.

EIP Management Services Tool

The EIP Management Services tool focuses on the identification of services beyond the “traditional” services which park management provides to its tenants such as leasing/selling of industrial land to tenant companies; electricity and water supply billing; maintenance of roads, fences, and office buildings inside park; and basic security services. The tool suggests many added-value services park management could provide in order to:

- Assist tenant companies to increase their economic, environmental, and social performance;
- Reduce the risks of park and the companies, emphasizing that environmental and social risks are business risks;
- Create a more resource-efficient and cost-effective industrial park which is more competitive, attractive for investment;

- Enable tenant companies to concentrate on core business, create cost savings from service synergies.
- Identify potential Industry 4.0 based new production value chain solutions through ICT development (e.g. Internet-of-things) and smart automation solutions which are applicable to industrial park management and tenant companies.

The EIP Management Services Tool is ready for application. It contains a checklist for potential management services, Industry 4.0 tool application, scoping, and action plan.

The evaluation team is of the view that the tool supports park management in going beyond traditional services. A detailed step by step procedure for the application is presented. The tool would benefit from actual cases and examples.

IS opportunities identification tool

The objective of the IS opportunities identification tool is to identify industrial symbiosis opportunities from by-products and waste exchange between companies. This is relevant for brownfield industrial parks, showing synergies between existing companies. The tool can also support during the planning of greenfield industrial parks, by identifying potential opportunities of new companies locating to a park. The tool is designed as a MS-Excel based database, in which a search can be conducted by by-product, or by company to look for synergies. The tool is designed to be used by UNIDO's international experts and specialised service providers, e. g. the NCPs together with the park management. The tool is not planned as fully inclusive. It identifies "top-of-the iceberg" opportunities and serves as a starting point to identifying synergy opportunities and having constructive discussions with park management and tenant companies.⁴⁴

Examples for implementation of suggestions are included in the database. The application in an industrial park in Vietnam is presented as a reference.

The evaluation team is of the view that the tool can support industrial park management very well the identification of potential industrial symbiosis options within the network of companies in the park. This tool can be beneficially applied by industrial parks globally regardless of their involvement in a GEIPP programme.

Tools on micro level

RECP tools

RECP tools are included in the global knowledge products list supplied by GEIPP management. In the GEIPP file repository, no specific RECP tools are included. In the training materials, three major RECP tools are referred to: the UNIDO RECP toolkit (2006, 2007, 2008 (depending on the reference)), the PRESME toolkit (2010), and the European BREF notes. The European BREF notes are the best available reference documents describing BAT applicable in IPPC permitting in the respective sectors as published by the Joint Research Centre in Seville. The first two tools provide a methodology how to identify the sources of wastes and emissions and strategies how to develop preventive measure to reduce waste and emissions, benchmarks, examples for measurements and several case studies. They focus on good housekeeping and low-cost options. The sector specific BREF documents include the description of technologies used in the respective sectors, relevant consumption of materials, water, and energy and show best available technologies and candidate technologies for best practises in the future. The BREF notes also address the benefit of environmental management systems, appropriate monitoring and controlling, and training of employees. The documents contain benchmarks mostly applicable for Europe. Collecting

⁴⁴ Source: slide 244 in 9 module course materials

benchmarks in the participating companies and exchanging them among the participating countries would increase the value of the tools. As an information source, the RECP-net webpage is presented. This RECP-net webpage was developed in previous UNIDO programs. It used to contain UNIDO's RECP knowledge management system, however is not accessible any more. None of the companies interviewed was aware of these tools. One industrial park manager expressed the value of good house-keeping and low-cost options as they can provide quick proof of concept and immediate savings. The RECP tools were referred to as very useful by one national consultant.

RECP reporting tool

The objective of the RECP reporting tool is to monitor and report the resource savings and impacts from RECP opportunities on the tenant level identified and implemented in the IPs with the support of (inter)national development projects. The tool provides a standardized method to calculate and monitor the social, environmental and economic benefits out of the identified RECP options. The tool consists of the worksheet "RECP opportunities monitoring" with detailed instructions for application. In this worksheet savings are documented with their origin, kWh electricity, kWh fuel, m³ water, tonnes of materials, and financial savings. This format is very similar to the corresponding worksheet in the IS reporting tool. CO₂-equivalents are calculated in the worksheet. Their sources and conversion factors are hidden to the user and might have to be adjusted nationally. In a worksheet the totals of the savings are calculated for each participating company, a second worksheet totals the savings of all participating companies in the industrial park.

The evaluation team is of the view that the tool can support companies and industrial park management very well in documenting the results of implemented RECP measures in a standardized way. The documentation of results can be included easily in periodic reports and aggregated for the individual parks for a country and for the total GEIPP program.

This tool can be beneficially applied by industrial parks globally regardless of their involvement in a GEIPP programme.

Lessons learned and best practice case studies

Lessons learned

GEIPP Lessons Learnt Report 1 EIP Assessments

The document is a PDF file with 42 pages. It describes the process of developing an IP into an EIP and EIP scoring in relation to the GEIPP criteria. According to the analysis, private sector managed parks score on average 10% higher according to the GEIPP criteria. The lessons drawn are: look deeper into indicators, compare, do more data acquisition, and some suggestions for park management services. The document also suggests relating indicators to SDGs. The report is policy orientated.

According to the views of the evaluation team, the recommendations apply mainly for program designers if the GEIPP programme is replicated in additional countries. A concept how these lessons learned feed back into the program planning and are shared among the program participants has not been formulated as of now.⁴⁵

GEIPP Lessons Learnt Report 2 Technical Assistance Needs

This document is a PDF file with 78 pages. It presents recommendations for (inter)national programmes supporting EIP transformations in specific countries for applying the EIP approach systematically. Overall priority topics for EIP technical assistance are, quoted from the report:

⁴⁵ Focus group 3 discussion

Energy; Local community outreach; Environmental management and monitoring; Park monitoring and risk management; Waste and material use; Climate change and the natural environment. The types of technical assistance for the EIP transformation typically cover training and capacity building, technical advisory services, facilitation of investment opportunities and policy support. Capacity building to park management is a key recommendation for almost all topics of the International EIP Framework. Key topics where this a need to support the industrial parks and tenant firms with the facilitation of investment opportunities are: Planning and zoning; energy; water; waste and materials use; climate change and the natural environment; social infrastructure; local business and SME promotion; and economic value creation. The main entry point for the technical assistance on most topics is the park management entity (“bottom-up approach”). However, for a number of topics there is potential key role for government agencies to support the EIP transformation through policy support (“top-down approach”)46.

The report provides a 360°-view of the assistance needs at GEIPP country-level as they are planning their interventions at parks level. According to the views of the evaluation team, the recommendations support the identification of the greatest assistance needs on the parks level.

Case studies

EIP Community of Practice Colombia

This case study is a MS Word-document of 2 pages containing a description of goals and activities of the communities of practice established in Colombia. The paper describes the functioning of these roundtables linking policy makers and practitioners in discussing concepts, barriers and activities.

According to the views of the evaluation team, the case study would benefit from a presentation of the way how this instrument was installed, tips for agenda building, inviting stakeholders, frequency, follow-up, etc. to support the uptake of this instrument in other countries.

Ukraine GEIPP Policy best practice

This case study is a MS Word-document of 2 pages containing an introduction of EIP into the National Economic Strategy by 2030 in Ukraine and the introduction of EIP into the Strategy of the Industrial Complex Development by 2030. The case study is policy orientated.

According to the views of the evaluation team, the case study would benefit from a presentation of the steps how the concept of EIP was introduced into the two strategies, tips regarding which stakeholders to address, which linkages to establish, etc. to support national program managers in preparing similar steps in other countries.

Training materials

7 module course for park management and tenant company training

The material consists of 217 MS PowerPoint slides. According to the curriculum included, they are meant for a total of 10,5 hours training in the EIP concept, the EIP framework, the EIP criteria, the assessment, EIP management models, EIP opportunities, RECP, RECP opportunities, IS, IS opportunities, and EIP planning. Telling examples from PIMSA, Kwinana, ELIDZ; Phuthaditjhaba Industrial Park, Kalundborg, Niederösterreich Süd, Vietnam, and others, plus a dozen RECP examples from SA and the Indonesian RECP programme are included. Also, polling questions, topics for discussion, assignment for exercises in breakout rooms, EIP assessment tool, EIP selection tool are provided to support interactive elements. An introduction to Zoom is also included.

⁴⁶ Technical assistance needs for the transformation into eco-industrial parks, May 2020, GEIPP lessons learned series, volume 2, UNIDO

During the interviews, the value of the training materials (summarising all training materials) was recognized, however there were requests to adapt them more to country specifics and to include more directly relevant examples: “training material is a useful tool”, “main benefit is learning from other companies”, “190 slides, too many logos on slides, needs to be adapted to show local ownership”.

According to the views of the evaluation team, these materials are a good blueprint for a course in the EIP concept and implementation. A limited number of examples from GEIPP is included in the materials. More actual solutions from GEIPP projects would increase the authenticity of the course and connect it even closer to the participants from the GEIPP countries. The material includes no use cases reflecting on actual activities, problems solved, the experiences how working solutions were arrived at: So, it needs to be delivered by an experienced trainer who can contribute actual experiences with the GEIPP tools and GEIPP (intermediary) results. The evaluation team thinks that several such use cases should be available from the previous EIP programme.⁴⁷

The training materials have very detailed advice regarding assessment and selection of EIP and would benefit from more use cases and targeted advice for park management and companies how to identify RECP options and especially non-technical synergetic options. Learning targets are not explicitly defined. The group discussions do not have defined objectives for presentation and evaluation. The document master should be aligned to the GEIPP standard only, as at present it consists of two sets of templates (UNIDO and GEIPP).

9 module course for service providers

The material consists of 341 MS PowerPoint slides, homework material for preparation, and a test. The curriculum consists of the following elements:

- Home work (study the slides and collect questions)
- Get to know each other and the Zoom software
- Introduction to eco-industrial parks
- Prioritizing and selecting industrial parks and EIP interventions
- Review industrial parks against International EIP Framework and EIP opportunity assessment
- Management of eco-industrial parks including added-value park services
- Resource efficient and cleaner production and the link with EIPs
- Industrial synergies
- Concept design process of eco-industrial parks
- Making it happen: Implementation of feasible EIP opportunities
- Final test

The file includes the material as it was presented in 10 online sessions of 3 hours each in Indonesia and a masterfile. The structure of the information, the use of the Zoom functions (chat, polling, breakout sessions), role play, provides for interactivity and a lively learning experience, which allows participants to share their previous experiences, focus the flow of activities according to their needs, and work on the example of the two selected IPs. Access to the EIP toolbox is provided via a link⁴⁸. Comprehensive reference to useful literature is provided. Some instructions for lecturers are included.

⁴⁷ https://www.unido.org/sites/default/files/files/2019-02/UNIDO_EIP_Achievements_Publication_Final.pdf; 18 parks involved, 180 companies, 1700 options identified, 1000 options implemented

⁴⁸ <https://open.unido.org/projects/C6/projects/170222>

According to the views of the evaluation team, these materials support a very interactive series of webinars to familiarize RECP experts with the EIP concept, the activities to be performed during the work with the industrial park management and the companies, introduce the tools, and invite participants to apply the EIP tools to the parks they are working with.

EIP Policy Support Module

This module consists of 45 slides. The presentation introduces the concept of EIP and gives international examples from Japan, Korea, the UK, the national technical guideline on EIP in Vietnam, Australia, leading to an introduction of the EIP policy support tool. The introduction to the tools showcases Colombia as an example. Notes to instructors are included in the slides. As a conclusion, participants are asked to summarize key policy actions which can be implemented in their countries.

According to the views of the evaluation team, these materials provide a very effective introduction to the EIP concept, introduce the tool, and invite participants to apply it to their environment.

Background materials

This section mainly contains filled in templates for the EIP assessment tool by the participants of trainings, the final evaluation test, a training feedback questionnaire from the trainings in Indonesia.

To the views of the evaluation team, this material can help trainers in preparing EIP courses. For the future, here especially use cases, examples which can be replicated and learnings regarding the application of training contents and tools could be collected.

Moodle course

This Moodle course presents the training contents on EIP in 8 modules in a Moodle platform. This will allow self-paced training for interested stakeholders, use of the Moodle platform in presence training and even mixtures of the two approaches. The screenplay is available, as are some alpha-elements.

To the views of the evaluation team, the screenplay is well designed. The approach uses a contemporary way to provide the contents adapted to the needs of stakeholders. This relates to the specific situation during the pandemic, but also shows a way for future training decoupling the requirement for physical presence and the availability of participants, paving the way for “learning on demand”. Access, use of the course, results, and feedback should be carefully documented during piloting the course to document the learnings, as the approach has the potential for high penetration and replication, as it allows to reach out to a big audience with very economic resources.

Guidance documents

International EIP framework version 2

The updated version of the EIP international framework for Eco Industrial Parks provides a good introduction to the concept of EIP and its roots. The document is a PDF with 90 pages. The layout is very appealing. The publication was developed with the involvement of World Bank and GIZ. It has a clear logic of presentation. It includes the description of the international framework, the sources used, definitions, requirements and indicators, their application, detailed checklists presenting the EIP criteria, and a reference to supporting documents. Cases are presented from NÖ Süd, Kalundborg, Ulsan, etc., the case of PIMSA and one case from Vietnam.

To the views of the evaluation team, the document could have used more use cases from the GEIPP program, as it was published in January 2021.

Global knowledge products developed in previous programmes

Global knowledge products developed in previous programmes include:

- A-Practitioners-Handbook-for-Eco-Industrial-Parks-Implementing-the-International-EIP-Framework-Toolbox
- EIP Toolbox Manual V1 September 2018
- Global assessment of eco-industrial parks in developing and emerging countries
- Industrial parks UNIDO Strategic Framework web
- UNDO WB GIZ EIP International Framework for Eco Industrial Parks
- UNIDO Eco-Industrial Park Handbook English
- UNIDO Eco-Industrial Park Handbook Spanish
- UNIDO EIP Implementation Handbook - English
- UNIDO International_Guidelines_for_Industrial_Parks

Materials of various country events

Several presentations in various international settings are available. Also, a series of international EIP policy workshops were conducted and documented. The materials include the invitations, meeting agendas, presentations, and workshop reports of various country events.

These materials can provide good orientation when somebody wants to replicate a similar event like awareness raising workshops or policy workshops. A clearer structure could be applied to this section of the repository to facilitate access to the materials.

Publication

The article „Results and Lessons Learned from Assessing 50 Industrial Parks in Eight Countries against the International Framework for Eco-Industrial Parks“ was published in the Journal „Sustainability“ (Sustainability 2020, 12, 10611; doi:10.3390/su122410611). The journal had an impact factor of 2,6 in 2019.

This article provides a summary of the analysis and lessons learned from the assessments of the industrial parks and their performance against the International EIP Framework of 50 parks assessed in eight developing and transition countries against 51 prerequisites and performance indicators outlined in the International Framework for Eco-Industrial Parks. The eight countries covered are: Colombia, Egypt, Indonesia, Nigeria, Peru, South Africa, Ukraine, and Viet Nam.

There is a wide range of performance among the industrial parks assessed. A review of the root-causes indicates that the main compliance issue regarding performance indicators outlined in the International EIP Framework seems to be the industrial park- and country-specific conditions. Across all 50 parks assessed, the following topics have the lowest current compliance: energy; local community outreach; environmental and park management; waste and material use; climate change and preservation of the natural environment.

This paper will reach out to the academia, education networks, and practitioners in general outside GEIPP countries.

Suggested new tools

Suggestions for additional new GEIPP tools include:

- RECP legal compliance tool
- RECP tool with RECP checklists
- RECP club support tools
- Carbon foot printing on company level and park level tool

The Legal compliance tool is currently being developed in Colombia within the current contract of MGM. If the testing phase is successful, this tool can be adapted to the national conditions and rolled out to the other GEIPP countries.

RECP tool with checklists including relevant benchmarks: MGM plans to develop a sectorial benchmarking tool supporting the analysis of resource consumption indicators for the sectors of Dairy foods, Non-alcoholic beverages, Manufacture of electrical appliances and equipment, Manufacture of machinery and equipment, Manufacture of furniture, Sugar processing, Metal processing, Processing of plastics, food products, chemical products, services (logistics), and water treatment and distribution. Experiences with this sectorial benchmarking tools should be monitored and evaluated as a basis for future activities.

There is a suggestion from Belarus⁴⁹ to use the RECP club model during RECP assessments in the involved industrial parks. The benefits of this approach include: involvement of more companies, transferring activities relating to data acquisition into the companies, increasing the involvement and awareness of companies by using social factors to build soft peer pressure, mutual learning and motivation, simplification of the RECP approach, faster outreach to more companies with less resource input from consultants. The worksheets used in the RECP clubs in the EU4Environment programme could be combined into one tool for the GEIPP.

Carbon footprinting on company level and park level: A (simple) tool could be developed which builds on input/output tables from the RECP club materials. Scope 1 and 2 can be covered from the energy bills. A practical approach to including Scope 3 needs to be discussed but appears feasible. Relevant CO_{2,e} factors for relevant raw materials for companies can be provided, e. g. in a worksheet. The CO_{2,e} for energy can be synchronized with the factors used in the IS and RECP reporting tools. The input/output tables could be taken from the existing RECP club materials. A working group could be established on the global GEIPP level including national representatives to provide relevant CO_{2,e} factors.

⁴⁹ Siarhei Darozhka, Internal Regional Meeting with RECP experts/the NIPs of the EU4Environment Action, 07 July 2021

Annex 4: Industrial parks receiving detailed support as part of GEIPP 2019-2023

| Country | Industrial Parks receiving detailed support as part of GEIPP 2019-2023 | Websites |
|------------------|--|--|
| Colombia (3) | Parque Industrial Malambo | http://pimsa.co/ |
| | Parque Industrial del Cauca | https://www.zonafrancadelcauca.com/ |
| | Parque Industrial de Occidente | http://zonafrancaoccidente.com/ |
| Egypt (2) | El Robbiki Industrial Park | https://cid-egypt.com/about-robbiki/ |
| | SIDC Industrial Park (in Suez Canal SEZ) | https://sidc.com.eg/ |
| Indonesia (2) | Batamindo Industrial Park | http://www.batamindoindustrial.com/#/home |
| | MM2100 Industrial Town | http://mm2100.co.id/ |
| Peru (3) | Parque Industrial Sector 62 | http://www.sector62.pe/ |
| | Parque Industrial La Chutana | http://lachatana.com/ |
| | Parque Industrial InduPark | https://www.induparke35.com/ |
| South Africa (3) | East London Industrial Development Zone | https://www.elidz.co.za/ |
| | Phuthaditjhaba | No own website some information through Free State Development Agency https://www.fdc.co.za/index.php/about-us/fdc-services |
| | Ekandustria | http://www.mega.gov.za/ekandustria-office/ |
| Ukraine (3) | Bila Tserkva Industrial Park | https://ip-bt.com/en/ |
| | Patriot Industrial Park | https://patriot.sumy.ua/en/ |
| | Agromash Industrial Park | www.agrotechmash.com.ua |
| Viet Nam (5) | Deep C Industrial Park (Hai Phong) | https://www.deepc.vn/en/ |
| | Amata Industrial Park (Dong Nai) | https://www.amata.com/en/industrial-cities/amata-vietnam/industrial-cities/amata-city-bien-hoa/ |
| | Hiep Phuoc Industrial Park (Ho Chi Minh City) | https://www.hiepphuoc.com/en/ |
| | Hoa Khanh Industrial Park (Da Nang) | https://seedland.vn/en/hoa-khanh-industrial-park EIP project site http://eipvn.org/hoa-khanh-industrial-zone |
| | Tra Noc 1&2 Industrial Park (Can Tho) | https://seedland.vn/en/tra-noc-industrial-park-1 EIP project site http://eipvn.org/tra-noc-12-industrial-zone/ |
| Total: 21 parks | | |

Annex 5: List of people interviewed and interacted with:

| <u>Main interlocutors</u> |
|---|
| <p>Mr Christian Susan, GEIPP Project Manager, Industrial Development Officer, Department of Environment, UNIDO, Vienna</p> <p>Mr Klaus Tyrkko (KT), Chief Technical Adviser, GEIPP Global Component, UNIDO</p> |
| <u>Interviews</u> |
| <p><u>Global</u></p> <p>Mr Stephan Sicars, Managing Director, Directorate of Environment and Energy, UNIDO, Vienna</p> <p>Ms Nilgun Tas, Deputy Director, Department of Environment and Chief, Industrial Resource Efficiency Division, UNIDO, Vienna</p> <p>Ms Carolina Gonzalez-Mueller, Industrial Development Officer, Department of Environment, United Nations Industrial Development Organization (UNIDO), Vienna (Project Manager for GEIPP Egypt)</p> <p>Mr César Barahona, Lead Expert on EIP and RECP, Industrial Resource Efficiency Division, Department of Environment, United Nations Industrial Development Organization (UNIDO), Vienna (GEIPP Core Team)</p> <p>Mr Philipp Ischer, Program Manager, State Secretariat for Economic Affairs (SECO), Federal Department of Economic Affairs, Education and Research, Bern, Switzerland</p> <p>Mr Dieter Mutz, Senior Technical Expert, University of Applied Sciences Northwestern Switzerland</p> |
| <p><u>Colombia</u></p> <p>Ms Adriana Alzate, Directora de Cosultoria en MGM Innova Energy Services, Colombia</p> <p>Ms Marianella Santacruz, Environment Manager, Ovopacific, Zona Franca del Cauca, Colombia</p> <p>Ms Francy Acevedo, Coordinator for Integrated Management, B. Braun Company, Zona Franca de Occidente, Colombia</p> <p>Ms Erika Castro, Manager, Zona Franca del Cauca, Colombia</p> <p>Mr Cristiano Pasini, former UNIDO Representative of Colombia and Peru, UNIDO, Mexico</p> |
| <p><u>South Africa</u></p> <p>Mr Bernd Oellermann, Director, Regional Industrial Development, Spatial Industrial Development & Economic Transformation branch of the Department of Trade, Industry and Competition, Pretoria, South Africa</p> <p>Mr Khaled El Mekwad, UNIDO Representative, Head of Regional Office for Southern Africa, UNIDO, Pretoria, South Africa</p> <p>Mr Phineas Makgopela, Park and Property Manager, Mpumalanga Economic Growth Agency, Ekandustria Industrial Park, Bronkhorstspuit, South Africa</p> <p>Mr Lee-Hendor Ruiters, Regional Manager - Western Cape, National Cleaner Production Centre South Africa</p> <p>Ms Julie Wells, Marketing and Communication Manager, National Cleaner Production Centre South</p> |
| <p><u>Ukraine</u></p> <p>Ms Julia Skubak, Head of the Department of Investments Attraction, the Ministry for Development of Economy, Trade, and Agriculture of Ukraine, Kyiv</p> <p>Mr Andrii Vorfolomeiev, Director, Resource Efficient and Cleaner Production Centre, Kyiv, Ukraine</p> |

Ms Yulia Zemetska, Head of the Economic Department of the Bila Tserkva city (management of the Bilotserkivskiy Vantazhnyi Aviatsiyniy Kompleks – Model Municipal Industrial Park), Bila Tserkva, Ukraine

Mr Yuriy Odryna, Deputy Director of the Bilotserkivskiy Vantazhnyi Aviatsiyniy Kompleks – Model Municipal Industrial Park, Bila Tserkva, Ukraine

Mr Maksym Bizer, Deputy Director Production, ESI Metal Industry, LLC, Bilotserkivskiy Vantazhnyi Aviatsiyniy Kompleks, Bila Tserkva, Ukraine

Ms Olena Kresik, Deputy Director Economics and Finance, Industrial Park Agromash, Zaporizhzhia, Ukraine

Mr Bohdan Ivakhnenko, Manager on Economic Relations, MEBIGRAND Furniture Factory, Bilotserkivskiy Vantazhnyi Aviatsiyniy Kompleks, Bila Tserkva, Ukraine

Mr Yevhen Shchastlyvets, Deputy Director, Chief of Branch, Chemical-metallurgical Plant, NIOCHIM, Kharkiv, Ukraine

Mr Sergiy Filatov, Adviser on Economics, NIOCHIM, Kharkiv, Ukraine

Mr Andrii Melnyk, Head of the Unit of Investments Attraction Tools, Ministry for Development of Economy, Trade, and Agriculture of Ukraine, Kyiv, Ukraine (written interview)

Ms Ludmila Musina, UNIDO focal point in Ukraine, Kyiv (written interview)

Africa

Mr Tefo Matla, Free State Development Cooperation, Phuthaditjhaba Industrial Park, South Africa

Peru

Mr Jorge Urbina, National Project Coordinator, Global Eco-Industrial Parks Programme Peru, UNIDO, Liman, Peru

Indonesia

Mr Salil Dutt, Chief Technical Adviser, GEIPP Indonesia, Jakarta

Focus Group Discussion on Lessons Learned

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Mr Bernd Oellermann, Director, Regional Industrial Development, Spatial Industrial Development & Economic Transformation branch of the Department of Trade, Industry and Competition, Pretoria

Mr Henry Nuwarinda, Project Manager, NCPC, National Cleaner Production Centre South Africa

Dr. Chris Ettmayr, Renewable Energy & ICT Sector Manager, East London IDZ, South Africa

Mr Shakespear Mudombi, Programme Manager, Swiss Economic Cooperation and Development (SECO), Embassy of Switzerland to South Africa, Botswana, Eswatini, Lesotho, Mauritius and Namibia, Pretoria

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Mr Johannes Fresner, Clean Production Expert, Evaluation Team Member, Graz

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Focus Group Discussion on Theory of Change

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Mr Akos Koeszegvary, UNIDO Project Manager, GEIPP Vietnam, UNIDO, Vienna

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Mr Benoit Wuatelet, Project Coordinator, GEIPP Egypt, UNIDO, Vienna

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Mr Johannes Fresner, Clean Production Expert, Evaluation Team Member, Graz

Mr Francesco Cuda, Evaluation Analyst, Evaluation Team Member, UNIDO Independent Evaluation Division, Vienna

Focus Group Discussion on the GEIPP Strategy evaluation – peer review

Ms Maria Camila Moreno, Director – Free Trade Zones Association of the Americas (AZFA), Colombia

Mr Steffen Felix, Advisor, Sector Project Sustainable Economic Development Division Economic and Social Development, Digitalisation Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Germany

Mr Alessandro Flammini, Project Coordinator at UNIDO

Mr Klaus Tyrkko, Chief Technical Adviser, GEIPP Global Component, UNIDO

Mr Michael Weber, Managing Director, Weber Sites Consulting GmbH, Germany

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Annex 6: List of documents and online sources reviewed and visited

List of documents and online resources reviewed

Global documents

- Project Document - Global Eco-Industrial Parks Programme (GEIPP) in Developing and Transition Countries, UNIDO, December 2018.
- GEIPP Annual Progress Report 1. January -31 December 2020, GEIPP, 2020.
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- Technical Assistance Needs for the Transformation into Eco-Industrial Parks, Lessons Learnt Series - Issue 2, GEIPP, May 2021.
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- Technical Assistance Needs for the Transformation into Eco-Industrial Parks, Lessons Learnt Series - Issue 2, GEIPP, May 2021
- Director General's Bulletin - Evaluation Policy, DGB/2018/08, UNIDO, 01 June 2018.

Country documents

- Project Document - Global Eco-Industrial Parks Programme - Colombia: Country level intervention, UNIDO, 17/June/2019.
- Progress Report (June - December 2019) - Global Eco-Industrial Parks Programme - Colombia: Country level intervention, Draft Nov. 2019.
- 3rd Progress Report (January – June2020) - Global Eco-Industrial Parks Programme - Colombia: Country level intervention, 2020.
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- Stakeholders Assessment Report - Global Eco-Industrial Parks Programme - Ukraine: Country Level Intervention, UNIDO, 16 March 2021.
- Stakeholder Mapping and Assessment, GEIPP Indonesia, April 2021.
- Stakeholder Mapping Report for EIP Implementation in South Africa, GEIPP South Africa, March 2021.
- Review of Industrial Parks for a Global Eco-Industrial Parks Programme in South Africa, Sofies, 28 May 2020.
- UNIDO EIP Selection Tool (V1) - Customised for GEIPP South Africa (Excel), May 2020.
- Funding sources to support investments in eco-industrial parks in Viet Nam, Ankit Kapasi, Grishma Jain, Salam Kaddouh, Nguyen Le Hang, Dang Nguyen Nhung, Dinh Manh Thang, Alessandro Flammini, UNIDO, 2021,

- Handbook on how to access green financing in Vietnam developed, Tran Huong Giang, Nguyễn Đình Chúc, Trần Minh, Nguyễn Thị Thục, Alessandro Flammini, 2018
- Informe Evento Experiencias Internacionales de PEI (Colombia-Peru), meeting report, 2020
- Mid Term Evaluation_support documents – Colombia zip file with documents on the launching event, inception report, steering committee, subcontractors’ reports, outputs 1.1, 1.2, 2.1, 2.2, 2.3, accessed July 2021
- Personal communication, Siarhei Darozhka, Internal Regional Meeting with RECP experts/the NIPs of the EU4Environment Action, 07 July 2021
- Eco-industrial parks, achievements and key insights from the global RECP Programme 2012 – 2018, Dick van Beers, Frédéric Meylan, Alessandro Flammini, Lisa Burrell, https://www.unido.org/sites/default/files/files/2019-02/UNIDO_EIP_Achievements_Publication_Final.pdf, accessed July 2021

Online sources

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- SECO website on Eco-Industrial Parks - <https://www.eda.admin.ch/deza/de/home/deza/aktuell/news.html/content/dezaprojects/SECO/en/2018/UR01231/phase1.html>
- UNIDO Knowledge Hub - <https://hub.unido.org/eco-industrial-parks>
- Green Industry Platform - <https://www.greenindustryplatform.org/initiatives/global-eco-industrial-parks-programme-0>
- LinkedIn GEIPP Group - <https://www.linkedin.com/groups/12397112/>
- GEIPP documents - <https://xfiles.unido.org/index.php/s/GEmzGYPA2aoQqrs>
- Access to EIP materials via the UNIDO knowledge hub: hub.unido.org/eco-industrial-parks (accessed July 2021)
- Materials of various country events - Several presentations in various international settings are available, <https://xfiles.unido.org/index.php/s/GEmzGYPA2aoQqrs?path=%2FGlobal%20Knowledge%20Development%20Component%2FEIP%20Awareness%20Raising%2FGEIPP%20Country%20Events%20supported%20by%20GEIPP%20Global>, accessed July 2021
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 - o Parque Industrial del Cauca - <https://www.zonafrancadelcauca.com/>
 - o Parque Industrial de Occidente - <http://zonafrancaoccidente.com/>
 - Egypt
 - o El Robbiki Industrial Park - <https://cid-egypt.com/about-robbiki/>
 - o SIDC Industrial Park (in Suez Canal SEZ) - <https://sidc.com.eg/>
 - Indonesia
 - o Batamindo Industrial Park - <http://www.batamindoindustrial.com/#/home>
 - o MM2100 Industrial Town - <http://mm2100.co.id/>
 - Peru
 - o Parque Industrial Sector 62 - <http://www.sector62.pe/>
 - o Parque Industrial La Chutana - <http://lachutana.com/>
 - o Parque Industrial InduPark - <https://www.induparke35.com/>
 - South Africa
 - o East London Industrial Development Zone - <https://www.elidz.co.za/>
 - o Phuthaditjhaba, no own website some information through Free State Development Agency - <https://www.fdc.co.za/index.php/about-us/fdc-services>

- Ekandustria - <http://www.mega.gov.za/ekandustria-office/>
- Ukraine
 - Bila Tserkva Industrial Park - <https://ip-bt.com/en/>
 - Patriot Industrial Park - <https://patriot.sumy.ua/en/>
 - Agromash Industrial Park - www.agrotechmash.com.ua
- Viet Nam
 - Deep C Industrial Park (Hai Phong) - <https://www.deepc.vn/en/>
 - Amata Industrial Park (Dong Nai) - <https://www.amata.com/en/industrial-cities/amata-vietnam/industrial-cities/amata-city-bien-hoa/>
 - Hiep Phuoc Industrial Park (Ho Chi Minh City) - <https://www.hiepphuoc.com/en/>
 - Tra Noc 1&2 Industrial Park (Can Tho) - <https://seedland.vn/en/tra-noc-industrial-park-1>
- Company websites visited
 - ESI Metal Industry, LLC, Bilotserkivskiy Vantazhnyi Aviatsiyniy Kompleks, Bila Tserkva, Ukraine - <https://esi-metal.com.ua/en/>
 - MebiGrand Furniture Factory, Bilotserkivskiy Vantazhnyi Aviatsiyniy Kompleks, Bila Tserkva, Ukraine - <https://mebigrand.com.ua/>
 - NIOCHIM, Kharkiv, Ukraine- <https://niochim.kharkov.ua/en/main/>

GEIPP Tools

- UNIDO EIP Policy Support Tool V2,
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- UNIDO EIP Selection Tool V2/EIP Assessment Tool (UNIDO EIP Assessment Tool V3 (EIP Framework 2.0)),
<https://xfiles.unido.org/index.php/s/GEmzGYPA2aoQqrs?path=%2FGlobal%20Knowledge%20Development%20Component%2FEIP%20Tools%2FEIP%20Tools%20V2%20English>, assessed July 2021
- 2020-08-10 UNIDO EIP Concept Planning Tool V1,
<https://xfiles.unido.org/index.php/s/GEmzGYPA2aoQqrs?path=%2FGlobal%20Knowledge%20Development%20Component%2FEIP%20Tools%2FEIP%20Tools%20V2%20English>, assessed July 2021
- 2021-06-30 A2F Tool South Africa - Draft AB DvB Call, personal communication Klaus Tyrkko
- EIP opportunities monitoring tool V1 and V2, GEIPP Indonesia Monitoring Reporting Tool,
<https://xfiles.unido.org/index.php/s/GEmzGYPA2aoQqrs?path=%2FGlobal%20Knowledge%20Development%20Component%2FEIP%20Tools%2FEIP%20Tools%20V2%20English>, assessed July 2021
- EIP Master Plan Sustainability Review Tool, Beta-Version, personal communication Klaus Tyrkko
- 2020-10-14 EIP Management Services Tool (incl I4.0),
<https://xfiles.unido.org/index.php/s/GEmzGYPA2aoQqrs?path=%2FGlobal%20Knowledge%20Development%20Component%2FEIP%20Tools%2FEIP%20Tools%20V2%20English>, assessed July 2021
- UNIDO Industrial Symbiosis Identification Tool V2,
<https://xfiles.unido.org/index.php/s/GEmzGYPA2aoQqrs?path=%2FGlobal%20Knowledge%20Development%20Component%2FEIP%20Tools%2FEIP%20Tools%20V2%20English>, assessed July 2021
- UNIDO RECP Monitoring Tool V2,
<https://xfiles.unido.org/index.php/s/GEmzGYPA2aoQqrs?path=%2FGlobal%20Knowledge%20Development%20Component%2FEIP%20Tools%2FEIP%20Tools%20V2%20English>, assessed July 2021
- 7 module course for park management and tenant company training,
<https://xfiles.unido.org/index.php/s/GEmzGYPA2aoQqrs?path=%2FGlobal%20Knowledge%20Development%20Component%2FEIP%20Training%2FEIP%20Training%20Programs%2C%20Modules%20and%20Material>, accessed July 2021
- 9 module course for service providers,
<https://xfiles.unido.org/index.php/s/GEmzGYPA2aoQqrs?path=%2FGlobal%20Knowledge%20Development%20Component%2FEIP%20Training%2FEIP%20Training%20Programs%2C%20Modules%20and%20Material>, accessed July 2021

- Moodle course, <https://xfiles.unido.org/index.php/s/GEmzGYPA2aoQqrs?path=%2FGlobal%20Knowledge%20Development%20Component%2FEIP%20Training%2FConversion%20of%20EIP%20Training%20Material%20to%20online%20and%20blended%20delivery>, accessed July 2021
- Technical assistance needs for the transformation into eco-industrial parks, 2020, GEIPP lessons learned series, volume 2, UNIDO
- Lessons learnt from assessing 50 industrial parks in eight countries against the international framework for eco-industrial parks, GEIPP lessons learnt series, issue 1, 2020
- The EIP approach is included in the 2030 national economic strategy, UNIDO, 2020
- Community of practise, a vehicle for building governance for the implementation of EIP, UNIDO, 2020

RECP tools:

- The UNIDO RECP toolkit (https://www.unido.org/sites/default/files/2008-05/PR-Introduction-Heft1_8-d-4_0.pdf)
- PRESME toolkit (<https://wedocs.unep.org/handle/20.500.11822/7961>)
- European BREF notes - <https://eippcb.jrc.ec.europa.eu/reference>

Global knowledge products developed in previous programmes include:

- A-Practitioners-Handbook-for-Eco-Industrial-Parks-Implementing-the-International-EIP-Framework-Toolbox
- EIP Toolbox Manual V1 September 2018
- Global assessment of eco-industrial parks in developing and emerging countries
- Industrial parks UNIDO Strategic Framework web
- UNDO WB GIZ EIP International Framework for Eco Industrial Parks
- UNIDO Eco-Industrial Park Handbook English
- UNIDO Eco-Industrial Park Handbook Spanish
- UNIDO EIP Implementation Handbook - English
- UNIDO International Guidelines for Industrial Parks

Annex 7: Evaluation framework

| Evaluation dimensions ➤ evaluation criteria | Evaluation questions | Source of information, data collection methods, data analysis methods main methodology |
|---|---|--|
| 1. Programme Strategy ➤ design/relevance (A1) ➤ results framework/logframe (A2) | a) To what extent is the programme design still relevant in light of changed circumstances? b) How strong is the country commitment/ownership? c) What should be adjusted accordingly to be on track to achieve expected results? d) What are major technical needs/demands from stakeholders at country level? | Theory of change analysis Country portfolio analysis Global component analysis Interviews with key stakeholders FGD on GEIPP lessons learned FGD on GEIPP ToC FGD with EIP experts |
| 2. Progress towards results ➤ effectiveness (B1) | a) To what extent have the expected outcomes and objectives of the programme been achieved thus far? b) Is it on track to achieving its objectives? c) How successful are the new elements of the GEIPP, in particular the collaboration with the park management and the work at the policy level? d) What are the remaining barriers to achieving the objectives in the remainder of the programme and how to overcome them? | Country portfolio analysis Global component analysis Quality assessment by EIP expert of global products Interviews with key stakeholders FGD on GEIPP lessons learned |
| 3. Programme approach ➤ design/relevance (A1) ➤ effectiveness (B1) ➤ efficiency (B2) ➤ programme management (C1) | a) How well does the GEIPP's programme approach work? b) How is it different to a compilation of individual projects? c) How beneficial is the interplay between country and global level as of now (component 1 and 2)? d) How useful is the global component of the GEIPP so far? e) What is the outreach and perception of the GEIPP beyond the immediate programme stakeholders? | Theory of change analysis Country portfolio analysis Global component analysis Interviews with key stakeholders FGD on GEIPP lessons learned FGD on GEIPP ToC FGD with EIP experts |

| Evaluation dimensions ➤ evaluation criteria | Evaluation questions | Source of information, data collection methods, data analysis methods main methodology |
|--|---|---|
| 4. Programme implementation and adaptive management ➤ efficiency (B2) ➤ programme management (C1) ➤ monitoring and evaluation (C2) ➤ financial management (C3) ➤ stakeholder engagement and communication (C4) | a) Has the programme been implemented efficiently, cost-effectively, and been able to adapt to any changing conditions thus far? b) Why is the financial absorption below plan and how can it be improved? c) To what extent are programme-level monitoring and evaluation systems, reporting, and communications supporting the programme implementation? | Country portfolio analysis Global component analysis Interviews with key stakeholders FGD on GEIPP lessons learned |
| 5. Likelihood of transformative change / sustainability ➤ sustainability (B3) | a) What are the risks that are likely to affect the continuation of programme results? b) Has the programme put in place a mechanism to ensure sustainability after the programme's completion (in terms of financial, legal, institutional, socio-economic instruments, frameworks or processes)? c) Are the programme's successful aspects being transferred to appropriate parties, potential future beneficiaries, and others who could learn from the programme and potentially replicate and/or scale it in the future? | Country portfolio analysis Global component analysis Interviews with key stakeholders FGD on GEIPP lessons learned FGD with EIP experts |
| 6. Lessons learnt ➤ all evaluation criteria | a) What are key lessons learned from country level interventions, including good practices (e.g. community of practice)? b) What works? What doesn't? c) What lessons can be drawn from the successful and unsuccessful practices in designing, implementing and managing the programme so far? | Country portfolio analysis Global component analysis Interviews with key stakeholders FGD on GEIPP lessons learned FGD with EIP experts |

Source: Evaluation team.

Annex 8: Guiding questions for interviews and focus group discussions

Guiding questions for interviews with beneficiaries

- 1) How is – or will - your government/agency/company benefit from the GEIPP? [*1. relevance, 2. results*]
- 2) Is/will the GEIPP meet your main needs? Relevance for implementing government key policies (CE, SDGs, Green Development plan, Green economy strategy)? Congruence of goals? Better service for the tenants? Becoming more attractive? [*1. relevance*]
- 3) How do you assess progress to date? How likely is the GEIPP to achieve the expected results? [*2. results*]
- 4) Is there a need to adjust the GEIPP in order to achieve the objectives? If so, what needs to be adjusted? [*1. relevance, 2. results, 4. implementation*]
- 5) How do you assess the implementation of the GEIPP? How efficient is the programme management? Is the programme flexible and adapting to changing conditions? [*4. implementation*]
- 6) How do you assess the GEIPP's monitoring and steering mechanism? (e.g. steering committee meetings, reporting, logical framework, etc.) [*4. implementation*]
- 7) What are the advantages of being part of a global programme (compared to stand-alone country project?) [*3. programme approach*]
- 8) How do you interact with the global level of the GEIPP and with other GEIPP countries? [*3. programme approach*]
- 9) How do you assess the quality and usefulness of the EIP tools (e.g. assessment tools) and capacity building material (e.g., training)? [*1. relevance, 2. results, 3. programme approach*]
- 10) How likely is it that after completion of the GEIPP the results will remain? And why? [*5. sustainability*] Can you give us examples of what results you think will remain?
- 11) What are the main challenges/barriers/risks that are likely to affect the success of the GEIPP in the short-term and in the long-term? [*2. results, 4. implementation, 5. Sustainability, 6. lessons learned*]
- 12) From your perspective, are there any lessons learned until now? Any good practices? What works and what may not work so well? [*6. lessons learned*]
- 13) Is the programme reaching companies? Can you give us examples?
- 14) If you have any other comments you would like to make about the GEIPP which might be relevant for the mid-term evaluation, you are welcome to do so.

Guiding questions for interviews with programme stakeholders

- 1) How do you assess progress to date? How likely is the GEIPP to achieve the expected results? Please differentiate between country and global level. [*2. results*]
 - How successful is the collaboration with the park management? And how successful is the work at the policy level? (new elements compared with RECP approach) [*2. results*]
- 2) Is there a need to adjust the GEIPP in order to achieve the objectives? If so, what needs to be adjusted? [*1. relevance, 2. results, 4. implementation*]

- 3) Compared with stand-alone country projects, where do you see the main advantage of the GEIPP being a multi-country programme? And how beneficial is the interplay between country-level interventions and global level as of now (component 1 and 2) [1. relevance, 3. programme approach]
- 4) How useful is the global component of the GEIPP? How useful are the EIP tools and capacity building material? [1. relevance, 3. programme approach]
- 5) To what extent does the GEIPP reach stakeholders beyond the immediate beneficiaries? Can you give us some examples? [1. relevance, 2. results, 3. programme approach]
- 6) How do you assess the implementation of the GEIPP? How efficient is the programme management and structure? Is the programme flexible and adapting to changing conditions? [4. implementation]
- 7) Has the GEIPP been implanted efficiently timewise and financially? [4. implementation]
 - Why is the financial absorption below plan and how can it be improved? [4. implementation]
- 8) How do you assess the GEIPP's monitoring and steering mechanism? (e.g., steering committee meetings, reporting, logical framework, etc.) [4. implementation]
- 9) How likely is it that after completion of the GEIPP the results will remain? And why? [5. sustainability]
 - Has the GEIPP put in place mechanism to ensure sustainability after the programme's completion? [5. sustainability]
- 10) What are the main challenges/barriers/risks that are likely to affect the success of the GEIPP in the short-term and in the long-term? [2. results, 4. implementation, 5. Sustainability, 6. lessons learned]
- 11) From your perspective, are there any lessons learned until now? Any good practices? What works and what may not work so well? [6. lessons learned]
- 12) If you have any other comments you would like to make about the GEIPP which might be relevant for the mid-term evaluation, you are welcome to do so.

Focus Group Discussion on the GEIPP Theory of Change

Thursday, 17 June 2021, 9 am to 11 am (CET)

Zoom Meeting

Objective of focus group discussion

To assess the validity of the theory of change of the GEIPP after 2.5 years.

Questions to be discussed during the focus group discussion

For each questions approx. 15-20 minutes.

- (1) In the theory of change of the GEIPP, the work at the policy level is important. How successful/promising is the work at the policy level?
- (2) In the theory of change of the GEIPP, the collaboration with the park management is important. How successful/promising is the collaboration with the park management?

- (3) One of the main outcomes in the theory of change is “EIP opportunities implemented”⁵⁰ by parks and SMEs (outcome 2). To what extent will the GEIPP achieve this outcome by 2023?
- (4) Are there additional needs/demands emerging which go beyond the planned activities as envisaged in the logical framework? Is there a need to make adjustments for period 2021-2023?
- (5) The GEIPP theory of change has two components: Component 1 includes the county level interventions; component 2 includes the global knowledge development. Does the interplay between country and global level work as envisaged?
- (6) From your perspective, what are the main factors which influence the success of the GEIPP but which are beyond the power of the project to influence?⁵¹
- (7) The evaluation team conducted a methodological analysis of the theory of change in the original project document. Amongst other things, it found the visualisation to be rather weak. (see Annex 1 below). The evaluation team designed an alternative visualisation (Annex 2). Overall, how do you assess the alternative figure (without going into details)?

Focus Group Discussion on Lessons Learned

24 June – 15.00-17.00pm, zoom

Zoom Meeting

The discussion will be guided by two main questions:

1. From your perspective (your country-level experience), what are the lessons learned until now? What works and what may not work so well? Any good practices?
2. How can other GEIPP country-level interventions benefit from your experience?

We will organise the discussion along five areas of interest, for each areas we have about 20 minutes:

- (1) Design of the GEIPP; this is about the lessons learned with regard to the original plan; would you design the programme in the same way again or make changes?
- (2) Programme implementation and management; this is about the lessons learned regarding the structure and the steering of the programme, but also financial management, monitoring, communication, stakeholder engagement
- (3) Interplay between GEIPP country-level and GEIPP global level; this is about the lessons learned related to the global tools, knowledge products, seminars, the sharing of experience between countries
- (4) Challenges/barriers/risks that affect the success of the GEIPP; this is about the lessons learned related to the main difficulties which may also go beyond what the programme can control or influence

⁵⁰ EIP opportunities identified and implementation started, with environmental (e.g. resource productivity) economic and social benefits achieved by enterprises confirmed.

⁵¹ Example: increasing price of natural resources. Factors which contribute to the realisation of the project impact, but which are beyond the power of the project to influence are also called assumptions. Assumptions are a key component of a theory of change.

- (5) Likelihood of long-term results and sustainability; this is about the lessons learned in moving towards long-term results

Focus Group Discussion on the GEIPP Strategy evaluation – peer review

Time: Thursday Jul 1, 2021 03:00 PM – 5:00 PM (Vienna time)

Zoom Meeting

Objective of focus group discussion

To assess the strategy of GEIPP after 2.5 years and its potential for transformative change.

Questions to be discussed during the focus group discussion

For each question approximately 20 minutes.

- (1) From your perspective, to what extent does the GEIPP build on Lessons Learned from past experiences in promoting EIPs? How do you assess the Strategy of the GEIPP?
- (2) What is the added value of GEIPP, what are the unique sales propositions of GEIPP?
- (3) From your perspective, to what extent does the GEIPP reach stakeholders beyond the direct beneficiaries in the seven GEIPP countries? How important is the work of the GEIPP at the global level?
- (4) Does the GEIPP have the potential to have a transformative effect beyond the 21 parks in the even countries which directly benefit from the GEIPP? What is required to achieve a “Broad Adoption of EIP & System Transformation”?
- (5) Are you aware of international trends supporting GEIPP? Examples are: International trends in environmental legislation, globalisation of value chains, urbanisation?
- (6) What are the risks that are likely to affect the success of the GEIPP?

Annex 9: Terms of Reference



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

Terms of Reference

Independent mid-term evaluation

Global Eco-Industrial Parks Programme (GEIPP)

UNIDO Project No.: 170222

APRIL 2021

Contents

- I. Programme background and overview
- II. Scope and purpose of the evaluation
- III. Evaluation approach and methodology
- IV. Evaluation process
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I. Programme background and overview

1. Programme factsheet

| | |
|---|--|
| Programme Title | Global Eco-Industrial Parks Programme (GEIPP) in Developing and Transition Countries |
| Countries covered in this programme | Country-based interventions: Colombia, Egypt, Indonesia, Peru, South Africa, Ukraine, Viet Nam |
| Start date (as per original letter of agreement) | 1.12.2018 |
| Completion date (as per original letter of agreement) | 31.12.2023 (5 years) |
| Expected completion date | 31.12.2023 |
| Donor | Swiss Confederation through the State Secretariat of Economic Affairs (SECO) |
| Total budget | CHF 17,184,395 (incl. 13% support costs) EUR 15,533,214 (as per UN exchange rate of March 2021: 1Euro =1.1063 CHF) |

(Source: Programme document)⁵²

2. Programme context

Background

In 1994, a joint UNIDO-UNEP National Cleaner Production Centres Programme (NCPC-Programme) was launched with the objective of increasing the competitiveness and productive capacity of industry, specifically Small and Medium-sized Enterprises (SMEs), through the implementation of Cleaner Production (CP) and the application, adaptation and diffusion of Environmentally Sound Technologies (ESTs).

Through over 20 years of operation, with substantial funding by SECO, the Resource Efficiency and Cleaner Production (RECP) Programme made outstanding contributions towards the identification, development and testing of tools and methods for RECP to the diverse conditions in developing and emerging economies. The Global RECP Programme significantly pushed these processes along by further systematising and adapting RECP-related methods and toolkits to country conditions and by developing case studies and other knowledge products that are well suited to small and medium industries in developing countries. The RECP-programme developed these tools through a process that simultaneously built RECP service capacities in developing countries. So far, the programme helped strengthen at least fifty-eight (58) National Cleaner Production Centres in fifty-five (55) countries. While capacities differ from centre to centre, there is a good track record with regards to their sustainability. Of 37 centres that were created between 1994 and 2011, only four (4) of these centres were no longer operational in 2017.

Despite progress, the challenge remains, as the tons and kilotons of resources saved and emissions avoided at enterprise level, still do not match the need to avoid the resources and emissions in terms of mega- and Giga-tons.

The Terminal Evaluation of the 2012-2017 RECP Programme was explicitly positive about the Work Programme on EIPs - because it explicitly and properly targeted and addressed country

⁵² Project information data throughout these TOR are to be verified during the inception phase.

policy and regulatory frameworks; e.g. necessary conditions identified in the theory of change that would lead to the transformation to sustainable industrial production.

The Global Eco-Industrial Parks Programme (GEIPP) addresses one of the key recommendations in the RECP Terminal Evaluation: to scale up RECP to the level of eco-industrial parks seeking to integrate support at the enterprise and park scales and address critical policy issues.

Results and lessons learnt from previous and ongoing EIP interventions are very promising and different funding institutions have shown great interest in EIP advancement ⁽⁵³⁾.

There are currently a number of complementary tools and processes to assist governments and industrial park stakeholders to progress in the implementation of inclusive and sustainable industrial development. And, as a result of joint work by the World Bank Group, GIZ and UNIDO an International Framework for EIPs was developed in 2017 with a recent revision published in 2021. The framework offers ‘standards’ or benchmarks for ensuring that envisioned industrial developments are sustainable and meet the spirit of an EIP. Such standards provide benchmarks for assessing existing industrial parks, planning retrofitting measures for existing parks, or better planning new industrial parks with the end goal of driving inclusive and sustainable industrialization.

Figure 1 Key components of EIP



GEIPP Overview

The Global Eco-Industrial Parks Programme’s (GEIPP) objective is to demonstrate the viability and benefits of Eco-Industrial Park approaches in scaling up resource productivity and improving economic, environmental and social performances of businesses and thereby contribute to inclusive and sustainable industrial development in the participating developing and transition economies.

GEIPP is structured into 2 main components:

- Component 1: Country Level Interventions
- Component 2: Global Knowledge Development

⁽⁵³⁾ GEF funding in Peru, Thailand and Vietnam and collaboration with WBG/IFC and GIZ.

GEIPP will deliver the expected results via three outcomes and the respective outputs under the two components as underlined in the logical framework:

Component 1: Country level interventions

Outcome 1: EIP incentivised and mainstreamed in relevant policy and regulations leading to an increased role of EIP in environmental, industry and other relevant policies at the national levels in the participating countries.

- iii) Output 1.1. Mapping of existing capacity of institutions and service providers on eco-industrial parks development: Analyse in-depth the existing capacity of institutions and service providers and map the gaps, to secure proper customisation of all envisioned interventions to local interest and commitment, needs, and windows of adaptation;
- iv) Output 1.2. Strengthened national institutions relevant to EIP policy development and implementation: according to the needs identified in the in-depth analysis. These will include training to enhance technical skills, technical assistance and coaching/mentoring to improve existing policies and strategies, and the implementation of these policies;

Outcome 2: EIP opportunities identified and implementation started, with environmental (e.g. resource productivity), economic and social benefits achieved by enterprises confirmed. The implementation of EIP opportunities by enterprises and other organisations will be supported by the EIP services providers, and will lead to reduction of the environmental footprint and operational and compliance costs of businesses, and an increase in their - natural - resource productivity.

GEIPP will focus on the brownfield operations only, in order to secure realistic and tangible results within GEIPP boundary (timing, financial and organisational) conditions.

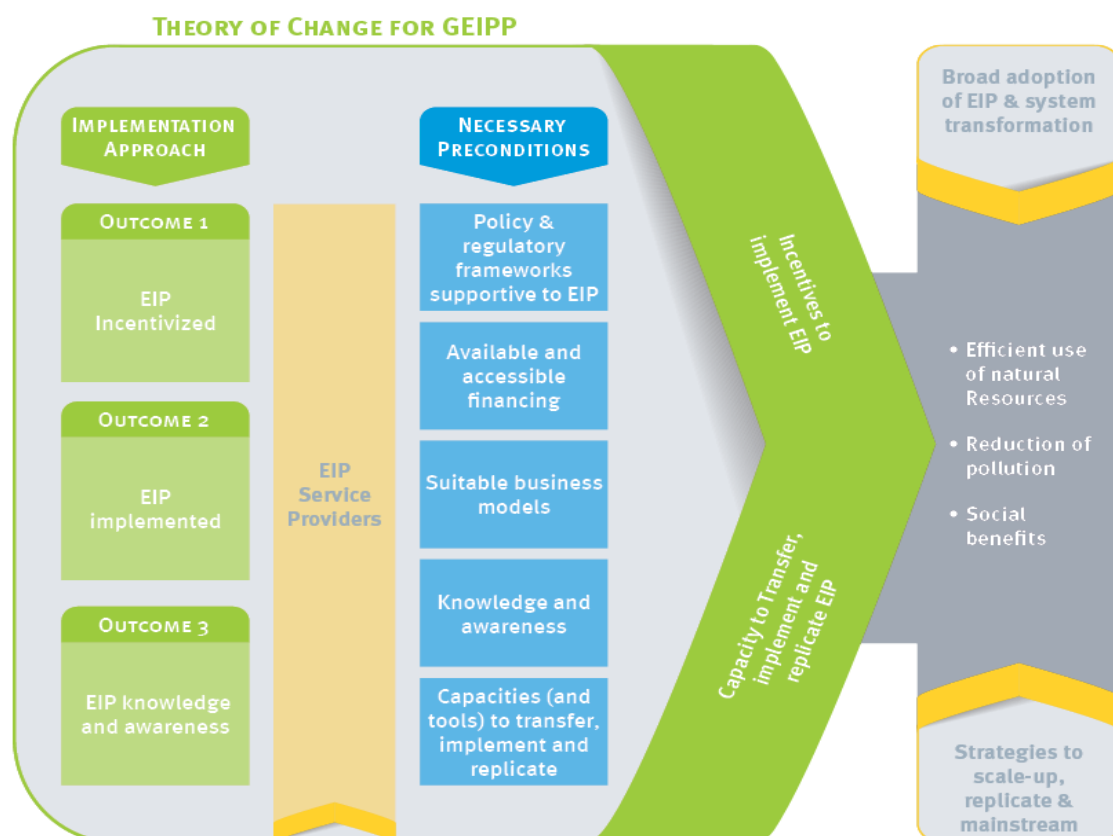
- iv) Output 2.1. Benchmarking and in-depth analysis of potential candidate industrial parks for EIP intervention: Conduct in-depth analysis and screening of candidate industrial parks for interventions.
- v) Output 2.2. Enhanced capacity of industrial parks and tenant SME's to meet international standards and requirements for EIP: Provide training to private sector (SMEs, park management) to enhance capacity to meet international requirements set for EIP, according to the needs identified during the pre-assessment. The training to enhance technical skills of the park management and individual SMEs is meant to create awareness and understanding of EIP and thereby create local ownership to secure sustainability of the results.
- vi) Output 2.3. EIP requirements implemented by park management and tenant SME's: Provide technical assistance to private sector (SMEs and park management) to implement EIP-measures. Via a step-by-step approach all windows of improvements for all different components of EIP will be assessed and gradually implemented.

Eight countries have been selected for country level interventions under the component 1, based on SECO priority countries and UNIDO country assessments (Colombia, Egypt (July 2019), Indonesia (July 2020), Peru, South Africa (December 2020), Ukraine and Vietnam). All country programmes are expected to address the two outcomes of the programme and are structured accordingly.

Component 2: Global Knowledge Development

Outcome 3: EIP tools developed, services delivery capacity enhanced and lessons learnt properly capturing and effectively exchanged. EIP tools developed and made applicable beyond the context of the individual parks or countries (via description how to apply tools locally).

- i) Output 3.1. Specific EIP tools developed: Develop specific EIP tools, building upon already existing EIP tools and/or amalgamating thematic tools into EIP-tool packages. It refers to guidelines, handbooks and training materials for specific target groups. This component will strongly build upon activities undertaken already during the previous global RECP-programme and the presently ongoing joint activities with World Bank and GIZ.
- ii) Output 3.2. EIP services delivery strengthened: via tailored institutional strengthening interventions at country level (as part of country specific activities), effective networking and peer learning amongst a network of competent nationally-directed initiatives that deliver quality and value-adding EIP services which respond to the needs of enterprises and other organisations;
- iii) Output 3.3. Lessons learnt from EIP interventions captured and effectively exchanged: Capture lessons learnt from EIP activities properly and effectively exchanged amongst involved parties in GEIPP and external stakeholders involved in similar programmes; and
- iv) Output 3.4. Awareness raising activities on EIP developed: Raise EIP awareness, including the dissemination of promotional material and the promotion of EIP awards.
- v) Output 3.5. Mainstreaming of pilot initiatives launched under the Global Resource Efficient and Cleaner Production Program: Demonstrate and disseminate knowledge on the benefits of the pyrolysis technology for the production of clean energy and the reduction of GHG emissions and air pollution (Transferred from GEIPP country level intervention in Vietnam in 2020).



Budget information

At approval in late 2018, the total indicative budget of the programme was CHF 12,500,000. By the time of the MTE in April 2021, the budget was CHF 17,184,395, equivalent to around Euro 15,533,000.

Programme Budget: Indicative programme budget (cumulative for 5 years) in CHF

| Budget items | Original budget (CHF) | Revised budget (CHF) | Expenditure |
|---|-----------------------|----------------------|------------------|
| Component 1 – Country level interventions * | 8,000,000 | 11,845,482 | 2,263,008 |
| Component 2 - Global Knowledge Development | 1,250,000 | 1,550,000 | 531,474 |
| Programme Management & Monitoring | 1,662,000 | 1,661,947 | 482,139 |
| Programme Evaluation | 149,947 | 150,000 | 0 |
| Sub-Total | 11,061,947 | 15,207,429 | 3,276,621 |
| Programme Support Costs (13%) | 1,438,052 | 1,976,966 | 425,961 |
| Total | 12,500,000 | 17,184,395 | 3,702,582 |

*) For each of the four countries (Colombia, Peru, Ukraine and Vietnam) the budgetary allocation for country level interventions is CHF 2,000,000

Source: Programme document and 2020 Programme Progress Report

II. Scope and purpose of the evaluation

The purpose of the mid-term evaluation is to independently assess the progress towards the achievement of the programme objectives to help the programme management and key stakeholders improve performance to reach the expected results. The independent MTE will cover the first 2.5 years of the programme from its starting date in Dec 2018 to June 2021.

The evaluation has three specific objectives:

- 4) Assess the programme's performance and progress towards the achievement of the expected results
- 5) Assess remaining barriers and risks in programme design, programme management and performance of partners to identify necessary changes to set the programme on-track to achieve its expected results
- 6) Develop recommendations so that programme management could develop and implement a follow-up plan on necessary corrective actions

A "deep dive" analysis into a number of country-level initiatives will be conducted to share lessons in implementing the programme at country-level in a real-time manner. The selection of the countries to study and the methodology to conduct the country studies will be determined during the inception phase, taking into consideration the suggestions by the programme management and SECO, the findings from the desk review, the actual situation in the countries, and travel restriction caused by the Covid pandemic.

Evaluation key questions and criteria

The key evaluation questions are the following:

- ✓ Programme Strategy: To what extent is the programme design still relevant in light of changed circumstances? How strong is the country commitment/ownership? What should be adjusted accordingly to be on track to achieve expected results? What are major technical needs/demands from stakeholders at country level?
- ✓ Progress towards Results: To what extent have the expected outcomes and objectives of the programme been achieved thus far? Is it on track to achieving its objectives? How successful are the new elements of the GEIPP, in particular the collaboration with the park management and the work at the policy level? What are the remaining barriers to achieving the objectives in the remainder of the programme and how to overcome them?
- ✓ Programme Implementation and Adaptive Management: Has the programme been implemented efficiently, cost-effectively, and been able to adapt to any changing conditions thus far? Why is the financial absorption below plan and how can it be improved? To what extent are programme-level monitoring and evaluation systems, reporting, and communications supporting the programme implementation?
- ✓ Sustainability: What are the risks that are likely to affect the continuation of programme results? Has the programme put in place a mechanism to ensure sustainability after the programme's completion (in terms of financial, legal, institutional, socio-economic instruments, frameworks or processes)? Are the programme's successful aspects being transferred to appropriate parties, potential future beneficiaries, and others who could learn from the programme and potentially replicate and/or scale it in the future?
- ✓ Programme approach: How well does the GEIPP's programme approach work? How is it different to a compilation of individual projects? How beneficial is the interplay between country and global level as of now (component 1 and 2)? How useful is the global component of the GEIPP so far? What is the outreach and perception of the GEIPP beyond the immediate programme stakeholders?

- ✓ Lessons learnt: What are key lessons learned from country level interventions, including good practices (e.g. community of practice)? What works? What doesn't? What lessons can be drawn from the successful and unsuccessful practices in designing, implementing and managing the programme so far?

The evaluation will mainly focus on the achievement of the expected results indicated in the programme logical framework.

The following are the key evaluation criteria to be addressed by the MTE.

| | |
|----------|---|
| A | Programme strategy |
| 1 | Programme design/relevance |
| 2 | Programme results framework/logframe |
| B | Progress towards results |
| 1 | Effectiveness and progress towards expected results |
| 2 | Efficiency |
| 3 | Sustainability |
| C | Programme Implementation and Adaptive Management |
| 1 | Programme management (arrangement) |
| 2 | Results-based work planning, monitoring and evaluation, reporting |
| 3 | Financial management |
| 4 | Stakeholder engagement and communication |
| D | Performance of Partners |

III. Evaluation approach and methodology⁵⁴

The MTE will be conducted in accordance with the UNIDO Evaluation Policy⁵⁵ UNEG Norms and Standards for evaluation and the UNIDO Guidelines for the Technical Cooperation Programme and Programme Cycle⁵⁶.

The evaluation will be carried out as an independent in-depth evaluation using a participatory approach whereby all key parties associated with the project will be informed and consulted throughout the evaluation. The evaluation team leader will liaise with the UNIDO Independent Evaluation Division (ODG/EIO/IED) on the conduct of the evaluation and methodological issues.

The evaluation will use a theory of change approach and mixed methods to collect data and information from a range of sources and informants. It will pay attention to triangulating the data and information collected before forming its assessment. This is essential to ensure an evidence-based and credible evaluation, with robust analytical underpinning.

⁵⁴ Due to the global COVID-19 pandemic, the evaluation will be conducted in line with overall UNIDO guidance and rules responding to the global crisis. No international travel will be required and in this way prioritizing the health and safety of all parties involved.

⁵⁵ UNIDO. (2018). Director General's Bulletin: Evaluation Policy (DGB/2018/08, dated 1 June 2018)

⁵⁶ UNIDO. (2006). Director-General's Administrative Instruction No. 17/Rev.1: Guidelines for the Technical Cooperation Programme and Project Cycle (DGAI.17/Rev.1, 24 August 2006)

The theory of change will identify causal and transformational pathways from the programme outputs to outcomes and longer-term impacts, and drivers as well as barriers to achieve them. The learning from this analysis will be useful to feed into the design of the future projects so that the management team can effectively manage them based on results.

Data collection methods

The MTE will require various methods to ensure that data gathering and analysis deliver evidence-based qualitative and quantitative information, based on diverse sources, as necessary: desk studies and literature review, statistical analysis, individual interviews, focus group meetings/discussions, surveys and direct observation. The specific mixed methodological approach will be described in the inception report.

Following are the main instruments for data collection:

- (a) **Desk and literature review** of documents related to the programme, including but not limited to:
 - The original programme document, monitoring reports (such as progress and financial reports), output reports, back-to-office mission report(s), end-of-contract report(s), and relevant correspondence)
 - Notes from meetings of committees involved in the programme.
- (b) **Stakeholder consultations** will be conducted through structured and semi-structured interviews and focus group discussion. Key stakeholders to be interviewed include:
 - UNIDO Management and staff involved in the programme; and
 - Representatives of donors and counterparts
- (c) **Progress review of GEIPP country projects**
 - Review of results achieved by the country projects, including interviews of actual and potential beneficiaries of improved technologies
 - A portfolio review of all relevant documents (project documents, progress reports, etc.) related to the country interventions
 - Interviews with the relevant UNIDO and SECO Country Office(s) representative to the extent that he/she was involved in the programme, and the programme's management members and the various national [and sub-regional] authorities dealing with programme activities as necessary
- (d) Other interviews, surveys or document reviews as deemed necessary by the evaluation team and/or by the Independent Evaluation Division for triangulation purposes

Note: Given the current circumstances and travel limitations due to the outbreak of COVID-19, physical field visits might not be possible, in this case remote visits and interviews with relevant stakeholders will be held virtually.

IV. Evaluation process

The evaluation will be conducted from mid-April to September 2021. The evaluation will be implemented in four phases which are not strictly sequential, but in many cases iterative, conducted in parallel and partly overlapping:

- ✓ Inception phase: The evaluation team will prepare the inception report providing details on the methodology for the evaluation and include an evaluation matrix with specific issues for the evaluation; the specific country study will be determined during the inception phase, taking into consideration the findings and recommendations of the progress reports and the actual situation in the country, and travel restriction by the national government caused by the Covid pandemic.
- ✓ Desk review and data analysis;
- ✓ Interviews, survey and literature review;

- ✓ Field visit, if required, to project sites by the national evaluator (which will be in compliance with the rules and regulations on Covid by the national government, the UN and UNIDO) will be determined during inception phase;
- ✓ Data analysis and report writing.

IED final evaluation report issuance and distribution with the respective management response sheet and further follow-up, and publication of evaluation report in UNIDO intra/internet sites.

V. Evaluation team composition

A staff from the UNIDO Independent Evaluation Division will be assigned as Evaluation Manager and will coordinate and provide evaluation backstopping to the evaluation team and ensure the quality of the evaluation. The UNIDO Programme Manager, the GEIPP Chief Technical Adviser and national programme teams will act as resourced persons and provide support to the evaluation team and the IED evaluation manager.

The evaluation team will be composed of one international evaluator acting as the team leader and one expert on Eco Industrial Parks. Additional national experts to conduct field visit in participating countries for case studies will be decided after the inception phase, if necessary. The evaluation team members will possess mixed skills, both on evaluation and eco industrial park management or cleaner production. The evaluation team members will be contracted by UNIDO. The tasks of each team member are specified in the job descriptions in annexes to these terms of reference.

According to UNIDO Evaluation Policy, members of the evaluation team must not have been directly involved in the design and/or implementation of the programme under evaluation.

VI. Time schedule

The evaluation is scheduled to take place from mid-April to September 2021. The tentative timeline is provided in table below.

The evaluation team will give an online debriefing and presentation of the preliminary findings of the MTE to the relevant stakeholders. The draft TE report is to be shared with the UNIDO programme management, SECO, UNIDO Independent Evaluation Division, and other stakeholders for comments. The ET leader is expected to revise the draft TE report based on the comments received, edit the language and form and submit the final version of the TE report in accordance with UNIDO ODG/EIO/EID standards.

Tentative timeline

| Timelines | Tasks |
|---------------------|---|
| April 2021 | Recruitment of the evaluation team |
| 15 April – May 2021 | Desk review Writing of inception report and online briefing with UNIDO programme manager and the programme team. |
| May-June 2021 | Online interviews and other data collection as per inception report |
| June-July 2021 | Country level case studies Country field visits (if deemed necessary at inception phase) |
| Late September 2021 | First Draft evaluation report. Internal peer review of the report by UNIDO's Independent Evaluation Division and other stakeholder comments to draft evaluation report Online debriefing to the stakeholders on the evaluation findings and recommendations |
| End October | Final evaluation report |

VII. Evaluation deliverables

Inception report

This Terms of Reference (ToR) provides some information on the evaluation methodology, but this should not be regarded as exhaustive. After reviewing the programme documentation and initial interviews with the programme manager and the Chief Technical Advisor, the evaluation team will prepare an inception report that will operationalize the TOR relating to the evaluation questions and provide information on what type of and how the evidence will be collected (methodology). It will be discussed with and approved by the responsible UNIDO Evaluation Manager.

The Inception Report will focus on the following elements: preliminary programme theory model(s); elaboration of evaluation methodology including quantitative and qualitative approaches and questions through an evaluation framework (“evaluation matrix”); division of work between the evaluation team members; data collection plan, people to be interviewed and possible surveys to be conducted and a debriefing and reporting timetable⁵⁷.

Evaluation report and review procedures

The draft report will be delivered to UNIDO Independent Evaluation Division and circulated to UNIDO staff, donor and national stakeholders associated with the programme for factual validation and comments. Any comments or responses, or feedback on any errors of fact to the draft report provided by the stakeholders will be sent to UNIDO Independent Evaluation Division for collation and onward transmission to the programme evaluation team who will be advised of any necessary revisions. On the basis of this feedback, and taking into consideration the comments received, the evaluation team will prepare the final version of the evaluation report.

The Evaluation Team Leader will present its preliminary findings to the stakeholders on the basis of the draft evaluation report and take into account their feed-back in preparing the final evaluation report.

The MTE report should be brief, to the point and easy to understand. It must explain the purpose of the evaluation, exactly what was evaluated, and the methods used. The report must highlight any methodological limitations, identify key concerns and present evidence-based findings, consequent conclusions, recommendations and lessons. The report should provide information on when the evaluation took place, the places visited, who was involved and be presented in a way that makes the information accessible and comprehensible. The report should include an executive summary that encapsulates the essence of the information contained in the report to facilitate dissemination and distillation of lessons.

Findings, conclusions and recommendations should be presented in a complete, logical and balanced manner. The evaluation report shall be written in English. The ET should submit the final version of the MTE report in accordance with UNIDO Independent Evaluation Division standards.

⁵⁷ The evaluator will be provided with a Guide on how to prepare an evaluation inception report and a Guide on how to formulate lessons learned (including quality checklist) prepared by the UNIDO Independent Evaluation Division.

VIII. Quality assurance

All UNIDO evaluations are subject to quality assessments by UNIDO Independent Evaluation Division. Quality assurance and control is exercised in different ways throughout the evaluation process (briefing of consultants on methodology and process of UNIDO Independent Evaluation Division, providing inputs regarding findings, lessons learned and recommendations from other UNIDO evaluations, review of inception report and evaluation report).

The quality of the evaluation report will be assessed and rated against the criteria set forth in the Checklist on evaluation report quality, UNIDO's Independent Evaluation Division should ensure that the evaluation report is useful for UNIDO in terms of organizational learning (recommendations and lessons learned) and is compliant with UNIDO's evaluation policy and these terms of reference. The draft and final evaluation report are reviewed by UNIDO Independent Evaluation Division, which will issue and circulate it within UNIDO together with a management response sheet, as well as submit to relevant stakeholders as required

Annexes: Job descriptions with the tasks of each evaluation team member specified.

TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)

| | |
|---------------------------------|--|
| Title: | International evaluation consultant, team leader |
| Main Duty Station and Location: | Home-based |
| Missions: | n.a. |
| Start of Contract (EOD): | 12/April/2021 |
| End of Contract (COB): | 31/August/2021 |
| Number of Working Days: | 40 working days spread over the above-mentioned period |

ORGANIZATIONAL CONTEXT

The UNIDO Independent Evaluation Division (ODG/EIO/IED) is responsible for the independent evaluation function of UNIDO. It supports learning, continuous improvement and accountability, and provides factual information about result and practices that feed into the programmatic and strategic decision-making processes. Evaluation is an assessment, as systematic and impartial as possible, of a programme, a project or a theme. Independent evaluations provide evidence-based information that is credible, reliable and useful, enabling the timely incorporation of findings, recommendations and lessons learned into the decision-making processes at organization-wide, programme and project level. ODG/EIO/IED is guided by the UNIDO Evaluation Policy, which is aligned to the norms and standards for evaluation in the UN system.

PROJECT CONTEXT

Detailed background information of the project can be found the terms of reference (TOR) for the terminal evaluation.

The international evaluation consultant/team leader will evaluate the project in accordance with the evaluation-related terms of reference (TOR). He/she will perform, inter alia, the following main tasks:

| MAIN DUTIES | Concrete/ Measurable Outputs to be achieved | Working Days | Location |
|--|--|--------------|------------|
| Undertake a desk review of programme documentation and relevant country projects; determine key data to collect and adjust the key data collection instruments accordingly (if needed) Prepare an inception report which streamlines the specific questions to address the key issues in the TOR, specific methods that will be used and data to collect in the field visits, detailed evaluation methodology confirmed, draft theory of change, and confirm whether country field visits by additional national experts is necessary | <ul style="list-style-type: none"> • An adjusted table of evaluation questions, depending on country specific context • A draft list of stakeholders to be interviewed • Inception report | 8 days | Home-based |

| MAIN DUTIES | Concrete/ Measurable Outputs to be achieved | Working Days | Location |
|--|---|--------------|------------|
| Briefing with the UNIDO Independent Evaluation Division, programme management staff and other key stakeholders at UNIDO HQ. | <ul style="list-style-type: none"> • Interview notes | 2 days | Virtually |
| <p>3. Undertake evaluation data collection phase to consult field programme stakeholders, partners and beneficiaries to verify and complete preliminary evaluation findings from desk review and assess the institutional capacities of the recipient country</p> <p>Review meeting and workshop notes prepared by the evaluation team member during country field work (if any); provide the team technical advice to collect appropriate data and information in a real time manner; and to keep abreast with feedback from the stakeholders from the field.</p> | <ul style="list-style-type: none"> • Interview notes and data collected • Evaluation/debriefing presentation of the evaluation's preliminary findings prepared, draft conclusions, recommendations and lessons learnt to stakeholders in the country, at the end of the mission | 10 days | Virtually |
| <p>4. Prepare the draft evaluation report, with inputs from the team members, and in accordance with the evaluation TOR</p> <p>Share the evaluation report to UNIDO Evaluation Manager and stakeholders for feedback and comments.</p> | <ul style="list-style-type: none"> • Draft evaluation report submitted | 12 days | Home-based |
| <p>5. Online debriefing: Present preliminary findings, recommendations and lessons learnt to stakeholders for factual validation and comments</p> <p>Hold additional meetings with and obtain additional data from evaluation/project manager and other stakeholders as required</p> | <ul style="list-style-type: none"> • Power point presentation • Feedback from stakeholders obtained and discussed • Additional meetings held as required | 2 days | Virtually |
| <p>6. Revise the draft evaluation report based on comments and suggestions received through the evaluation manager and edit the language and finalize the evaluation report according to UNIDO Independent Evaluation Division standards</p> <p>Prepare a two pages summary of a take-away message from the evaluation</p> | <p>Final evaluation report submitted to evaluation manager</p> <p>Two pages summary take-away message from the evaluation submitted to the evaluation manager</p> | 6 days | Home-based |
| | TOTAL | 40 days | |

MINIMUM ORGANIZATIONAL REQUIREMENTS

Education: Advanced degree in environment, energy, engineering, development studies or related areas

Technical and functional experience:

- Minimum of 10 years' experience in project management and/or evaluation (of development projects)
- Experience in the evaluation of SECO programmes and knowledge of UNIDO activities an asset
- Knowledge about multilateral technical cooperation and the UN, international development priorities and frameworks
- Working experience in developing countries

Languages: Fluency in written and spoken English is required.

Absence of conflict of interest:

According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision and coordination of and/or have benefited from the programme/project (or theme) under evaluation. The consultant will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of her/his contract with the UNIDO Independent Evaluation Division.

REQUIRED COMPETENCIES

Core values:

WE LIVE AND ACT WITH INTEGRITY: work honestly, openly and impartially.

WE SHOW PROFESSIONALISM: work hard and competently in a committed and responsible manner.

WE RESPECT DIVERSITY: work together effectively, respectfully and inclusively, regardless of our differences in culture and perspective.

Core competencies:

WE FOCUS ON PEOPLE: cooperate to fully reach our potential –and this is true for our colleagues as well as our clients. Emotional intelligence and receptiveness are vital parts of our UNIDO identity.

WE FOCUS ON RESULTS AND RESPONSIBILITIES: focus on planning, organizing and managing our work effectively and efficiently. We are responsible and accountable for achieving our results and meeting our performance standards. This accountability does not end with our colleagues and supervisors, but we also owe it to those we serve and who have trusted us to contribute to a better, safer and healthier world.

WE COMMUNICATE AND EARN TRUST: communicate effectively with one another and build an environment of trust where we can all excel in our work.

WE THINK OUTSIDE THE BOX AND INNOVATE: To stay relevant, we continuously improve, support innovation, share our knowledge and skills, and learn from one another.

TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)

| | |
|---------------------------------|--|
| Title: | Specialist on Eco Industrial Parks |
| Main Duty Station and Location: | Home-based |
| Missions: | n.a. |
| Start of Contract (EOD): | 17/5/2021 |
| End of Contract (COB): | 30/09/2021 |
| Number of Working Days: | 25 working days spread over the above-mentioned period |

ORGANIZATIONAL CONTEXT

The UNIDO Independent Evaluation Division (ODG/EIO/IED) is responsible for the independent evaluation function of UNIDO. It supports learning, continuous improvement and accountability, and provides factual information about result and practices that feed into the programmatic and strategic decision-making processes. Evaluation is an assessment, as systematic and impartial as possible, of a programme, a project or a theme. Independent evaluations provide evidence-based information that is credible, reliable and useful, enabling the timely incorporation of findings, recommendations and lessons learned into the decision-making processes at organization-wide, programme and project level. ODG/EIO/IED is guided by the UNIDO Evaluation Policy, which is aligned to the norms and standards for evaluation in the UN system.

PROJECT CONTEXT

Detailed background information of the project can be found the terms of reference (TOR) for the terminal evaluation.

As the Principal Specialist on Eco Industrial Parks and a member of the independent evaluation team, the consultant will evaluate the project in accordance with the evaluation-related terms of reference (TOR). Under the leadership of the team leader, he/she will perform, inter alia, the following main tasks:

| MAIN DUTIES | Concrete/ Measurable Outputs to be achieved | Working Days | Location |
|--|---|--------------|------------|
| <ul style="list-style-type: none"> • Desk review of programme documentation and relevant country interventions • Expert review of all relevant documents related to the programme, including substantive and conceptual comments and proposals • In cooperation with the team leader, determine key data to collect and prepare key instruments (evaluation questionnaire and evaluation survey, if required) | <ul style="list-style-type: none"> • List of key data available and to be collected established • Evaluation questionnaire developed • Survey programmed and conducted (if required) | 4 days | Home-based |

| MAIN DUTIES | Concrete/ Measurable Outputs to be achieved | Working Days | Location |
|---|---|--------------|------------------------|
| <ul style="list-style-type: none"> Briefing with the UNIDO Independent Evaluation Division, project managers and other key stakeholders at UNIDO HQ to determine engagement and highlight expectations | <ul style="list-style-type: none"> List of stakeholders to be interviewed Detailed evaluation schedule Inputs to the inception report submitted to the evaluation team leader | 2 days | Home-based / Virtually |
| <ul style="list-style-type: none"> Together with the Team Leader prepare meeting/interview protocol and guide data collection and information flow in an agreed-upon format Design, administer, conduct and analyze open-ended interviews and focus groups to gather qualitative information Facilitate stakeholder/expert workshops and focus group meetings Prepare meeting notes and data based on the format requested by the team leader. Close exchange and discussion with the team leader on data and information collected from the field | <ul style="list-style-type: none"> Interview notes taken and analyzed Systematic data and information from the field Agreement with the Team Leader on the structure and content of the evaluation report and the distribution of writing tasks. | 9 days | Virtually |
| <ul style="list-style-type: none"> Draft sections of and provide inputs to the draft evaluation report, as agreed with team leader | <ul style="list-style-type: none"> Inputs to the draft evaluation report submitted to evaluation team leader | 8 days | Home-based |
| <ul style="list-style-type: none"> Provide targeted/expert inputs to debriefing/presentation of preliminary findings to project stakeholders for factual validation and comments Participate in additional meetings to obtain additional data from evaluation/project manager and other stakeholders as required | <ul style="list-style-type: none"> Inputs to debriefing / presentation of the evaluation's preliminary findings Feedback from stakeholders collected | 1 days | Virtually |
| <ul style="list-style-type: none"> Substantively contribute to the final evaluation report, as agreed with team leader | <ul style="list-style-type: none"> Inputs to the final evaluation report submitted to evaluation team leader | 1 days | Home-based |
| | TOTAL | 25 days | |

MINIMUM ORGANIZATIONAL REQUIREMENTS

Education: Advanced degree in environment, engineering, development studies or related areas

Technical and functional experience:

- Minimum of 20 years' experience in environment management and engineering, clean and eco efficient production
- At least 10 years of hands on experience and research in clean production
- Experience in development projects and eco industrial parks in developing countries
- Knowledge of UNIDO activities an asset
- Knowledge about multilateral technical cooperation and international development priorities and frameworks
- Working experience in developing countries an asset

Languages: Fluency in written and spoken English is required.

Absence of conflict of interest:

According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision and coordination of and/or have benefited from the programme/project (or theme) under evaluation. The consultant will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of her/his contract with the UNIDO Independent Evaluation Division.

REQUIRED COMPETENCIES

Core values:

WE LIVE AND ACT WITH INTEGRITY: work honestly, openly and impartially.

WE SHOW PROFESSIONALISM: work hard and competently in a committed and responsible manner.

WE RESPECT DIVERSITY: work together effectively, respectfully and inclusively, regardless of our differences in culture and perspective.

Core competencies:

WE FOCUS ON PEOPLE: cooperate to fully reach our potential –and this is true for our colleagues as well as our clients. Emotional intelligence and receptiveness are vital parts of our UNIDO identity.

WE FOCUS ON RESULTS AND RESPONSIBILITIES: focus on planning, organizing and managing our work effectively and efficiently. We are responsible and accountable for achieving our results and meeting our performance standards. This accountability does not end with our colleagues and supervisors, but we also owe it to those we serve and who have trusted us to contribute to a better, safer and healthier world.

WE COMMUNICATE AND EARN TRUST: communicate effectively with one another and build an environment of trust where we can all excel in our work.

WE THINK OUTSIDE THE BOX AND INNOVATE: To stay relevant, we continuously improve, support innovation, share our knowledge and skills, and learn from one another.
